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**THE PROCESS OF CHANGE IN TEACHING AND LEARNING IN
HIGHER EDUCATION: INTEGRATING INFORMATION AND
COMMUNICATION TECHNOLOGY**

by

SUSAN JANET ENGLISH

A thesis submitted to the University of Plymouth in partial fulfilment for the
degree of

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University of Plymouth

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Abstract

The Process of Change in Teaching and Learning in Higher Education: Integrating Information and Communication Technology

SUSAN JANET ENGLISH

The focus of this thesis was inspired by a small study investigating the way in which students could learn co-operatively using computer-mediated communication. Lessons learnt about the significance of purpose, context, nature and design of courses involving Information and Communication Technology (ICT) led to the idea that a holistic view, involving the study of all aspects that contribute to the whole context, would be necessary to reach a better understanding of the process of change in teaching and learning. The opportunity to pursue this route materialised by being part of a team on a national, ESRC funded, project to undertake in-depth qualitative research in sixteen UK universities to explore innovations in teaching and learning. Questions regarding motivation for innovation as well as factors that promote or inhibit this process were posed to innovators and managers. Distance Learning methodologies involving ICT and a student-centred learning ethos were beginning to evolve in campus-based universities. As a result of progressive focusing the Open University was included as a case study and this research has formed the largest part of the thesis. The OU allowed further exploration into the emerging issues which included institutional culture, frameworks, policy and strategies employed to initiate and implement change in teaching and learning. The ways in which individuals or groups negotiate and initiate change were also investigated by two in-depth mini-case studies involving course teams in the process of developing new courses. Top-down and bottom-up perspectives from central managers and course team members contributed to this section. Finally, implementation aspects from one of the mini-case studies - an internet-based technology degree course - were explored. This produced some powerful insights into the whole process of change involving new technologies.

The speed of internet development and global interest in exploiting the potential of ICT in education and training has resulted in pressure on institutions from national policy, funding bodies, market competition and individual educational innovators to move towards the integration of ICT in higher education provision. The findings, which indicate the need for flexibility, collaboration and continual evaluation and development, could assist institutions who have begun making this move.

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Guiding me through the struggle of shaping this thesis have been my Director of Studies, Professor Andrew Hannan, and supervisor, Professor Harold Silver at the University of Plymouth. I thank them both for their thought-provoking challenges, their understanding and their belief in my ability to complete this task. One other colleague who has been of great encouragement and specific help particularly with regard to my direction and research methodology has been Professor Peter Woods at the University of Plymouth (and the Open University).

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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has Susan English been registered for any other University award.

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- Stage One was funded by the University of Exeter, as it evolved from an internal research project - 'Computer Supported Cooperative Learning';
- Stage Two was funded by an ESRC award as I was a research assistant on the 'Innovations in Teaching and Learning in Higher Education' project;
- Stage Three was funded by a studentship from the University of Plymouth.

Research methodology lectures were attended during the first year. Since then research seminars, organised by the University of Plymouth and by research students, have been attended at the School of Graduate Studies in Arts and Education in Exmouth. A 3-day BERA advanced Research Training Programme, 'Broadening Horizons in Educational Research', was attended at the University of Bristol in July 1999.

See 'Publications' list for published research and conferences attended.

Signed..........

Date.....11.12.01.....

CHAPTER 1
INTRODUCTION

This thesis is situated in the field of Higher Education (HE) and it examines the evolving area of teaching and learning at a distance. It focuses on the process of changing teaching methodology in the development of new courses by incorporating new Information and Communication Technologies (ICT). Through a case study of the Open University (OU) this process is explored at an institutional, group and individual level and covers a time period which includes the initiation of a change to the beginning of its implementation. The thesis draws on research from three distinct, but related, projects which each represent a stage in the design of the thesis, and through progressive focussing has identified and explored significant issues arising from each stage. These projects have contributed to an understanding of the conditions for enabling change through a national survey, involving 16 HE institutions, as well as the illumination of complex issues revealed in a specific institutional case study. The OU case study has formed the main data set used in the analysis and discussion of findings presented in this thesis.

Research for this thesis began in 1996, at a time when significant changes in higher education had recently been made, such as the conversion of polytechnics to universities in 1992. Repercussions from this as well as political will at that time meant that on-going changes included greater numbers of students studying degrees and a larger number of part-time and mature students:

Growth in home and EC students was very rapid in the early 1990s. In 1994-95 the Government restricted further growth of full-time undergraduates. Since then growth has been mainly in part-time and postgraduate students. (HEFCE, 1997, p.vi)

The pressure of increased student numbers and the need to provide suitable courses and teaching methodology for a growing diversity of student profiles were powerful reasons for HE institutions to adapt and change. Economic survival in the face of government funding cuts was also a significant factor in urging universities to become more corporate and self-financing. At the same time, ICT was developing rapidly and being adapted for use in an educational context. US universities, in particular, were beginning to offer more Distance Learning (DL) courses to a wider student population via the internet. This increased threat of competition to UK universities encouraged them to consider ways in which to incorporate ICT into the teaching and learning process. A commonly held view was that it would be an inexpensive way of becoming more flexible and accessible to a wider variety of students. Laurillard (1993) highlighted a persistent problem experienced by institutions attempting to investigate this idea:

Research and development projects on educational media pay quantities of hard cash for development, lip-service to evaluation, and no attention to implementation. There is never enough cash to equip a decent programme of piloting, dissemination and staff training that would be needed properly to establish an innovation. Development projects of this kind trust to luck and the dedication of enthusiasts to carry them through. That is how educational technology has progressed as far as it has done, but it cannot achieve its potential this way. (p.8)

Laurillard argued that in order to effectively integrate new technologies into teaching and learning, 'we have to address the full context within which the professional teacher is operating' (p.9). She also suggested that a more elaborate understanding of the way students learn is needed in addition to a consideration of the wider, national and global context of HE. It is this sticky problem, the process of integrating ICT into teaching and learning, that is investigated in this thesis.

In 1997, the report of the Dearing Committee (National Committee of Inquiry into Higher Education [NCIHE], 1997) alerted the government and universities to the inevitability of increased computer use by students and teachers, and highlighted the need for both pedagogic and organisational change in HE. The time was right for a study of change in teaching and learning that gave attention to the organisation of the university as a whole as well as providing a detailed analysis of how teachers can achieve change.

Research questions about the change process have been explored from the viewpoint of central managers, middle managers, lecturers and tutors. It has been possible to identify influences of institutional culture, structures, policies and strategies as well as the effect of departmental or discipline culture and organisation and, most importantly, the relationships, roles and power of individuals at all levels. This type of approach which emphasises the roles and perceptions of people within the institution has been advocated by Fullan (1991):

Constant attention to both the content and process of reform and their complex interrelationship is required. This can be done effectively only when it is grounded in particular roles in particular situations. (p.112)

Computer-supported cooperative learning - Stage 1

The first research project on which I was employed as a research assistant led me in the direction of higher education, teaching and learning and the integration of ICT in a group learning situation. It was based at Exeter University in the Computer Science Department and involved observation and interviews with undergraduate students who were working in teams of four on a collaborative design project. The task was to monitor the use of and attitudes to a web-based bulletin board created as an additional meeting space for each group of students. My role involved designing the research approach, interviewin

students individually and in their teams, analysing and presenting the data, writing reports and dissemination - a paper was presented at an international conference in Oslo¹ (English and Yazdani, 1999).

Important lessons were learnt from the experience of this study. The addition of a new technology available to the students theoretically enabled a different way of learning - through computer mediated communication (CMC). However, ICT was not integrated into the course, it was not essential that any attention be given to it. The experimental design was a low-cost, low profile, peripheral element in the course which was being studied by confident second year students. They were not motivated to undergo this activity as they did not see the purpose, they could achieve cooperation with others in their group more easily with face-to-face meetings. This research highlighted the importance of course design and effective integration of ICT into the students' learning experience and the requirement for a perceived need for a change in teaching and learning methodology (both by students and lecturers). In addition, it was evident that for the innovation to succeed, more attention had to be paid to training students in the appropriate skills and to the overall cultural and organisational context. This new understanding, of issues and potential problems in teaching and learning with ICT as well as the qualitative research process, was valuable preparation for the next larger and broader challenge at the University of Plymouth.

¹ *International Conference on Technology and Education (ICTE)*
August 10 - 13th, 1997, Oslo, Norway
'Computer Supported Cooperative Learning in a Virtual University'

Innovations in Teaching and Learning in Higher Education (ITLHE) - Stage 2

The title of this second study was 'Innovations in Teaching & Learning in Higher Education' and involved working with two Directors of Research, Dr Andrew Hannan and Professor Harold Silver in the Faculty of Arts and Education. My role involved participation in all aspects of the project, with one exception. We discussed issues of sample, design, method, interview schedule and analysis making mutual decisions about the way forward. The exception was the literature review which was produced by Professor Harold Silver in the form of two annotated bibliographies - one for each project phase. The first phase involved the organisation of visits to 15 universities and arrangement of appointments for 221 individual interviews which were shared between or conducted by all three of us. The sample represented a geographic spread and an even mix of 'old' and 'new' universities. However, the most important criterion in choosing which institutions to visit was the identification of 'innovative' people who had some public recognition (in the form of publicity, funding or awards) regarding methods of teaching and learning. Interviewees were mainly lecturers but also included professors, managers - Heads of Department, Teaching and Learning Advisers, Directors of Distance Learning (DL) and Open Learning (OL) programmes - and researchers. Subject areas included the arts and humanities, social and natural sciences. My involvement in this project also included dissemination at conferences (Hannan, English & Silver, 1999) and writing up findings. Personal responsibility was accepted for giving particular attention to the area of innovation connected with Distance Learning (English, 1998).

The end of the first year of this project marked a significant point in the evolution of this thesis. It had become clear that features associated with Distance Learning had been entering the realms of mainstream higher education. It appeared that in order to meet the

needs of the increasingly diverse profile of the student population degrees had generally become modular allowing a wider range of subjects and more student choice. Teaching methods were often resource-based involving independent (if not student-centred) study giving opportunities for flexible or part-time study. In addition, teaching innovations that involved ICT were frequently being designed for students to learn at a distance from the lecture halls and libraries of the campus partly because they sometimes involved collaboration between universities. These factors contributed to the decision to make the Open University a case study for further in-depth study which would form the foundation of this thesis.

The second phase of the ITLHE project shifted focus from the experiences of innovators to the institutional context for innovation. To achieve this aim the plan involved re-visiting four of the participating universities and, for the first time, to include the OU. This second year of the project over-lapped considerably with the first phase of my own case study research as it involved data collection which explored the culture, organisation and methods employed with regard to making changes in teaching and learning.

The Open University case study - Stage 3

'The Open University is a revolutionary concept in British Education' remarked Mann (1968) in a paper which presented an interview with the Minister of Arts, Miss Jennie Lee, who was appointed by the government to take responsibility for its creation. In answer to a question about why the OU is needed, she replied:

Existing educational services do not provide the kind of facilities that the Open University will offer. It breaks away from traditional method and organisation, and opens up new opportunities for higher education for people with jobs and family responsibilities, including married women. (p.126)

I was one of those married women, with a full-time job and two children who had the opportunity to study for a degree (over a five-year period, 1981-1986). This had a revolutionary impact on my life as has been the case for many others. The OU is now the UK's largest university with over 160,000 students in 1998/1999 representing 21% of all part-time higher education students².

The traditional learning experience given to students at the OU involves structured, printed course material with optional exercises and compulsory assignments. Additional study material is provided in the form of tapes, videos, radio and TV programmes and (since 1990) computer applications. A personal tutor gives face-to-face fortnightly tutorials in a local study centre and provides feedback on assignments. Examinations have always been a feature and on some courses attendance at a residential summer school is required. The courses have been modular, enabling students to earn credits towards a degree for each completed module. They can, usually, transfer their credit to other programmes of study in other places if they choose. As mentioned earlier, the kind of student that took advantage of access to higher education provided by the OU has been on the increase:

Universities and higher education colleges educated 2.8 million students in 1996-97. Less than a quarter of these were from the group which used to be the mainstay of the old universities - young people studying full-time for a qualification. Of those pursuing a qualification, 64 per cent were mature students and 37 per cent were part-timers. (DfEE, 1998, para. 4.26)

As the OU has demonstrated a successful teaching methodology for students of this nature and obtained a reputation for the quality of their learning material, it would not be surprising if some of the changes happening in traditional universities (such as modularity and flexibility) were directly influenced by the policy and practices in this institution.

²From the Open University 'Facts and Figures 1998/1999' leaflet.

However, it must be noted that pressure for change in universities could also have been caused by political and social changes that have been happening over the last twenty years: a growing egalitarianism and a widening participation in higher education; industry and enterprise in universities; a reduction of funds from the government; a shift in learning theory to more student-centred approaches; a perceived need for students to acquire core skills; the availability of newly developed and developing information and communication technologies. Another important pressure has come from a move towards improving academic teaching standards by regular inspection and government insistence that universities become more publicly accountable and less organisationally autocratic.

Academic standards were an early issue regarding the creation of the OU. Jennie Lee was asked (by Mann) if she was concerned about academic standards and whether the OU could 'actually implement' excellent standards. She responded:

But, look here, has it ever occurred to you that an Open University may become a trend setter and a pacemaker in terms of standards, and that the people in the university world may in the end have reason to be concerned? There were questions and answers in the House of Commons about the standards of university teaching and, as we both know, some of them are excellent, but other parts are under criticism. (Mann, 1968, p. 134)

In November 1999, the *Times Higher Education Supplement* ran an article about the OU being considered as 'a role model to universities around the world'³ - it had been collaborating with two of Brazil's federal universities to assist in the development of distance learning courses. The article went on to quote Sir John Daniel, Vice-Chancellor of the OU:

When the Open University started up in 1970, distance learning meant correspondence education, which meant commercial providers and lower quality provision...[.]...It was a government priority, it had pretty good advisers and the founding Vice-Chancellor was able to conceive something quite new. Jennie Lee

³ The Times Higher Education Supplement, November 1999

was determined that the Open University would be as good as the best universities. The amazing thing is how much they got right...[.]. The success of the Open University depends on its excellent learning materials and personal support.

It is clearly evident that the OU has evolved into a major institution which has been, and is currently, an influential force in higher education. For this reason, the OU has been an ideal case in which to study the process of change in teaching and learning - other HE institutions are and will be undergoing similar changes and may find the outcomes of this study useful.

The OU has, since its inception, been involved with creating courses that use a mix of media technology in their presentation including TV, video and audio cassettes . There is now more interactive technology available allowing computer conferencing and a new role of 'online tutoring'. Students have increased access to information as well as activities involving the operation of simulations using CD-ROMs. The university's research and development of courses involving ICT coincided with the appointment of the new Vice-Chancellor, Sir John Daniel, in 1990. He has put on record his view that:

....technology, which has already made a dramatic impact in most areas of human endeavour, is a key to the renewal of higher education. (Daniel, 1996, p.1)

This view has been adopted by the OU's official strategic development plans for 2000-2010 (Open University, 2000d) which aim at widening the range of students studying at higher education level, increasing the variety and flexibility of courses on offer and:

to find ways of improving accessibility to the OU, increasingly through the use of I&CT, both in teaching and associated services/ administration, and through other appropriate means. ('Objectives', Item 4)

The further integration of ICT into teaching and learning has clearly been a high priority at the OU - as this was considered to be essential for expansion by widening access. New courses were being planned that involved a greater role of ICT in their design and presentation. This was a good time for research to be done about why, how and what kind of changes were being made in teaching and learning involving ICT.

In order to explore these questions and related issues, the case study research was designed in three layers. The first layer attended to the roles and perspectives of senior and middle managers based, primarily, in Milton Keynes and was focused on policies, strategies, frameworks and culture. The second layer concentrated on the development of two new courses - one in the Faculty of Arts and the other in Technology, through the stories and views of the key course team members involved. The purpose of this phase was to explore how change in teaching methodology was achieved or not from the perspective of those directly engaged in this process - the teachers. The third layer involved the voluntary participation of part-time associate lecturers (more commonly known as tutors or tutor-councillors) who supported students during the first year of course presentation. It was important to discover how the tutors experienced their new role of online tutor and their view of the students' response to this form of learning. It was also interesting to witness the continuing involvement of course team members as well as further course development being undertaken throughout the first presentation.

The findings of this thesis are therefore presented, in line with each layer, in the following three chapters:

- Chapter 4 - Findings I: Institutional Context
- Chapter 5 - Findings II: Two New Courses

- Chapter 6 - Findings III: Regional Support

Institutional context

The wide institutional context of change in teaching and learning was explored in terms of the culture, the system and the development of ICT in teaching and learning at the OU. Research questions posed in this stage made reference to the interviewees themselves as well as their view of the institution. Documentary evidence showing institutional views regarding teaching and learning and ICT were also included. It was Handy (1976) who promoted the idea that it is helpful to study organisations both as political systems and as a collection of individuals. In this way, information was obtained about individual managers including explanations of their roles, responsibilities and relationships with other colleagues as well as descriptions and views of teaching and learning policy, plans and initiatives. Perceptions of institutional culture, or sub-cultures, were also acquired as well as ideas about the source and nature of pressures for change on teaching and learning to involve ICT. The underlying question explored was: How much and in what way do these issues affect the process of change in teaching and learning at the Open University?

This part of the case study gave some shape to ideas about the nature and extent of institutional, departmental or managerial influences on change. Relationships, formal and informal, that gave power to individuals were also a subject of enquiry. Potential power struggles involved in making changes began to emerge. These ideas were helpful in evolving the research questions for later stages and included: institutional culture v discipline culture; personal v political / system; informal v formal; individual v group. Positive features of procedures and management strategy as well as informal networks that enabled change were also explored.

Two new courses

The activity of teaching at the OU differs from other HE institutions. It is a task that is undertaken by a team of people rather than individuals. The course team are engaged with the design of the course and preparation of the teaching material and do not, generally, have direct contact with the students on a regular basis. In some cases, when the course includes a residential summer school, course team members can be involved with more traditional forms of teaching, but even then the programme usually involves many highly interactive, workshop situations, unlike the majority of university teaching. Walter Perry, the first OU Vice-Chancellor, explained the reasoning behind the set-up of course teams:

From the beginning the Planning Committee was anxious to ensure that the responsibility for the nature, the content and the teaching method of each course offered by the university should be vested in the university as a whole. It should not be left to the whim of the individual department or the individual member of staff. (Perry, 1976, p.83)

This level of responsibility is still the case today and although departments do now exist, many course teams (particularly those involved in foundation level courses) cross departmental boundaries. Course teams consist of academics, educational technologists, BBC production staff, editors and publishers. They also include a mix of staff at various horizontal or vertical locations within the institution - new and experienced, lecturer and dean, academic and non-academic, central and regional. It is through studying the operation of course teams that the nature and methodology of the university's teaching can be examined.

There have been two mini-case studies. Each one has focussed on the way in which a course team comes together, operates (formally and informally) and develops a new

course. One course⁴, at foundation degree level (level one), was based entirely on the internet, abandoning text-based course material and most face-to-face tutorials and offering instead a web-site and computer conferencing area with an online tutor to support students. The other course⁵, developed for a higher level of study involving greater depth of subject material, began with plans for integrating ambitious interactive CD-ROM material but which was completed with less radical use of ICT. The stories of each course development were compiled following interviews with course team members. A draft of each story was sent to all the participants involved and they responded with fruitful and interesting comments - adding further dimensions and depth to the analysis and discussion. At the outset these courses were chosen for their contrasting features, but there were additional interesting differences that emerged and which have proved to be helpful in highlighting key issues.

Regional Support

This stage investigated the support that students were given by part-time tutors (officially known as 'associate lecturers' - ALs) based in the regions across the UK. It focused on the Southern Region of the OU and included some discussion based on interviews with senior managers and staff tutors at the regional centre. However, the bulk of this part of the case study was intended to identify significant issues arising during the implementation phase of a planned change, in this case, the presentation of a new course involving new teaching methodology and recent ICT. The perspectives of tutors supporting students on the new internet-based Technology Course (T171) were sought through open questions sent by email requesting responses. During this period of data collection I was employed as a tutor

⁴ T171 - You, Your computer and the Net - The Technology Faculty

⁵ AA306 - 'Shakespeare, Text and Performance' - The Arts Faculty

with the OU on this course which enabled me to be more directly involved with the change process under study.

Extending the research into the implementation phase of the change enabled a view of the detailed nature of this kind of change - it looked below the surface. Characteristics that were exposed during the implementation phase would not have been visible during planning and development. This kind of change appears to move into a higher gear during implementation, just at a time when most designers would think that their work was over. A continuing cycle of evaluation and development evolved which led to a larger number of course team members and an increased impact on other parts, particularly the service and administration areas, of the OU.

CHAPTER 2

REVIEW

In introducing this thesis, the word *holistic* has been used to describe the research design and the intention to seek connections between the environmental context and the process of change. This chapter explores connections between structures and concepts arising from the phenomena studied and previous experience and perceptions in the field of higher education, change and the integration of ICT in teaching and learning. However, it is recognised that in this process itself, as in the scientific enquiry undertaken, my own area of interest, previous experience and way of perceiving the world is ever present. In this way the meaning of the term *holistic* is extended to indicate a recognition that internal as well as external forces have influenced this search for greater understanding.

Science is irresistibly coming to the conclusion that there is no separation between the observer and the observed, that matter by itself cannot observe itself. It is awareness - consciousness - that creates this division (p. 163)...[...]... What is perceived is partly what is expected and partly what is sought; it never is simply what is there. (Malik, 1995, p.179)

It is with the awareness that there is always another way forward that this review of the literature is discussed – accepting my own limited mechanistic tools of expression despite the urge to obtain a holistic perspective of the process of change. This research has been conducted with an interpretive approach (rather than a positivist one) using ethnographic and qualitative methodology, but always present on one side is a voice reminding me of the need for objectivity and on the other side is a voice that whispers ‘Don’t forget the human spirit!’.

The aims of this chapter are to:

- explore meanings and define terms that are frequently used in the research narrative
- build a foundation for the thesis based on theory already generated in related fields and situate the study in a broad social, political and educational context

- design a skeletal conceptual framework on which the research findings can be organised and explained in the following chapters

The majority of the literature examined here is concerned with aspects of change – in society, in higher education, in organisations and institutions, in the Open University and in the nature of teaching and learning. Theoretical explanations stem from sociological and psychological perspectives and look at reasons for change, various approaches in the implementation of change and problems associated with it.

At the centre of my research is an exploration of the relationship between the needs, aspirations and creativity of the academic (or small group of academics such as the course team) and the needs and organisation of the university with regard to teaching. In the context of this thesis, the view is taken that the influences, pressures and needs of the university as a whole are sometimes different than those for an individual in the institution - even though it could be argued that ‘the university’ (as a concept) is merely a collection of individuals. Influence for change flows in both directions between the individual and the group, between the individual and the university, between the group and the university as well as between the individual, the group, the university and the world outside – other universities and organisations, politics and society.

In what follows, the literature about change in teaching and learning is linked to a focus on educational information technology. The reason for such a focus is partly due to the choice of case studies of change in teaching and learning at the OU (involving new communication and information technologies) and partly to a great amount of experimentation and research in this area of educational change. We found that innovation

in teaching and learning in HE involving technology was the most common type in our first year of the ITLHE project (Hannan, English and Silver, 1999).

The review naturally falls into three sections:

1. The Broad Context – Higher Education and Distance Learning
2. Universities – Institutions / Organisations
3. Teaching and Learning and Information Technology

Some of the literature is specifically about the Open University and this will be discussed within each of the three sections.

1. The Broad Context – Higher Education and Distance Learning

The broadest context for this research is represented by the ideas expressed in a ‘Reith Lecture’ (Giddens, 1999) broadcast on Radio Four. It was entitled *The Third Way – a period of transformation* and addressed, in particular, the concept of globalisation. The meaning of this popular phrase was not always clear, but Giddens referred to it as ‘a range of forces affecting the world’. There were skeptics who thought that the world was not particularly different and had not changed dramatically – excepting economic practices - and radicals (Giddens was one of them) who felt that globalisation is a revolutionary political, technological, cultural and economic phenomenon. The following consequences of globalisation were identified:

- a trillion dollars turned over daily on global markets
- 50 million Americans on the internet and now 5 million in the UK (1 in 10)
- a growing equality for women, homosexuals and ethnic minorities

- a revival of small, cultural, local initiatives
- a loss of national sovereignty – ‘the era of the nation state is over’
- the nature of danger has shifted from war to economic risk
- a shake-up of existing lifestyles which are less secure and predictable
- institutions losing control because of the anarchic and chaotic nature of the ‘global cosmopolitan world’.

During the lively discussion which followed the lecture, Tony Blair, the current UK prime-minister, pointed out that there are two sides of globalisation. One is positive – new ideas, new co-operation, solidarity and social justice and the other is an unpredictable, uncertain aspect that exposes the shared risks involved. The debate highlighted the following perceived social trends: a more 'inclusive' society; a growing equality of opportunity; a heightened importance of being able to compete economically; increased use of new technology and a need to collaborate with others. These trends are very conspicuously behind changes happening in higher education in the UK.

Professor Newby, President of the Committee of Vice-Chancellors and Principals (CVCP) wrote the following in a preface to a report (CVCP, 2000) about 'borderless education':

Borderless education has potentially much deeper long-term implications for the future shape and structure of British higher education. For example, more intense competition raises issues about the number and size of UK universities and the extent to which greater collaboration could help us face the global challenge. (p.4)

The report lists many lessons which institutions are expected to consider, these include: a customer-focused approach; increased use of virtual delivery in the provision of courses; increased use of branding to promote a reputation. The CVCP appears to have accepted the trend of a university market ethos:

4.3 As higher education moves towards becoming a market - or rather a series of different and sometimes conflicting markets - UK universities cannot ignore these trends, whether in relation to domestic student provision or international activities. (CVCP, 2000, p.17)

The Shape of Higher Education

An early but powerful influence on HE came with the Robbins Report (Robbins, 1963). The 'Robbins principle' arising from it was about 'having a sufficient number of higher education places so that all qualified applicants can study for a first degree' (Evans, 1980, p.233). The principle was justified on the grounds that 'a nation's economic growth and higher cultural standards can only be achieved by making the most of the talents of its citizens' (Bligh, 1990, p.34). As Bligh pointed out, the significance of this is that higher education (though it was still only for the few) was justified in terms of the common good and since then the government has been trying to increase its control but at the same time reduce its financial commitment. It was, according to Bligh, in order for the government to ensure some influence over the Open University when it opened in 1970, that it was funded by the Department of Education and Science (DES) rather than the University Grants Committee. He describes the opening of the OU as the start of a governmental push for an increase in distance learning methods when the high level of demand for continuing education and the low cost per student became known (a quarter of that in a traditional university).

The Robbins Committee gave four aims of higher education: to develop the nation's economy (by providing instruction into occupational skills); to develop the intellect of the individual; to develop knowledge; to develop society by the transmission of common culture and common standards of citizenship. Stated in the government's response to the

Dearing Report (DfEE, 1998) is a wide-ranging agenda for higher education into the 21st century. These aims are listed as:

- increasing and widening participation, particularly from groups who are under-represented in higher education, including people with disabilities and young people from semi-skilled or unskilled backgrounds and from disadvantaged localities
- offering opportunities later in life to those who missed out first time round
- increasing its contribution to the economy and its responsiveness to the needs of business
- collaborating more closely and effectively with other institutions and with the world of work
- exploiting new technology and flexible delivery so as to make itself more accessible and ensure maximum use is made of its facilities through longer opening hours (DfEE, 1998, Introduction, 2.0)

In this way, the government hopes that HE will play a vital role in developing ‘lifelong learning’ in our society. Interestingly, during the 25 years between the Robbins and Dearing reports, the word ‘knowledge’ has been lost in the context of ‘higher education’ and ‘learning’. This point is not just a matter of interest for some academics in this field, as it hints at government instrumentalism in the way a culture of lifetime learning has been promoted. Elliott (1999), argued that the government's approach espouses principles of market competitiveness and employability which link to policies encouraging skills-based qualifications to meet the needs of business and industry. He explained his view in no uncertain terms:

The assumption built into this model is that lifelong learning is the socio-cultural endorsement of the radical New Right education ideology. What is so insidious about that is that lifetime learning is reduced from its status as an emancipatory enabling framework for learning to the status of a policy expedience. (p. 31)

Despite this cynical interpretation of the government's intentions, the various and many institutions in further and higher education are likely to interpret *lifelong learning* provision in different ways. As the government's agenda above shows, the concepts of ‘open to all’, ‘collaboration’, ‘use of technology’ and ‘economic and business needs’ are a

priority in their policy for the future of HE. These ideas may not fit together comfortably, and may not be mutually compatible, but they are old and familiar phrases to the OU which has been attempting to link them implementing its plans and courses between 1970 and 2000. The university's mission statement in the year 2000 is 'Open as to people, open as to places, open as to methods, open as to ideas' (Open University, 1997). These sentiments are also found in the objectives –

One of the University's paramount objectives is to be a University which is open to all, and in whose activities all individuals, whether staff or students, are encouraged to participate fully and equally. (p.8)

There are 27 objectives listed, many are concerned with widening access, collaboration and developing communication and information technology. They include:

- to identify disadvantaged groups and improve access to study for these groups
- to work collaboratively with other organisations - improving student opportunities
- to develop the use of new technology in courses
- to maintain leadership in the application of educational technology, especially ICT

It is interesting to note that these objectives are embedded in governmental policy for HE to encourage lifelong learning (as described above) and that one of the objectives of the OU is to 'seek consistency with our policies by influencing the future development of HE in the UK, so as to ensure that OU capabilities are used in full' (p.15). Perhaps governmental intentions in developing a policy for lifelong learning were not very different from the ideas behind the creation of the OU in the late sixties.

In 1992, the 'binary system' (Higher or Further Education colleges and polytechnics on one side and universities on the other) which was in operation following the Robbins Report came to an end. This ultimately resulted in many 'new' universities which led to further and deeper change within HE. Before this happened academics were divided as to whether it would be desirable:

many people felt that too extensive an expansion of universities would disturb their traditional patterns, to the detriment of 'scholarship', 'research' and 'standards' (Silver, 1980, p.48)

Silver pressed for the end of an alternative route through HE and asked 'Why should the universities themselves not be made more open – in a single, expanded, democratised system?' (p. 48). Obstacles to adult participation included institutional reasons - lack of suitable courses, inconvenient schedules or locations and high fees (Centre for Educational Research and Innovation (CERI), 1987). Evans predicted that a result of administrative changes and student grants for part-time study would lead to lifelong learning provision:

If something is done then institutions need no longer be caught in the lock-step of assumptions that education is for the young, work for the middle-aged, and compulsory leisure is for the elderly. They could begin to adjust their academic provision to the way in which leisure, work and education are blending into a life-long pattern. (Evans, 1980, p. 247-248)

In the twenty-first century, the system is single but more diverse, more flexible and wider ranging, and it has expanded. During the 1990s the polytechnics became universities and colleges of higher and further education began to gain accreditation, in partnership with universities, to provide new degree level courses. However, these colleges are not generally considered as an alternative route, but are an additional opportunity of entering the higher education system.

The current cultural state of change and fragmentation of old values has been described as a 'postmodern condition' by Usher, Bryant and Johnston (1997). These authors suggest that 'contemporary uncertainty and diversity' have contributed to a shift of emphasis in educational thought from provision to learning opportunities and from the student to the learner. It is these notions that underpin the expression 'democratisation of education'. It is about a greater number and diversity of students (from all social classes) having access to HE and the availability of more choice and flexibility of subject and study methods. Hargreaves (1997) sees democratisation as the creation of more appropriate opportunities. He expands this by suggesting that there has been a shift from a passive, formal view of knowledge (usually gained before 'doing' – as at school) to an active, less formal view which sees learning as taking place 'while doing' such as within jobs. The OU has been increasing the range of courses on offer that are of a vocational nature (Teaching, Law, Business and very recently, Medicine) in order to bring greater degree of choice and study flexibility to potential students and assist in the training needs of organisations and professions.

In addition to these new developments that contribute to a contemporary meaning of democratisation, some of the traditional definition still remains – that of 'representation' or 'consultation' and 'consensus'. Students have also been given more opportunities to contribute to institutional policy regarding their own learning. In the 1999 Quality Assurance Agency report, the OU was commended for 'its support of the Open University's Students' Association (OUSA) and its involvement of students on major committees' (Quality Assurance Agency, 1999, p.16) . The recent report noted that students had expressed their confidence that the OU was listening to them and the

introduction of named degrees was an example of this as well as giving evidence of increased democratisation in the political sense.

The idea of the OU was to be the university of the 'second chance' to provide opportunity to those who had not previously had access to higher education. Its aims were to open up pathways to HE and give opportunities to those who would not otherwise study due to difficulties of circumstance – the disabled, women with young children and those who were unable to support themselves during a traditional spell at university. This specific aim to widen participation still remains at the top of the OU agenda. In July 2000, Sir John Daniel, the Vice-Chancellor, expressed the core values of open universities during a keynote address¹. In this he elaborates on how the OU interprets its mission to be 'open to people' which is by upholding 'the notion of higher education as a public good' and 'countering exclusion' by not limiting access because of numbers or cost. Unlike most other conventional universities, he argues, the OU does not rely on a reputation based on exclusiveness and restricted size due to selection. Soon after the OU opened there was early disappointment that there were not enough working class students registering. At this time, reported Pratt (1972), there was very little encouragement for them to register because of the academic rather than vocational bias to courses on offer, the use of technology not always available in the poorer homes, the cost of the courses and the places where courses were advertised (such as the *Radio Times* rather than the *Daily Mirror*). Thirteen years later this aspect was still a subject that attracted criticism, Harris (1985)

¹ This address was given at the 25th International Conference for 'Improving University Learning and Teaching, entitled 'The University of the Future and the Future of Universities' in Frankfurt on the 18th July, 2000. The transcript of the speech was available on the web - <http://www.open.ac.uk/vcs-speeches/> alongside many others spanning 1998 - 2000.

exposed 'reconciled contradictions' in the concept of 'open-ness' at the OU because, he argued, there was still a process of selection following student application.

In December 2000, during another conference address², the VC defends the OU's claim of openness by referring to the numbers of students at the OU - over 300,000 (in total) that year, and added that:

Moreover, delivery on the mission of openness to *people* is not just quantitative. The profile of the student body comes closer than the average of the other UK universities to reflecting the adult population as a whole in terms of age, ethnicity, gender, socio-economic background and disability. (p.3)

A search for comparable statistics to support or refute Daniel's statement has had an unsatisfactory result. However, the OU may have been ahead of its time with regard to aims and values involving social inclusion when it opened even though it is still trying to achieve full democratisation. Other universities are struggling with this challenge that is now an accepted part of the task that faces the higher education community in general. A recent *Guardian* article (Major, 1999) reports that class bias is still prevalent and that according to the Higher Education Statistics Agency (HESA), this is even more extreme in 21 universities than at Oxford and Cambridge (where 80% of the registered undergraduates in 1997–98 came from the two highest social classes). The Higher Education Funding Council for England (HEFCE) has introduced (in 1999) a new £20 million fund that rewards universities who are admitting more students from non-traditional backgrounds and the Committee of Vice-Chancellors and Principals (CVCP) has called for further support funding to extend opportunities to young, old, working-class youngsters and people from ethnic minorities.

² This address was given by Sir John Daniel at a conference in Hong Kong on the 5th December, 2000 entitled 'New Millennium: Quality and Innovations in Higher Education. His speech was entitled 'Towards the Global University: Quality or Mediocrity?' (found at <http://www.open.ac.uk/vcs-speeches/>).

Change in Higher Education – pressures and problems

Where the concept of lifelong learning was regarded as a desirable aim in 1980 (see Evans above), by 1995 the ‘need and demand for lifelong learning’ was seen as a ‘key influence in the evolving shape of the higher education sector’ in a report (CVCP, 1995) responding to the government’s review of HE. Other key influences listed were -

- the requirements of learners for types and modes of provision which challenge accepted institutional patterns
- the potential impact of new technology (including distance learning techniques) on knowledge transfer and curriculum delivery
- the changing boundaries and relationships between HE and other sectors, including schools, further education and business/industry
- the growth of partnerships of various kinds at local, regional, national and international level

It is immediately apparent how these four key influences mirror the four concepts referred to earlier - open to all, collaboration, use of technology and economic and business needs (p.29) - that are at the forefront of governmental policy for HE.

The increase in student numbers has resulted in institutional diversification and to some extent entrepreneurialism . For some institutions it has meant that they have become more self-regulatory – the less dependent on public funding they are, the less they are susceptible to public evaluative mechanisms (Henkel & Little, 1999).

Quality assessment is both a response to change and a mechanism for managing it at both institutional and system levels. Controversy can therefore arise from the substance of change And from the question of steerage: whose hands are on the steering wheel? (Brennan, 1999, p.229)

This aspect of change together with the emergence of new courses designed with new technologies that transcend national boundaries illustrates a changing relationship between the institution and the state. However, as Brennan went on to point out, there is also a controversial shift in power - away from the individual academic or department towards the centre of the institution. This is partly due to approaches in quality assessment which put more responsibility on to the institution than they do on to the subject area. The result is a greater number of managers (often middle-managers) who have the responsibility of implementing institution-wide policies.

A useful contribution to the question of '*who* or *what* is at the controls?' comes from Ball (1994) who gives a critical and post-structural view of education reform. He argued that established within current educational policy there is a powerful ideology about the benefits of the market for increasing choice, personal liberty and national standards. In his view this market ideology is not being countered because it is a system that preserves (and reproduces) social class which, therefore, does not threaten the status quo. He also explained that the perceived view of 'the market place' was based on the generalisation that here all are equal and all are exposed to the same risk. In this way, the argument concludes, power and control remain linked with educational advantage and are firmly held by the higher (and wealthier) social class. Admittedly, this analysis is aimed primarily at school education, but the ideas of the market and recent commercial agenda in HE institutions may suggest the relevance of Ball's analysis. However, the current situation is so dynamic, especially in the light of the internet, globalisation and widening

participation (which have become more visible since this argument was made), it is likely that the *status quo* will not escape being challenged as the future looks more uncertain and complex.

Laurillard (1993) demonstrated a perceived market ethos in the way she articulated the need for change in universities:

Higher education cannot change easily. Traditions, values, infrastructure all create the conditions for a natural inertia. It is being forced to change, and the pressures being brought to bear have nothing to do with traditions and values. Instead, the pressure is for financial input to go down, and some measurable output to go up.
(p.4)

In both language and sentiment used above, she illustrated how much education is being viewed as part of the market economy, in a way that seems appropriate and convincing. Since writing the above Laurillard became Pro-Vice-Chancellor of the OU (for 'Technology Development' in 1995 and subsequently with responsibility for 'Learning Technologies and Teaching' in 1998), which meant that her views were important to the process of change in teaching and learning at the OU.

The relationship between work and higher education is also changing quite radically – this is, of course, linked to the concept of learning for the benefit of the economy, but it is also about changing cultural aspects of higher education (Barnett, 1997). Because our society and the nature of work are changing quite rapidly and unpredictably, generic skills are required to ‘make it possible for the self-reflexive individual ultimately to jettison particular skills and take on new ones’ (p. 3). One cultural aspect of HE that Barnett referred to is that as work becomes less secure and more problematic, education is also

becoming (paradoxically) more an activity to be enjoyed for no other reason than personal satisfaction. Another point he made was that:

in an age of information technology, the boundaries between culture and work dissolve..[.]. The very terms ‘the leisure industry’ and (even) ‘infotainment’ are indications of the profound structural ambiguities which we are facing (p. 4)

Coffield (1999) rejected what he referred to as the ‘prevailing orthodoxy in the UK’ – that educational institutions should become more modernised, more like businesses and responsive to employers’ needs, and that the economy depends on the skills of its people. He argued that the emphasis on education diverts attention from other factors that affect the economy and questions whether there will ever be enough skilled jobs to satisfy a highly able workforce. His main point was that the government's popularisation of the concept of lifelong learning is a form of social control because it has avoided, so far, any negotiated contracts between employers, trade unions and the state. This idea may reflect, in part, the motivation of the government, but it appears to have a rather outdated, ‘them and us’, view which ignores the current trend of blurring between life and work as discussed by Barnett. However, there is some evidence that supports Coffield’s argument. Educating the masses is an ‘imperative for world security’, as stated by Daniel (1996), and has links with the idea of an acceleration towards chaos and anarchy with globalisation (mentioned at the beginning of this chapter). ‘Modern communications make it increasingly difficult to impose such frameworks [of ethics and values] by authority’ (p.5), but this also sounds like the beat of Orwellian drums warning about social control and world domination by sinister technology. Connections between the government's enthusiasm to support and promote education and what may be an ulterior motive regarding social control were highlighted in a recent *News* item³. A report was given on the government’s concern for the cost to the country of the 9% of teenagers that ‘drop-out’

3 The ‘Today’ programme, Radio 4, 3/2/2000

of school with no qualifications. The reason for concern was not that they would be unable to contribute to the economy due to their lack of knowledge and skills, but that they would be a drain on the economy because of their higher potential for unemployment and criminality (ie. they would be less under control and thus more anarchic). The government were considering implementing a system of counselling to help the teenagers to get further educational training or jobs. Citizenship is more comfortably seen as individuals making thoughtful choices for the good of their family, the community and the wider world and it is a surprise when the State or large universities such as the OU appear to take responsibility for this aspect of society. The Open University currently fulfils adult students' learning needs for reasons of work, leisure and education and has been doing so increasingly over recent years – the total number of recorded part-time students increased from 150,000 to 250,000 between 1992 and 1996 (HEFCE, 1997).

In tracing the 'rise of independent study', Robbins (1988) refers to the development of the DipHE qualification (first introduced at North East London Polytechnic and elsewhere in 1974) as the starting point of a campaign of educational reform which sought to extend 'comprehensivisation'. This term means much the same as democratisation and perhaps this campaign was also at the root of pressures and challenges facing HE that Hargreaves and Fullan (1998) have identified. They are: a required relevancy and response to the changes going on outside the institution – in other institutions and other countries; a greater flexibility for a more diverse student population; a need for trained staff in designing new teaching methods for using technology in courses offered; the need for the institution to be more linked with other organisations in the local community or elsewhere – an increase in collaboration and co-operation; a fight for democratic values within the learning

community – participation, equality, social justice, loyalty and service amongst its members; the need to be aware of market competition. Watson (1999) mentions most of the above in his list of ‘inescapable agenda for higher education institutions’, but includes a call for ‘the scholarly environment (which Dearing argues is essential for genuinely higher education)’ and ‘attention to quality and standards’ (p. 333).

Almost every contemporary book about higher education echoes similar changes, challenges, problems and pressures. Daniel (1996) highlights the changing nature of the student body and the principal challenge to the university to be flexible in response. However, he goes further and argues for the use of distance learning methodologies together with new information technologies (‘Knowledge Media’) as a suitable response to meet the challenges. He is not alone in seeing this at the top of the agenda for HE:

In practical terms, one of the most important areas for development is distance learning making full use of modern technology. A mass, modularised HE system based on credit systems and flexibility will depend increasingly upon home-based and work-based study via electronic communication. (Watson and Taylor, 1998, p.147)

Distance Education

A review of the last 20 years of research into distance education (DE) has been carried out by Peters (1998). He referred to the concept of three generations, which evolved from the traditional form of learning found in universities: learning from reading printed material; guided self-teaching and independent work; learning by means of personal communication and with the help of audio-visual media. In his definition, the first generation takes all these modes of learning and leaves out the obvious ‘traditional academic teaching and learning in lectures’. The second and third generations include elements of the first and add

the use of 'educational technology' by tele-conferencing in the second and by 'personal computers and the internet' in the third (also defined by Thorpe, 1998). Nipper (1989) emphasised how the evolution of a third generation of distance learning would be defined by the social aspects of learning involving interaction facilitated by CMC. The OU are in the process of change in pedagogic design which brings them firmly into the third generation of distance education. The OU has been defined by Peters as a single mode university meaning that it has been developed from the start for the specific task of distance education. Other types of operating modes within institutions are defined as 'dual mode' – where a traditional university also provides distance teaching and a 'mixed mode' where several forms of study are running in parallel and chosen by the students according to their own needs.

Daniel (1996) has outlined two approaches to DE which describe key features of the pedagogy. The first he referred to as the 'correspondence tradition' which is student-centred and relies mainly on asynchronous communication (the OU model). The second is the 'remote-classroom approach' (such as video-conferencing) which is teacher-centred and based mainly on synchronous communication. He also uses the word *interaction* in both approaches but notes that the term is not used in a consistent manner. Daniel believes that these two approaches used in DE may be brought together by the use of Knowledge Media (an environment that links telecommunications, television and computing)

All distance education relies on the use of various technologies and has introduced the concept of a division of labour into the teaching process – 'In traditional education a teacher teaches. In distance education an institution teaches. This is a radical difference' (Keegan, 1980, p.9). Keegan expands on this idea in a later book:

An essential feature of distance education is that the teaching acts are separated in time and place from the learning acts...a teacher prepares learning materials from which he or she may never teach. Another teacher may use the materials and evaluate students' learning. The pedagogical structuring of the learning materials, instructional design and execution may be assigned to persons other than the teacher and to persons not skilled in the content to be taught. Teaching becomes institutionalised. (Keegan, 1996, p.115)

The idea of a fragmented and collaborative teaching method will be pursued in a later chapter as it is particularly relevant to teaching and learning at the Open University.

According to Daniel (1998), the OU is successful because 'like any genuine educational innovation, it was rooted in idealism' (p.23). He believed that the challenge for distance education is to teach more people, more inexpensively and at their own convenience. For this reason he decided to abandon any idea of using video and satellite links in remote group-teaching scenarios because they were expensive, exclusive and inflexible. He thought that the availability and flexibility of the internet would blur asynchronous and synchronous distance education. He stated that other key factors in a successful DE institution included -

- high quality multi-media learning materials produced by multi-skilled academic teams
- dedicated personal academic support
- slick logistics (organisation and administration)
- a strong research base (academically up to date and relevant)

Adult Education is also particularly associated with learning at a distance, however, there are many educational and commercial institutions and organisations that are involved in teaching adults. Silver (1999b) makes the point that the impact of DL and the new

communication technologies bringing together dispersed populations has extended the concept of 'learning organisations or communities' (p.33). Some have made the point that it is postmodernity, the empowering of previously oppressed social groups (women, gays and ethnic minorities) and the emphasis on 'fragmentation and reinvention' for a democratic education that have evolved an alternative interpretation of adult learning and educational institutions:

By undermining the certainty surrounding canons of knowledge, universal messages and the efficacy of enlightened pedagogues, opportunities are presented for diversity and for new and innovative practices which switch the emphasis from 'provision' to learning opportunities, from the student to the learner. (Usher, Bryant and Johnston, 1997, p.22)

In the realms of formal education people are considered to be adults when they are over the age of 21 (rather than the legal 18 years), the label is then 'mature student'. The phrase 'adult education' has also expanded:

Adult education as a phrase, has had a particular meaning in the United Kingdom for many decades, connoting courses of a non-vocational, liberal, or recreational nature which do not lead to a paper award...[...].the newer meaning – any form of education or training that adults engage in ... (Squires, 1993, p.88)

The newer meaning refers to a triangular model produced by Squires which has knowledge, abilities and culture at each corner and encompasses academic, professional, recreational, vocational, social and personal as representing the curriculum beyond school. The main shift is seen in the number of mature students now studying at universities for academic degree and post-graduate qualifications. Undergraduate students studying with the OU have increased from 20,000 to 160,000+ between the years 1971 to 1997 and, in 1998, 94% of these students were over the age of 25⁴. In response to the growing demand almost all British universities are beginning to introduce DL programmes. In one study at

⁴ From 'Facts and Figures 1998/1999' OU leaflet

a large civic university, Johnston (1994) looks at the reasons behind changing from a traditionally taught course to a distance learning one – ‘The reasons...were economic, technological and educational, not in that order, but coming together as driving forces for change at a single point in time.’(p.45)

Conclusion

The pivotal themes affecting change in higher education are currently -

- globalisation – the need for collaboration and co-operation
- mass education for future economic and social stability
- equal opportunity for lifelong learning
- integration of new communication technologies intended to produce less expensive, more interactive and more flexible opportunities to study
- individual responsibility and student-centred learning

How much and in what way do these issues affect the process of change in teaching and learning at the Open University? This question will be investigated in later chapters.

2. Universities – Institutions / Organisations

What is an organisation?

The first thoughts that come to mind about an *organisation* is a group of people, from a handful to a large community, in one room or spread across the globe and they are all doing something that contributes to the meaning or purpose of that organisation. It could

be a business, a charity, a political party, a criminal group or it could be an educational institution. As a university, an organisation must include an additional set of defining features – a primary purpose of teaching and research, a membership of subject experts (academics) and students in addition to managers, administrators and service staff and a wider ‘organisation’ or system that it is linked to – nationally and internationally.

However, universities have changed, more radically in the last decade of the twentieth century than in the previous two hundred years, and the study of educational institutions during the latter half of the last century (1950 – 2000) has produced many models and frameworks in which these organisations have been viewed.

In addition to shape, size, membership and purpose, the organisational structure of an educational institution including management style, roles and relationships has been regarded as an essential element in an organisational definition. Bush (1995) has provided an overview of various perspectives used in the study of educational management. The following six models, discussed in his book, represent different approaches to management highlighting features of structure, goals, leadership and the environment.

- Formal models were popular in the early stages of theory development (pre- 1970). Structures are conceived as ‘objective realities’ and are fixed, hierarchical with a top-down management style – goals and objectives being decided by management. This description reflects Weber’s theory of a ‘bureaucratic organisation’ (Weber, 1946) which is viewed as a ‘machine’ with technical advantages of precision, speed, clarity, continuity, discretion, unity, strict subordination and a reduction of friction and personal costs.

- Collegial models represent a more lateral (less hierarchical) structure which allows all to contribute to goal definitions and decision-making. Senior managers seek consensus.
- Political models view the structure as reflecting group and individual interests and these are the goals that are stressed (rather than institutional objectives). Instability and conflict are assumed as groups undertake a process of bargaining while seeking to promote their own interests.
- Subjective models see a much more fluid structure which is largely defined by the relationship and interaction between individuals and groups. Relationships rather than roles are stressed and personal aims and goals are emphasised.
- Cultural models represent a structure that is defined by the values and beliefs of the institution. The mission statement leads to specific goal making which is reinforced by the pattern of roles and relationships.
- Ambiguity models represent a problematic structure which has unclear roles and relationships between sub-units, where decision-making can be affected by members of committees who are absent and power and participation are fluid.

Bush stresses that none of the models, on their own, can adequately describe a total framework and discusses how attempts have been made to synthesise some of the perspectives to describe policy formation.

To see where the above models fit in with other theories and concepts it is useful to present a summary of three main paradigms for the analysis of organisational theory in the study of educational institutions (Ribbins,1985).

- Functionalist – theories of *open* or *closed* systems coming from a scientific/ positivist research approach concerning culture (consensus is assumed), the environment, role structure, role players – their behaviour and functions and seeking to produce a cause / effect explanation. This dominated the field in the early years and incorporates the Formal model from the list above.
- Interpretive – theories of social phenomenology, symbolic interactionism and action theory coming from an ethnographic, qualitative research approach concerning interaction, meaning, rules (order is expected to depend on the people and groups involved), perspectives, negotiation and relationships and seeking to gain understanding. Collegial, subjective and cultural models could roughly fit in with this paradigm.
- Dialectic – Marxist and critical theories where conflict is assumed and the concerns are ideology, class structure, power, conflicts of interest, effect of national economy and culture, identification of agents and social control. This paradigm assumes a state of conflict and seeks to expose or emancipate. The political model fits into this view of society.

This research appears to fit into the interpretive paradigm, as described above, but there are some concerns that are listed under the functionalist label (such as the environment and the function and behaviour of people in certain roles) and some elements from the dialectic heading (ideology, power, culture and identification of agents) that will be taken into consideration.

According to Corwin (1967):

A complex organisation consists of stable patterns of interaction, among coalitions of groups having a collective identity, pursuing interests and accomplishing given tasks, and co-ordinated by power and authority structures. (p.161)

This seems at first glance to be rather an old-fashioned definition based on Weber's bureaucratic model of an organisation where a hierarchical structure has clearly graded levels of authority and is governed by rules and documents. But Corwin sees this model as over-simplifying and ignoring the role of personal and informal relations and over-emphasising rationality and the infallibility of rules. He also discusses a 'natural systems' model that contrasts with the 'rational' model above and decrees that direction is more dependent on commitments and constraints than on official goals and planning. In conclusion he gives a list of elementary properties within organisations in an attempt to produce a 'universal typology'-

- characteristics of the co-ordination system (administration, procedures, relationships between the sub-parts)
- characteristics of the power and authority systems (levels, distribution etc.)
- characteristics of the recruiting process (selection, turnover)
- direction (commitments and constraints)
- characteristics of the boundary system (internal/external influence, funding, legislation etc.) (p.217)

This may not be complete, but it is a useful overview as all these elements of an organisation have some association with the process of change and they all relate at some level to a particular function – in this case, teaching and learning.

Silverman (1970) has given much attention to 'patterns of interaction' and has explained that the way in which people are able to act or interpret the actions of others is based on a social construct – a set of expectations and meanings:

...the present participants continually shape and re-shape the pattern of expectation by means of their actions. For, as they act they validate, deny or create prevailing definitions of the situation. In doing so, they are influenced by the changing stock of knowledge in the wider social world, by their own particular interpretations of the situation, and by the form of their attachment to the existing system. (p.196)

The author looks at studies of organisations as ‘the ongoing product of motivated human action’, an approach which he bases heavily on sociological theories of organisations (including those produced by Weber, Schutz, Berger and Cohen). He neatly overviews most of the different approaches to organisations and laments the lack of attention given to role-expectations and the definitions and performance of roles. He also endorses the methodology of Glaser and Strauss (1967) for the analysis of organisations.

The approach illustrated above by Silverman is also referred to as interactionist (in the interpretive paradigm), having a view of society which ‘focuses on everyday conflicts, interactions and negotiations which give rise to the appearance of large-scale structured regularity’ (Thompson and Salaman, 1973, p.4). In a simplified view of the field of sociological theory, it contrasts with a structuralist approach which sees social life as ordered and searches for agreements between interlocking systems and sub-structures.

Based on a planning and management study of 18 universities in 1971, Fielden and Lockwood (1973) differentiate between possible ways in which universities can be viewed depending on whether they are studied as organisations, institutions or communities. As organisations, universities must ‘exist to achieve concrete ends which are capable of rational analysis’. As institutions – regarded as ‘an embodiment of values’, a behavioural analysis would be necessary to ascertain how their internal processes maintain their values (or change them, in the case of this research) and as communities, a study would be

focusing on the effects of the university on the development of groups and individuals. They recognised that these three aspects probably co-exist, but they decided to treat universities as organisations – in the main. However, they also recognised that a key challenge for universities, is to facilitate and encourage innovative initiatives from its staff and a need to match requirements and practices of the university with the needs and aspirations of its individual members. This last point highlights the fine balance between central management and academics when trying to achieve change – from either direction - and this area will later be explored to find the meeting points that might make the difference in the process of change.

Much of the literature regarding management, organisation and change in institutions derives from the discipline of social psychology. Katz and Kahn (1966) argued that organisations should be seen as ‘open systems’ (not fixed, closed ones) and drew many parallels between social systems and living organisms :

All social systems, including organisations, consist of the patterned activities of a number of individuals [...] to maintain this patterned activity requires a continual renewal of the flow of energy. (p.17)

Despite the early functionalist nature of this concept, there are some attractive features –

- stress on the importance of the environment outside the organisation (influencing culturally and politically, providing funding and ideas, competition and collaboration opportunities)
- importing energy (people, equipment and information)
- transforming energy (using existing knowledge to create new understandings, changing people’s lives, creating and adapting materials, methods and processes)
- output of some kind (dissemination and sharing of ideas – in various forms)

- activities having a cyclical nature (but also dynamic)
- moving towards differentiation rather than equilibrium

It is possible to imagine the Open University as this kind of dynamic, living organism in which the challenge is to trace the pattern of energy exchange (activity and interactions of people) and try to ascertain how the output is translated into energy which would reactivate the pattern. When looked at in this way it is noticeable how similar the idea of 'patterns of activity' is to 'patterns of interaction' which is based firmly in the interpretive paradigm.

To focus on the 'living organism' analogy still further, to that of a human being - the energy of an organisation (or community) can be seen as the *culture* and the structure (or skeleton) as the *system* - the supportive and enabling mechanisms that allow the energy to move. The quality of that energy affects the system, just as the system can affect the nature of the energy.

A behavioural scientist, Handy (1976), has studied organisations with reference to management and business studies. He declared that his approach was not psychological, sociological or pertaining to political theory but that all these sources existed within his personal perspective. He stressed the importance of diagnosis when trying to understand organisations and advised that they be seen as a collection of individuals *and* as political systems. This is very helpful, as it implies that there is *an organisation* that has needs, problems and goals that are different from those of the individual or groups within. Katz and Kahn (1966) also commented that it was a mistake to equate the purposes and goals of the organisation with those of its individual members. As a political system, Handy points out, organisations have defined boundaries, goals and values, administrative mechanisms and power hierarchies whereas individuals have different characteristics and ways of

adapting to roles with their own needs. He has drawn a very useful conceptual map which shows the overlapping relationships between 'people, power and politics' (where power involves people and politics) which he feels to be at the heart of organisational understanding. This is a useful grouping of activities and interactions –

- people – motivation, needs, energy levels, experience, attitudes, personalities, role, training, pay (linked to power by individual skills and abilities)
- power – groups, leaders, inter-group relations, type of influence, leadership style, rewards and punishment, responsibilities (linked to politics by control systems)
- politics – the environment, the market, philosophies, values, norms, goals, objectives, ownership, history, career structures, size, frameworks, change, technology (p.19)

It is interesting how he has included *change* and *technology* under the heading of 'politics', which also appears to represent the institution, however, with regard to the Open University it would seem relevant to put these two concepts (that are deeply part of this research) under all three titles. Handy also sees groups and group roles of great importance, giving in-depth analysis of motivation, membership and task which will be referred to in a later chapter when managerial groups and course teams will be discussed.

Argyris (1999), another prominent researcher and writer in the field of management and business (though educational institutions have also come under his scrutiny) has written extensively about organisational learning. The whole notion of organisations learning assumes that individuals within organisations do have a separate existence from 'the organisation'. He explained that organisational learning

...is a process in which whole organisations or their components adapt to changing environments by generating and selectively adopting organisational routines. (p.8)

As *change* and *process* are involved in this area of research it is pertinent to the case study of the Open University, especially as Argyris devoted much attention to the idea of project teams (comparable with course teams). He also promoted the idea of organisational

structure as a matrix system involving all individuals in teams, learning by solving problems, adapting and controlling themselves (which also appears to fit with the *living organism* analogy). Burns & Stalker (1994) are concerned with management problems in a business environment. They have defined the type of management of an organisation to be somewhere along a line which is mechanistic at one end and organic at the other and they have argued that the flexibility of an organic system is required to respond rapidly to 'the environment' – particularly in terms of the market and technological change.

Type and nature of Change

Change can be defined by its source, context and intention and it can also be defined by its content and meaning. In the former sense of change types, an early explanation was given by Bennis (1961) who based his definition on two main variables – power and goal setting, either the power was equal or one-sided. With equality of power and mutual goal setting change can be planned or incidental. Varying types of planned change are then described, but he was referring to a social relationship with just two sides which is far too simplistic to be able to compare with an educational institution, though the chosen variables may be useful.

Berg & Östergren (1979) carried out 7 case studies to investigate the innovation process in HE. The concepts of change and innovation are close enough, in my view, to substitute for each other which makes this research of interest. Their work was based on theory developed by Kurt Lewin (1890 – 1947) which viewed 'change as being realised through a form of political process, determined by the strength of the different forces within the social system' (p.261). They defined two types of innovation – 'system consistent' in

which the process is dissemination and ‘system divergent’ in which the process is a ‘political battle’. Their case studies were all in the latter type. Their findings will be described under the next sub-heading (*The Change Process*).

Fullan (1991) does not distinguish between types of change but his work focuses on educational change (mainly in schools rather than HE) which has much relevance to universities. He describes change as multi-dimensional (goals, skills, beliefs philosophy and behaviour) and emphasis that it has an objective and a subjective reality. Most of all, he argues that change cannot be assimilated unless its meaning is shared.

Recently, a simple yet comprehensive definition of change types has been provided by Silver (1999a). As an expert in higher education and with particular reference to teaching and learning processes he has noted how universities and their political and cultural environment have been changing in the latter half of the twentieth century. He has defined three types of changes –

- Individual – enthusiasts interested in improving the learning experience for their students and responding to developments in their discipline struggle to make changes with or without departmental support. It is often an isolated change that is heavily dependent on the activity of the enthusiast. (Hannan et al., 1999 and Taylor, 1998)
- Guided – as higher education came into the spotlight in the late 1970s, universities were subject to pressure requiring greater accountability and improved teaching quality. Educational development units were created by institutions to train and support staff, particularly with skills required by the developing technology. In this way change became more guided. (Johnston, 1994)

- Directed – as pressure grew from national policy and institutions to change from traditional teaching methods to more flexible, student-centred forms in order to meet the challenge of greater student numbers and diversity, guided change became more directed with national funding and institutional-wide policy for change. (Karran, 1997 and Gibbs, 1996)

Silver (1999a) has also provided the most relevant typology of changes that influence teaching and learning in HE. This list is based on a definition of change in terms of its content and meaning –

- individual and group innovations – in response to student or professional needs
- disciplinary initiatives – to do with subject knowledge
- innovations responding to educational media – taking advantage of new technology
- curriculum-prompted innovation – responding to changes in structure (modularisation or semesterisation) and assessment procedures
- institutional initiatives – responding to new teaching and learning policies or staff structures
- systemic initiatives – responding to national policy and funding initiatives including the creation of new institutions (the Open University itself is a good example)
- systemic by-products – within institutions resulting in knock-on effects from the above radical changes

The two mini case studies investigated in this thesis as examples of change in teaching and learning at the Open University can be described by three of the types listed above. They are individual and group innovations, both are related to subject knowledge and both are

taking advantage of new educational media. Although neither are as a result of an institutional initiative, recent teaching and learning policy is consistent with the changes. Berg and Ostergen's analysis (above) may put these examples into a system-consistent category, but in each case there is some evidence of political battling, due to being discipline-divergent in the nature of the change or system-divergent, due to the unorthodox change process. These ideas will be explored in greater depth in the findings.

The Change Process

A very clear, linear, 'simplified overview of the change process' has been presented by Fullan (1991). A diagram shows the following stages (Fig. 4.1, p.48) –

Initiation ↔ Implementation ↔ Continuation ↔ Outcome

There is a general view that planned change does have a chronological life and as this is the type under investigation, the above overview is useful. It identifies that the focus of this study spans a period of time that covers the first half of the change process. The case study was actively explored over a period of two years in real-time, but this involved looking back as much as five years before I entered the scene. A further few years of observation and data collection may have been even more valuable in obtaining a complete picture of the change process, but given the nature of change as being intrinsically dynamic, a natural conclusion would probably have been unlikely. It was also not possible to extend the length of time in the context and scope of this research. However, there is much more to the first 50% of the change process than Fullan has declared in the diagram above and he does discuss this area (as do many others) in some depth. Most of the literature about the

process of change identifies various features of change or the institution with regard to the following concerns –

- conditions conducive for change
- pressures or influences to initiate change
- factors encouraging change implementation
- factors inhibiting change implementation
- difficulties involved in the process of change
- important concepts by which the process can be explained

The first two concerns above represent a large area of interest in the process of change that are situated before the *initiation* stage. This was one area that was given particular attention in the first phase of the ITLHE project. During interviews of 221 university staff, including lecturers (who were regarded as innovators), support services and central management, one question asked was ‘Why Innovate?’. The most common reason given concerned the needs of students – their numbers had increased considerably as had their diversity – so the problem needed attention. A close second was the personal enthusiasm, experience, energy and interest of the innovator in trying new teaching methods. Many other pressures and motivations were given, institutional policy and funding came down the bottom of the list (Hannan et al., 1999).

Fullan’s analysis highlights features, from the point of view of the institution, that he suggests are needed for consideration during the planning (pre-initiation) period. These are:

- relevance – is the change practical and is it needed?
- readiness – is the change compatible with the culture?
- resources – is the funding, equipment, training and support available?

These considerations are also embedded in a category defined by Fullan as ‘characteristics of change’ which he includes under the title of ‘Interactive Factors Affecting Implementation’ (p. 68). It is clear that these factors also affect *initiation* and as these two stages represent the span of this study, the three sub-titles he defines are a helpful skeleton for determining the shape of the analysis. Below is an adapted list that is customised from Fullan’s (who was aiming at school reform) to reflect the focus of this study.

Interactive factors affecting initiation and implementation

(in the context of the process of change in teaching and learning at the Open University)

Characteristics of Change

Source, motivation, pressure, need, purpose, clarity, complexity (size), type
(content, consistent or divergent), method (planning and evolution), practicality

Local Characteristics

The Open University, the Vice-Chancellor, the regions, the faculty, the department,
managers, course teams, lecturers, tutors, the research and evaluation

External Characteristics

Governmental policy, funding, market need, discipline development, technology
development

There is a particular local characteristic above, that is noticeable in the OU, but could be added at every stage (especially pre-initiation, initiation and implementation) of Fullan’s

overview – that is research and evaluation. This aspect will be given some detailed attention as it may be a critical element in the process of change.

Fullan had 4 main insights that were not predictable as an outcome of his research –

- active initiation and participation
- pressure and support
- changes in behaviour and beliefs
- the overriding problem of ownership (p.91)

These insights have a very social and political flavour and have much in common with 4 concepts listed by Berg and Osterger (1979) as a means of expressing the process of change –

- [a] needs and interests of the participants (gain/loss, stability/instability)
- [b] ownership
- [c] leadership
- [d] power

They assumed conflict, but noted that the context and type of change was especially pertinent to any theory of innovation. Their resulting social model, contrasting with personal or structural political models (as described by Rutherford et al., 1985), of a theory of innovation put the following characteristics of a system as the determinants for conditions of change: membership composition; ideology; technology; organisational structure and the nature of its relations with the environment. There are many similarities amongst the important concepts in change arising from the literature. The above concepts are an appropriate starting point.

[a] needs and interests of the participants (gain/loss, stability/instability)

Rutherford et al. (1985) conclude that:

...if institutions of higher education are to respond effectively to the continuing challenges on their traditional autonomy and practices then radical changes in current values and behaviours are needed. (in Silver, 1998, p.25)

Clark (1984) also recognises the essential nature of HE as being group autonomy and individual choice thus putting considerable power 'on a personal and collegial footing'. He argues that an organisational approach is needed in the analysis of change as it gives attention to the actors in the system –

Changes are strongly guided by the underlying internal features and the beliefs of internal groups which help mould responses to external pressures. (p. 128)

Fullan (1991) also concluded that behaviours, beliefs were important (see above).

However, this concept of the needs and interests of the participants is also about reward and support of those involved. Taylor (1998) has focussed on the innovative development of technology-augmented pedagogical practices through the work of 'isolated enthusiasts' and he suggests that it is the support and encouragement of these people that will make the difference in change processes. Another endorsement as to the relevance of this concept in change initiatives is made by Lueddeke (1999) who thinks that debate between all those who would be impacted by the change is essential during the formation of a strategy. He also suggests that the best way to implement change is through the work of cooperative teams (this has some parallel with course teams at the OU) and the use of change agents (or 'appropriation of enthusiasts' – Taylor).

[b] ownership

Another feature highlighted by Fullan and elaborated on at a later date (1993) by defining a 'new paradigm of change' where every person involved is also a change agent and individuals and groups have equal power. This idea sounds rather idealistic and could be more realistically viewed as a respectful consideration to those involved and a clarity of the nature and method of change. However, Fullan evolves his change process still further (1999) by discussing 'complexity theory' (interchangeable with 'chaos theory') which argues that adaptation is most effective in systems that are only partially connected and where interaction and cooperative behaviour are conducive to change – thus focussing attention on 'well-implemented, equity-based reforms'. He concludes that regarding an institution as a living system will give more meaning to the concept that people and relationships are critical.

For a system to be seen as a living organism in order to be able to adapt to survive was also suggested by Nisbet (1975). He found that successful change intended to improve teaching and learning needed support, involvement (a close concept to 'ownership') and evaluation. Nisbet illustrated that problems involved with social change have been known for a long time by quoting from Machiavelli who wrote in 1513:

There is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all who would profit by the old order, and only lukewarm defenders in all those who would profit by the new order. This lukewarmness arises partly from fear of their adversaries, who have law in their favour, and partly from the incredulity of mankind who do not truly believe in anything new until they have had actual experience of it. (p. 13)

Arising from research about the introduction of information technology into teacher training courses (Somekh, 1998), a lesson learnt refers to the need to win people over into

accepting the change and also the need to provide professional development (so that people can get the required experience).

Becher's structural model (Becher and Kogan, 1980) disagrees entirely with the emphasis on the way people are involved or react –

...the main constraints on change are social and not psychological: they depend more on the way the system operates than on a particular stand that its individual members choose to take. (in Silver 1998, p.5)

If the social constraints refer to context then Kushner (1999) would agree. He argues that change is always a hostage to context but highlights the external environment for universities which is currently changing rapidly towards greater commercialisation and less independence. The link between commercialisation and independence is more complex in reality. Every university has its own culture and varying emphasis on relationships with industry or with the government - in the form of responding to governmental policy or giving more attention to research in the hope of increasing this type of funding. Depending on the nature of collaboration with an industry, the resulting increased resources could filter across a university giving more academic freedom, perhaps in the development of new courses and teaching and learning methodology, than they would have had otherwise.

[c] leadership

Decentralisation and the empowering of people at all levels of an organisation is a current popular view. These ideas together with strategic development and leadership are the keys to managing change at universities argues de Woot (1996). He regards leadership as essential to motivating and energising the participants of change. In an environment with a

shared vision and value system, respect for leaders is greater, but personal courage, skill and an inspirational personality are highly desirable and powerful qualities. However, de Woot suggests that what is needed is a balance between the power of leadership and the power of method which involves task delegation and collective effort. This picture has some similarities with aspects of the Open University and will be looked at more closely in the findings analysis.

The outcome of an Australian study of the role of leadership (Moses, 1985) produced a similar description of the way in which leadership is viewed by staff – as someone who motivates people and comes up with inspirational ideas, who is not just an officer with executive responsibilities.

[d] power

Young (1973) suggests that a useful schema for research would be to study the relationship between stratification of knowledge and social stratification which would raise issues of how power structures are linked to the curricula and how limited access to knowledge secures a superior position for the discipline. He may have been speaking very broadly with this outline but it does have relevance to the study of change in an educational institution such as the OU. The two disciplines that have been under the microscope regarding change are the Arts and Technology. Both are powerful subject areas, but with the amount of public attention and funding that has been given to the development of technology, in particular, tends to give that discipline greater power. In Phase Two of the ITLHE project, the most common type of innovation involved computer technology (Hannan et al., 2000). There are also different powers attributed to the ancient and the

modern disciplines - Latin had very little support by the end of the twentieth century, whereas computer science and media technology (unheard in the days that Latin ruled) are popular and powerful subject areas. But the way power is seen and defined is different - Latin was compulsory, highly respected, symbolic of an educated man and thus had authority. At the beginning of the third millennium, potential employability, high industrial demand and a dynamic subject area gives power to a discipline. The speed of development in technology has meant that non-specialists have no knowledge or understanding of this area which has tended to add further weight and power to the subject. The idea of more or less powerful disciplines overlaps with the concept of differing discipline cultures which will be explored during the discussion of the findings later in the thesis.

By looking at the university as an *organisation* and one that has a bureaucratic, hierarchical structure two forms of power can be seen – particularly during the process of change. One is legitimised power and the other is informal – either can be greater than the other depending on the context, and both can be seen, in varying degrees, at the OU. Whiteside (1978) argues on behalf of the political model (devised by Baldrige (1971) and based heavily on conflict theory) that change arises from conflict rather than consensus. This model focuses on the study of interaction between groups that have conflicting interests and particular attention is given to the change agents or leaders in the planning of change. The approach behind this model contrasts with...

the human relations approach to organisations which argues that many problems in organisations may be related to faulty communication and may therefore be alleviated by increased communication and consultation....(p. 55)

Both these approaches would seem too simplistic on their own when it comes to the analysis of change at the OU. As an explanatory model, the 'conflict theory' approach has

some credence if considered as an individual or group conflict with legitimised authority and the resort to informal (yet powerful) networks to achieve change. However, it was conceived at a time when battles and confrontations were regular features in industry and change was about negotiating compromises regarding working terms and conditions rather than an evolution of gradual persuasion and individual innovation more commonly seen in universities at the end of the twentieth century. The 'human relations' approach has some attractive arguments as it promotes the need for good communication and widespread consultation in the change process, this puts the emphasis on the individual - their initiations and reactions - in making the difference between a successful or disastrous change. Both ideas of conflict and consensus in the change process will be valuable concepts to take into consideration during the research analysis.

In the early eighties, seven international studies of the process of educational innovation had been recorded in a book produced by the 'International Institute for Educational Planning' (Adams and Chen, 1981). The project took three years to complete and each research team followed an innovation from its inception to its implementation. Each study addressed a broad, quite widespread attempt at educational reform, some were about teaching and learning methodology, all concerned more than one institution (two were about entire educational systems). The research was undertaken on the premise that 'if more were known about the process of innovation then the risk of failure could be reduced' (p. 223). Twelve interesting 'propositions' regarding innovation were composed as a result of the analysis. All could apply to the process of change within an institution, two were specifically about power:

1. The initial acceptance of an innovation is a function of the relevant power that can be marshalled in its support. The greater the relevant power, the greater the likelihood of acceptability.

2. The initial acceptability of an innovation is a function of the extent to which, as a change, it is seen to threaten the power of existing groups. The less the perceived threat, the greater the acceptability. (p. 267-268)

Other proposals (which look rather like hypotheses) refer to cost, resources, protocol, credibility (related to persistence), rhetoric (related to perception of difference), personnel stability, adaptability, speed and size of change.

Informal power is quite a recent concept with regard to change, the phrase 'internal politics' has been used to represent this idea.

'Internal Politics' create means-end systems which are alternative and sometimes even discrepant with the politically endorsed purposes and operating procedures of the organisation' (Burns and Stalker, 1994, p. xvii)

Tierney (1988) has looked closely at aspects of institutional culture which he has defined within a framework of environment, mission, socialisation, information, strategy and leadership. He has noted the strength of internal forces that exist in the values and goals of those closest to the workings of the organisation.

Difficulties and Barriers in the Change Process

Support for the idea that research and evaluation should have a prominent place in the change process comes from Piatier (1984) – as a result of a study into innovation (in businesses and universities) for the Commission of European Communities. This was with reference to production, perhaps in a scientific or business area, but it does link with the production of course materials at the OU. Piatier also noted that an area of greatest weakness was that relationships between universities and industries were hampered by the psychological barrier between entrepreneurs and intellectuals.

There are many references to the problems that have arisen due to organisational and institutional impediments. One of the most common findings has been the confusion caused by mixed messages. Boud and Feletti (1991) make a note of the problem caused by 'rhetoric v. real agenda' in the context of the introduction of a Problem-Based Learning (PBL) approach. Lueddeke (1998) also notes the incoherency of mixed messages (as well as the lack of direction and high expectations) as ineffective change practices with regard to the introduction of Open Distance Learning (ODL) in a university. 'Clarity' with regard to the nature of the change was found to be a crucial factor by Karran (1997) with reference to the introduction of a technology-based Effective Learning Programme at Lincolnshire & Humberside university. Securing the support of middle-management was also found to be difficult. Fullan (1991) had clarity and middle management in mind when explaining that: '...educational change is a process of coming to grips with the multiple realities of people who are the main participants in implementing change.' (p.95)

An amusing illustration of the dilemma facing middle management (or anyone else) when institutional messages about change/s are unclear, is made beautifully in this poem:

There is something I don't know
That I am supposed to know
I don't know what it is I don't know
And I feel I look stupid
If I seem both not to know what it is I don't know
And not to know *what* it is I don't know
Therefore, I pretend to know it
This is nerve-wracking since I don't
Know what I must pretend to know
Therefore, I pretend I know
Everything

(R.D.Laing, 'Knots', 1970 in Fullan, p.104,105)

Lessons learnt about the Change Process

There are models of organisations, institutions and management and there are models of change and both are highly inter-related. The majority of the most recent research suggests that organisational structures need to be less hierarchical, less bureaucratic, less fixed and more democratic and flexible in order to adapt to the rapidly changing environment of our society. Generally, organisations are no longer seen as mechanical - operating a linear input-output process but an idea that arose in the middle of the twentieth century has re-surfaced, that of seeing social systems as living organisms. The benefits of this view stress the importance of influential environmental factors, energy and dynamism, complexity, cooperation and sub-groups, growth and adaptation. During the last decade (1990 – 2000), higher education has been changing very fast (greater numbers of students, greater diversity, more collaborations, technology affecting teaching and learning methods..etc) and universities in the UK have also been changing rapidly on the inside – re-structuring, new types of degree courses, new roles and responsibilities and new values. In this context although it may be helpful to view the Open University as a living organism during the analysis of findings - there is also a powerful underlying bureaucratic system which appears 'mechanical' because it treats students and tutors as numbers. But this administrative system needs to deal with huge numbers of students and courses and it is difficult to imagine an alternative form of operation. Perhaps this system can be viewed as a skeleton of the organisation.... a structure that changes very slowly.

With regard to non-structural factors discussed in this section, attention will also be given to the following internal, institutional aspects:

- political (informal and formal patterns of power)
- cultural (values, beliefs and attitudes)
- social (relationships and roles of sub-units and groups)
- personal (change-agents, leadership, inhibiting or supportive behaviour)

These elements need consideration within each of the ‘local characteristics’ suggested by Fullan as a basis for the study of change. The context and nature of the change itself and the external characteristics (wider context and influences) are also of considerable importance.

Framework for the analysis of Change

Morrish (1976), a sociologist, has contributed a helpful framework for looking at change in education based on the research of Huberman (1973). He identifies three main units of analysis – the individual, the group and the institution together with its cultural framework. This broad framework translates readily into the research design for this thesis:

- the institution – its culture, ethos/mission, structure, organisation
- the group – the region, faculty, department, course team, researchers etc..
- the individual – the leader, change agent, manager, innovator, academic, supporter, inhibitor

It can be seen that the above factors all fit into the *local characteristics* category affecting the change process described by Fullan. The *external characteristics* include the wider context as discussed in the first part of this chapter and the *change characteristics* (with specific reference to the educational and technological nature of this case study) are

discussed in the next section. It is becoming clear that the analysis of all these characteristics is required to obtain all the colours in the picture of change in this research.

3. Teaching and Learning and Information Technology

The subject content of the change processes under observation is about change in teaching methodology involving the integration of new information technology. This research is not addressing the question as to the effectiveness of learning technology or the justification of its value. There is no data available to evaluate the students' response or learning achievements as a consequence of the new teaching methodology being introduced. The focus is on the process of development and effects on the implementation of the change on those involved with the teaching and support of students (specifically the course team, the managers and the regional tutors). Discussion of the literature in this section is intended to set the 'pedagogical' context of the changes under scrutiny.

Terms and Definitions

Distance Learning in HE was given particular attention during the first phase of the ITLHE project (involving visits to 15 universities) in 1998. A list of general features was compiled in order to compare DL to learning that was taking place on campus- based universities (English, 1998) -

- modular courses
- privately funded by students or sponsored by an employer
- part-time/flexible study
- flexibility of entry requirements and levels of entry
- diversity of subject range inside degree courses (student-choice)

- Independent but not necessarily student-centred
- resource-based
- limited face-to-face contact with tutor (p.1)

It was found (in agreement with Smith and Kelly, 1987) that teaching and learning methodologies used at a distance and on campus were beginning to converge. It was suggested that possible reasons were –

- A shift in learning theory to more student-centred approaches (Knowles, 1990)
- Wider options available due to advances in information technology (Brown and Duguid, 1995)
- The wider context of student numbers and diversity; difficulties caused by split-site campuses requiring geographical and economic solutions and the demand for more variation in course delivery and subjects offered.

The general features of distance learning given above make the term much heavier than the simpler definition of ‘distance education’ given in the last section (Keegan, 1996) which highlighted the physical distance between teacher and student. In an attempt to separate and clarify the terms ‘Open Learning’(OL) and ‘Distance Learning’(DL), Hodgson (1993) describes OL as a ‘student-centred’ philosophy and DL as a flexible delivery system mediated through technology. In this way, she argues that all OL involves some distance, but not all DL involves openness and sites the OU as an example of ‘blurring’ concepts:

A distance teaching university in its mode of delivery of learning, it has very much as its *raison d’etre* the provision of flexible, learner-centred learning opportunities with open access to learners who would not otherwise be able to study at university level. But it also offers a variety of other learning opportunities and the degree of openness varies. (p.13)

This, at least, explains why the phrase 'Open and Distance Learning' (ODL) is frequently used - to denote both the philosophy and the method of delivery. 'Flexible Learning' is yet another expression that emphasises the individualised nature of the course (and is sometimes used synonymously with ODL). Hodgson has also provided a description of 'information technology' in the context of ODL for -

- preparing, storing and presenting learning material: world wide web authoring tools; word processing; desktop publishing systems; floppy discs; CD-ROMs; audio and visual tapes (videos) etc.
- interpersonal communication (also referred to as computer-mediated communication – CMC) for tutor to student or student to student interactions, tutorials, group learning – the internet; email and conferencing systems (like First Class)

Models and theories of Learning

Tait (1997) has very neatly summarised the principles (citing relevant theoretical research) which apply to 'constructive internet based learning' – described as a DL course which combines taught material with independent research available by the internet. The principles underlie the epistemology of constructivism –

- Learning involves the active construction of a personal, conceptual knowledge base by the learner (Piaget, 1971, Bruner, 1966, Jonassen, 1991)
- Learning is reflective and builds on and also develops the learner's existing knowledge (Bruner, 1966, Ausubel, 1968)
- Learning benefits from multiple views of a subject area (Duffy and Jonassen 1991, Beishuizen, 1992, Koschmann et al., 1994, Jacobson and Spiro, 1995)
- Learning is facilitated by authentic activity relevant to the situation in which it will be applied (Brown, et al., 1989, Honebin et al., 1993, Koschmann et al., 1994) (p.4)

Tait suggests that the experiential cycle defined by Kolb (1984) is created as a learning model based on the above principles. He picks out the two most common pedagogic aspects (of the various versions) that of – practical experience and reflection. The latter is ‘implicit in the formation of concept maps (Novak and Gowin, 1984) and schemas (Piaget and Inhelder, 1969)’ (p.4). Interestingly, Rudenstine (1998) also argues that there is a close fit between traditional university education and education based on the internet because of access to unlimited information sources, enhancing conversational learning, and reinforcing the conception of students as ‘active agents’ rather than ‘passive recipients’.

The concept of ‘traditional university teaching’ has been defined in contrast to the ‘constructive learning’ philosophy presented, by Lewis and Merton (1996) as ‘well-structured, fixed, sequential learning at a controlled pace’ which is often felt to be of value because it ‘seems to confer rigour and respectability on the learning process’. The ‘new pedagogy, more relevant to the twenty first century’ stresses active, outcome-oriented, self-regulated learning where ‘multiple perspectives are encouraged’, ‘meaning is negotiated’ and ‘information is dynamic’. Described in this way, there do seem to be two very different pedagogies – the old and the new. It could be said that the traditional view of learning at university as described above, may appear to be rather stereotypical and, certainly, at Oxford and Cambridge, much learning was very much self-regulated learning as it linked to the personal tutor system. However, the most notable emerging and different aspect of learning is a form of shared learning as has been gleaned from recent research-based literature into teaching and learning (Silver, 1999b) :

In some parts of higher education working in pairs or groups is seen as having importance beyond the project or seminar task or the acquisition of knowledge. In all of these situations of peer learning, the vocabulary of ‘shared’, ‘collective’, ‘cooperative’, ‘interactive’ or ‘interdependent’ surfaced frequently...[..]...These approaches are part of the wider theme of understanding and using the social

situation of learners in order to encourage, strengthen and support motivation to learn. (p.32)

The two newly developed OU courses that are studied in detail both involve learning methodology that is interactive. One, based on the internet, uses this concept in allowing students to communicate with each other through computer conferencing and through the design of group activities. The other has involved the design of an interactive CD-ROM which allows the student to interact with the technology (or, specifically, the software application - like playing chess with the computer). Although this thesis is focussed on the change process rather than the learning process, it is helpful to explore the changes that have been evolving in teaching and learning which puts into context the nature of change taking place in the newly designed courses.

A set of simple models that represent a wider view of the learning process has been designed recently by Porritt (1997). The idea for the models arose from reflecting on a Teaching and Learning Technology Programme (TLTP) which involved the generation of resource-based learning materials (at university level) for flexible delivery and independent study. The models involve networks that connect four roles with four processes in different combinations.

The roles can be seen in the system of course design and presentation at the OU, they are the 'author, designer, tutor and student' representing developers and users. The tutor and author are described as being 'experts in the relevant subject'. The obvious pattern (and one model) is that the designer produces the learning materials based on contributions by the author to be used by the tutor and student – where the tutor's role is to guide and support. The flexibility of this model is the possibility of several people performing one

role, or one person performing several roles – which produces ‘feedback loops’. The processes are labelled ‘teaching, authoring, study and evaluation’. These are described as:

Teaching is the direct interaction between the tutor and the student and includes lecturing, tutorials, assessment and feedback. Authoring is the interaction between the author and the designer and includes writing, structuring, programming and editing. Study is the interaction between the designer and the student and includes the use of printed text, hypertext and multimedia. Evaluation is the interaction between the tutor and the designer and includes the selection of materials for student use, reporting and maintenance. The authoring, evaluation and study processes together form the indirect interaction between the experts and the students. These processes can occur in sequence or concurrently, depending on how they are managed. (p. 17,18)

The labels of the roles and processes are useful, but the relationships between them given above seem over simplified. The idea of linking these roles and processes to describe a system of teaching and learning may be used in the analysis of the two case studies.

Identifying roles and processes in this manner may also be useful in the analysis of other change concepts too.

Peters (1998) describes five models to represent the variation of pedagogy in distance education that currently exists. There is also an element of development over the years which could be related to the changes in HE and the development of IT. Peters suggests that the motivation behind the design of DE (particularly in the early days) was the question ‘what must be done to make distance similar to proximity?’. These are the resulting models –

- Correspondence model – written communication, based on letter-writing, winning the confidence of students by the use of a ‘personal tone’ and informal style. Used in commercial distance teaching schools and colleges in the nineteenth century.

- Conversation model – texts produced use the ‘spoken language’ style, much empathy from the teachers.
- Teacher model – the text is intended to mimic the functions and aims of a teacher – motivating, stimulating interest, guiding, structuring, providing knowledge, repeating, advice on learning skills and application of what they’ve learnt as well as stating learning aims.
- Tutor model – this model relies on a definition of *tutor* as one who guides, advises and supports, but does not directly teach – expecting students to learn more independently. It is with this tone of ‘tactful reservation’ that the teaching is produced.
- Technological-extension model – a method in which students can attend university lectures through real-time media links, video or audio tapes. It is a very cheap form of providing distance education as no adaptation of campus-based course materials is made. Daniel (1998), the VC of the OU has rejected this form of DE as there is no student support available.

Peters gave an example of the ‘conversation model’ as the teaching units produced by the OU, but it is also the case that the OU style includes the teacher and tutor model. Thorpe (1998), Director of the Institute of Educational Technology at the OU, makes the point that the tutors (who are employed by the OU to support students, give tutorials and mark assignments) are also teaching through the process of marking work, feeding back comments and motivating the students. In this way students are helped to discover their strengths and weaknesses.

Under the title ‘The Great Ideal: the Open University in the UK’ (p.167), Peters describes the ‘OU model’ in shining lights. He refers to the OU as a ‘single mode’ DE institution, as

opposed to 'mixed mode' where both DE and campus-based education on the same course or 'dual mode' where DE and campus-based teaching run in parallel, with two typical strands of teaching and learning. One strand offers supported undergraduate and graduate programmes of study and the other offers stand-alone study packages to be purchased individually. He has produced a table listing elements of teaching behaviour and learning behaviour stressing the collaborative nature of professors and other media experts in course teams, the role of tutors and the varied learning experience of the students. The OU stands out from other institutions because of its –

- Humanitarian aspects – the readiness to provide help and support to students as well as other institutions in developing countries
- Research and development – putting evaluation and feedback high on the agenda to aid course improvement and influence mass HE
- Resolution to open access and high quality ('optimism, zeal, determination and confidence' (p.172))

Peters concludes by describing the OU's speciality:

Teaching and learning is first of all, *multidimensional*: printed teaching material, teaching programmes on radio and television, digital learning, teaching in study centres and residential schools and individual counselling all interact with and influence one another. This then establishes *multimedia* distance education. (p.173)

Issues, Problems and Findings

The danger of more online education and virtual universities is that approaches will be 'McDonaldized' (Rumble, 1998). But the road to low-cost, mass-produced, speedy degrees

is not inevitable. The key, explained Rumble, is to ensure that the teaching and learning methodology involves small groups which maintain personal relationships between tutor and student. This is what the OU is doing with the internet-based course in this case study. A potential problem, one that the OU is already aware of, is the high academic labour cost of this scenario. Interaction between tutor and student in an online environment is generally greater than in the days when letters and phone calls were the main options (Johnston, 1997, Hawkridge, 1998). However, as Hawkridge points out, it is difficult to compare costs between traditional university teaching and online teaching and there are pedagogic strategies evolving that make the tutor less pro-active. They are:

- Group learning tasks are set which expect particular roles from the participating students (moderator, reporter, summariser, researcher etc.);
- Frequently asked questions are foreseen and answers provided before the course begins;
- Accumulate course experience by ensuring that subsequent presentations draw on the work of previous students;
- Student work is structured and scheduled – encouraging students to support each other;
- Students are encouraged to reflect on their own work

In reported research of group learning in management courses at Henley, Birchall and Smith (1996) explain that the role of the tutor has emerged as a critical area in electronic communication. They cite the research of Nixon and Salmon (1995) based at the OU who have discussed the importance of the changing role of the tutor in developing successful computer-mediated communication. They have outlined five stages of student development, similar to the above, which allow the students more responsibility in

determining their own learning process. In findings that arose from my own research into computer-supported cooperative learning, involving students at Exeter University using an electronic bulletin board and a web-based M.Ed. module involving students at the University of Pretoria, the importance of the role of the facilitator, (tutor or course leader) was a significant factor in group success or failure (English and Yazdani, 1999).

Laurillard (1993) explains with intelligence and clarity the aims of university teaching and how they can be achieved with the integration of educational technology in the teaching and learning process. Firstly, teaching must make student learning possible by contextualising and situating knowledge in real-world activity. Secondly, 'teaching must address both the direct experience of the world, and the reflection on that experience that will produce the intended way of representing it' (p.29). In this way, she argues, teaching is 'mediated learning'. A computer conferencing environment provided for students learning together at a distance supplies the tool by which students can acquire knowledge of someone else's experience of the world.

The teacher is involved with defining and identifying, context, design, structure, method and content of courses provided for students but with the integration of information technology the students have the potential of being involved with all or any one of those tasks. There is an avalanche of findings coming from an array of research (some with questionable methodology) but one repeated observation is that the use of ICT has affected (contributed to or facilitated?) the changed roles of teachers and students. In a sense, teaching and learning has begun to blur at the edges – they are becoming more alike.

Silver (1999b) has highlighted a serious weakness surrounding the increasing use of ICT in teaching and learning. He explained that 'there is very little consensus among educationists and practitioners about, for instance, the enhancement or deskilling effects of technology-based approaches in different locations and learning processes' (p.50). This has been a concern of many others, one is the professor of educational research at Lancaster University who wrote a letter to *The Times Higher Education Supplement* entitled 'Network Problems':

Trisha Greenhalgh is quite right to point out that enthusiasm for teaching on the world wide web is running ahead of any systematic knowledge of how students feel about it or whether they are learning much from their experiences ('The truth behind a plush exterior', THES, January 21, 2000). For good or ill, enthusiasm has run ahead of evidence throughout the 40-year history of computer-assisted learning. What teachers in higher education count as useful evidence is unclear. There is no consensus about appropriate ways of capturing knowledge, whether it is derived from experience or systematic study. This makes it difficult if not impossible, to build bridges between research, practice and policy-making..... Goodyear (2000)

This letter adds flavour to the soup of contention that surrounds teaching and learning and ICT. The UK government, however, have no such doubts or concerns. In the new 'Teaching Quality Enhancement Fund' strategy document (HEFCE, 1999), institutions are encouraged to submit their 'learning and teaching strategy' which could receive funding for up to three years. The document encourages institutions to address 'the following national priorities in their strategies' (p.9). Among this list including the recognition of student diversity, staff development, innovation promotion and collaboration is :
'Exploitation of communications and information technology in the service of managed improvements in learning and teaching.' (p.9)

Becher (1989), based on the evidence of interviews with researchers from four different disciplines, comments on 'the current state of human understanding' –

From the perspective of those engaged in its creation, knowledge would appear more closely comparable with a badly made patchwork quilt, some of whose constituent scraps of material are only loosely tacked together, while others untidily overlap, and yet others seem inadvertently to have been omitted, leaving large and shapeless gaps in the fabric of the whole. (p.7)

Having reviewed the literature, Becher's statement reflects the clarity and accuracy of one who now knows more and also knows how much more there is to know.

The Way Forward

Arising from this review, the most important people that have cleared the trees to expose the path ahead have been (in order of appearance) Handy, Fullan, Morrish and Peters.

Handy has provided a memorable conceptual map identifying relationships and roles between people, power and politics. These relate heavily to the personal, social, cultural and political aspects referred to earlier (under 'lessons learnt about the change process').

There is a further step of definition that needs to be made -

- people – individuals and groups
- power – formal and informal
- politics – internal and external

These themes, together with that of culture (values, beliefs and attitudes) will be central to the analysis of the change process.

Peters has helpfully highlighted characteristics of the Open University and distance learning that separates the institution and the pedagogic process from others. Institutional aspects of : humanitarianism and energy; research and development and commitment to quality may also have some influence on the process of change. Fullan (change, local and external characteristics) and Morrish (institution, group and individual) have both contributed to an appropriate framework by which I can view and analyse the findings of this case study.

CHAPTER 3

METHODS

The nature of this research

The case studies that have contributed to this thesis can be described by the main features of qualitative research defined by Woods (1999). These are:

- a focus on natural settings
- an interest in meanings, perspectives and understandings
- an emphasis on process
- inductive analysis and grounded theory (p.2)

In each case, the 'natural setting' has been a university and the situation under observation has been one that is an everyday reality for the people within the institution. The case studies focussed on course teams involving academics and senior managers who were involved with the design, development and (issues of) implementation regarding change in teaching and learning.

It is the intention of this research to add to existing understanding about the process of change in teaching and learning in higher education, especially when it involves ICT. To this end, perspectives of people involved across a spectrum of roles and experience regarding the situation under scrutiny have been gathered. The aim is to offer an interpretation of all these perspectives to the HE community who may find the further understanding gained useful in other similar situations. In this way, the research could also be described as operating within an 'interpretive' paradigm. Kemmis (1993) explains:

Interpretive research sees education as a historical process and as a lived experience for those involved in education processes and institutions...[..].. transforming education by educating practitioners...[..]...based on mutual trust which leaves practitioners free to decide how to change their practices in the light of their own informed practical deliberation. (p.188)

A strength of using the interpretive approach is that perspectives can be obtained from various viewpoints, reflecting different cultural experiences, interests and relationships across vertical and horizontal structures within the institution. In this way, a broad spectrum of views have contributed to a picture of formal and informal networks where the contribution of power and influence over the process of change can be traced.

The question of how a change in teaching and learning develops from initiation to implementation has been the main focus in this research. In this way, it is the process of change that is under scrutiny rather than the nature of the planned change. However, it was recognised that the context in which a planned change is initiated, reasons why a particular change happened, the type of change and the impact of that change all contribute to the process and have also been included in this study. The third stage, involving the OU as an institutional case study and two mini-case studies of course teams, stretched over 2 years. This enabled some observation of developments as they evolved in addition to the historical perspectives given by the key informants. The aspect of distance learning evolved during stage two and was continued with the OU case study in stage three. Each stage has evolved with a mixture of intention, opportunity and possibility. Most importantly, from the first stage onwards issues, ideas and lessons learnt in this field were carried through and integrated with the next stage of data collection and analysis.

The way in which boundaries of the research have been progressively defined and important issues gradually identified could be described as a process of 'progressive focussing' (Glaser and Strauss, 1967). This process of 'grounded' theory makes it possible to generate theory from the empirical data gathered. Nias (1993) explained how the process of 'grounded theory' evolved during her data collection and analysis on a project

that lasted for a 15 year period. The way in which she reached some kind of organisation and insights from her data involved an evolutionary process from overwhelming confusion and chaos to a more illuminating and creative period. The analysis in this research has involved systematic sorting and categorisation but the feeling of chaos (due to the amount and variety of information) has been a familiar occurrence. Woods (1996) argued that although the data may not be generalisable, the theory - based on concepts derived from the data rather than the empirical data - was able to be generalised.

This thesis is based on a series of case studies, of which the Open University itself has formed the largest part. Bassey (1990), while examining the nature of research in education, introduces the concept of *case study* while also highlighting the problematic area of generalisation:

In my view the most important dichotomy in educational research is between *search for a generalisation and study of a singularity*. Both of these forms of research entail systematic, critical and self-critical enquiry which aims to contribute to the advancement of knowledge, but the divide between them is so great that until recently the practitioners of the former were inclined to deny that the latter is research. ("How can you make a generalisation when N=1", they said, failing to recognise that the researchers studying singularities were not trying to make generalisations from single studies). The report of a study of a singularity is often called a case study. (p.39)

The Open University was chosen as the subject for a case study based on particular characteristics that uniquely describe it and not for any representative reasons. Therefore, it is hoped that readers will be able to *relate* descriptions and issues involved in this case to their own particular situations and institution. To assist in the process of identifying similar situations special attention is required in providing accurate, detailed descriptions. Stake (1978) has called this process (of taking some findings from one study and applying them to understanding another similar situation) - 'naturalistic generalisation'. However, it

should be stressed that the aim of this research was not to portray a typical institution, but to examine an institution which could be said to be in the vanguard in terms of trends in HE. Schofield (1993) pointed out that by choosing to study a case at the 'leading edge' of change is a 'step in the direction of increasing the chances that this work will 'fit' or be generalizable to the education issues important at the time the work is published.' (p.103)

There are different ways of viewing a social organisation (such as a university) from within a social science perspective. Woods (1996) defines the main divide as deterministic and interactionist. A deterministic view sees the actions of people within these organisations as being largely controlled by external forces. The interactionist view sees things happening as a result of people interacting with each other. The research design for this thesis has come, largely, from a belief in the latter. However, there is still more methodological classification that can be applied. Woods has described different 'strands' of interactionists including the 'symbolic interactionist' viewpoint:

The emphasis is upon the construction of meanings and perspectives, the adaptation to circumstances, the management of interests in the ebb and flow of countless interactions containing many ambiguities and conflicts, the strategies devised to promote those interests, and the negotiation with others' interests....(p.7)

He was pointing out that this related well to teaching situations but it also relates well to teaching institutions and the process of change.

There are two other methodological categories within interactionism that also have links with the research undertaken for this thesis. Phenomenography is one and this is based on the view that people's perspectives (or their subjective interpretations of reality) form the starting point in understanding social phenomena (Ernest, 1992). Most of the primary data for this research are people's perspectives collected through interviews. In addition, my

role as a researcher has been a significant aspect of this study. Ethnography has features of heavy description and strong involvement of the researcher. At first, I was outside the university organisation (although linked by being within the HE field) interviewing unfamiliar people and gathering documents that needed persuasion and negotiation to obtain. In the last phase I had joined the university (as an 'associate lecturer') which gave added opportunity to collect information from an internal angle. Ball (1993) has described how ethnographic fieldwork involves 'risk, uncertainty and discomfort' and he has emphasised the importance of the researcher's role as central in determining the nature and shape of the research:

They themselves are the primary research tool with which they must find, identify and collect the data. They must charm the respondents into cooperation... (p.33)

Neil Costello's thesis (1992) about *Strategic Change and the Learning Organisation* has many similarities, with regard to the methodology used, to this one. He has carried out a case study of the OU, from the position of a participant (an employee of many years), and has eloquently justified the research design:

The research begins with a notion of "the organisation" which sees individuals' roles and perceptions as central.... research focuses on the different descriptions of individuals in different structural positions within the Open University...[.].
As Johnson (1987) argues there is a need to look at events and processes as the subjects perceive them. The organisation is the output of the processes under study and is not some kind of entity which can have opinions of its own or carry out its own actions. In order to understand the organisation therefore it is crucial to gain an understanding of the perspectives of the members of the organisation. (pp.11-12)

The justification for employing this kind of research methodology has been argued, but the analysis and findings presented in later chapters will provide the reader with evidence from which to judge whether the chosen methodology is appropriate.

The question of validity has been of constant concern in the research design and methodology. Woods (1999) has outlined three crucial features on which the validity of interactionist qualitative research usually rests. They are:

- Unobtrusive, sustained methods
- Respondent validation
- Triangulation (p.4)

The first principle was employed in the methodology for data collection in all three stages of this research (as described in the Introduction chapter). This was primarily through individual interviews or small group discussions based on a semi-structured format and involving key informants. In stages 1 and 2 some tape recordings were made of these interviews, but during the second phase of the *Innovations in Teaching and Learning in Higher Education* project, it was decided that the tape recorder was inhibiting the interview process. Consequently, there were far fewer recordings of the interviews and the analysis has, therefore, been based on interview notes taken during the interview or group discussions. Key documents have also been studied and contribute to the data collection. Validation by the participants has been achieved in the latter two in-depth stages of the project (stages 2 and 3). In both cases this was considered to be a valuable part of the analysis process and added further information and understanding to the interpretation of the data. This aspect is described in detail below under each of the stages.

Triangulation has also been achieved in various ways for stages 2 and 3. In the second stage, I was one of three researchers. On some occasions there were two or three researchers present during an individual interview, but always at least two were present for the small group discussions. We read each other's interview notes and discussed ways forward for each step of the data collection and analysis. Also during this stage, issues that

arose and information obtained during the first phase of data collection were often supported, contradicted or re-interpreted in the second phase when the case study universities were re-visited a year later. Multiple perspectives from different people at different times on specific points contributed to the triangulation process. In Stage 3, *The Open University case study*, data collection was also spread over two years and again interviews were conducted a year later with the same informants. The last section of this research study included different groups of participants - online tutors and students - and a different data collection method using email. It also involved a different viewpoint from me, the researcher, as I had become a 'participant observer' as an online tutor. This gave a more involved, in-depth, angle on the process of change in teaching and learning.

There are different definitions of the concept of objectivity in educational research. Eisner (1993) has identified two interpretations - ontological and procedural objectivity.

Hammersley (1993) has helpfully outlined these concepts:

The first concerns the goal of research, portraying this as the representation of an objective reality. Procedural objectivity, on the other hand, refers to the idea that researchers should follow procedural rules in order to minimise the influence of their subjective preferences and preconceptions. Eisner rejects both of these conceptions of objectivity, on the grounds that perception and understanding are always dependent on a framework of presuppositions that actually constitute what we see, and prevent us from seeing other things. (p. xi)

Eisner believes that in qualitative research the idea of 'objectivity' is not possible and that 'procedural objectivity' could be more accurately described as 'consensual validation'.

Phillips (1993) gave an alternative view which has been heavily influenced by Karl Popper (1968) who 'constantly reminds his readers that truth is an essential regulative ideal' (p. 59). Phillips argued that the pursuit of truth should not be abandoned just because, as it has

now been generally accepted, we cannot be certain when we have found it. His view is that objectivity should be pursued and can be attained by rigour and serious scrutiny:

It turns out, then, that what is crucial for the objectivity of any inquiry - whether it is quantitative or qualitative - is the critical spirit in which it has been carried out. (p.71)

In sympathy with both these views (they are not, necessarily, contradictory) and in defence of my 'subjective' position in this study, the attempt has been made to conduct this research with rigour and in a critical spirit!

Research Stages

This thesis is based on research carried out within three distinct projects that spanned four years of active data collection. Each project built on lessons learnt and issues raised in the previous one, but it was the final one - Stage 3, *The Open University case study*, which was chosen and constructed with the intention of making it the key focus for my doctoral thesis. Each stage does not contribute equally to the overall research - Stage 1, lasted one year and was a small pilot project, loosely analysed. Stage 2 was a large and significant project spanning two years with two distinct phases, the second of which had more direct relevance to the focus of this thesis. The final project - Stage 3, also involved two years of data collection, but the first overlapped with the previous project. A brief description of each project, the story of events involved with the methodology and the techniques used are given below:

- Stage 1 - Computer Supported Co-operative Learning
- Stage 2 - Innovations in Teaching and Learning in Higher Education

- Stage 3 - The Open University Case Study

Stage 1 - Computer Supported Co-operative Learning

This was a small-scale study to evaluate the effectiveness of a web-based electronic bulletin board. This was provided as an organisational and communication support system for student groups (of four or five) throughout a two-semester project involving the design of a software application. The 50 students were in their second year of a Computer Science degree course. The lecturers were not involved with the use of the bulletin board - it was an 'add-on' optional extra to the existing course requirements.

The relevance of this project to the focus of this thesis and the OU case study is apparent in the following features:

- It was about change in teaching and learning: an enthusiastic lone lecturer who was interested in computer-supported cooperative learning attempted to incorporate the use of new communication technology into an existing course of study.
- It involved student groups working together and emphasised the importance of communication and team skills. The objective was to improve group learning opportunities for students by providing additional means of peer communication and encouraging peer mentors. The 'hidden' objective was to prepare the way for the creation of a virtual university.

The project was launched by a 30-minute introduction to the research plan requesting volunteers to participate and a workshop demonstrating the use of the web-based bulletin

board. A crucial element of this introduction was to demonstrate how students could 'opt out' of the research by setting a flag on the bulletin board that would deny access by the researcher. This was to satisfy the ethical requirements of the department's protocol. My role as a research assistant was very broad and involved: preparing and giving the introductory talk to potential participating students; designing and issuing a pre- and post-test questionnaire; regularly observing messages posted on the bulletin board; interviewing students individually and in their teams of four, observing student team meetings; analysing the data and reporting on findings. [See Appendix 1 for full details of the methods used together with the outcomes of data collection events.]

Useful lessons were learnt from this experience regarding the research design and the role of the researcher. In particular, the difficulty involved with being an 'outsider' and trying to win the trust of students who did not see the value of the research or the relevance it had to their own situation. The general lack of interest and use of the bulletin board highlighted the inadequate design of a system to 'support' learning through a mechanism that was not integrated into student activities or assessed in any way. The most helpful information was collected through interviews with the students rather than observation because a suitable means by which to make observational notes had not been developed during the short time available before the project start date.

A particularly valuable aspect of this research was the variety and flexibility of the techniques used. As the project evolved with many students 'opting out', an alternative virtual situation was sought in which to observe students working in groups and communicating electronically. A course leader for an M.Ed course in educational technology at the University of Pretoria in South Africa responded positively to a request

that I had posted on an email list. The dozen students studying the course were dispersed geographically across 500 miles, but came together via a web-based classroom and an email discussion list. They were given guidance on group learning and electronic communication and assessed on group project work (in teams of four). This short, three month, experience of being a 'fly on the wall' in their virtual classroom followed by the opportunity to interview the students and course leader via email was very informative and illuminating. It provided a comparative dimension to the overall findings and gave some insight in to the issues involved with teaching and learning online.

Stage 2 - Innovations in Teaching and Learning in Higher Education

The first year of the 'Innovations in Teaching and Learning in Higher Education' project aimed to explore the experiences of 'innovators' in universities – their motivation, positive and negative aspects of departmental or institutional support and the nature of their innovation. As part of an active team of three, my role as a research assistant involved a considerable amount of discussion and shared decision-making with the two research directors, Dr Hannan and Professor Silver. We shared responsibility for the project including issues of sample, design, method, interview schedule, data collection, analysis and dissemination.

The first year involved visits to 15 universities where appointments were made for 221 individual interviews. I accompanied my colleagues to six of these institutions and jointly interviewed 26 people as well as conducting another 30 alone. The sample represented a geographic spread and an even mix of 'old' and 'new' universities, but the most important

criteria in choosing which institutions to visit was the identification of 'innovative' people. Many of these individuals had received some public recognition in the field of teaching and learning, perhaps by being awarded project funding, but others were recommended by colleagues or had published relevant recent research papers. Interviewees were mainly lecturers but also included professors, managers (Heads of Department, Teaching and Learning Advisers, Directors of Distance Learning and Open Learning programmes) and researchers. Subject areas ranged across the humanities and sciences.

In addition to semi-structured interviews, data collection included course documents, institutional strategy or policy statements and papers written by interviewees. The World Wide Web proved a valuable source of documentation, but we were often given pertinent documents by interviewees. These documents were very important in contributing to a process of triangulation. Stake (1995) described various 'triangulation protocols' and in this study we used two of them: investigator triangulation – where other researchers are involved in looking at the same situation or something similar (as described earlier); methodological triangulation - which involved collecting more than one form of data to check matching details.

During the first year of this project I had particular responsibility to investigate innovation involving Distance Learning (DL). Of the 15 institutions visited, data regarding DL was obtained from nine (this was sometimes achieved by telephone interviews). Only a few universities had invested in new designs of DL courses - ones which involved a different learning experience to the traditional text-based model. Despite the limited number of undergraduate courses being offered at a distance (only four were found), it was notable that the concept of developing DL was currently under investigation or being encouraged by

some universities. This was shown by the existence of a director, co-ordinator or adviser, often attached to an 'Educational Development' (or 'Teaching Support') Unit, whose title and brief included DL. Five of these people from different institutions were interviewed and provided valuable information regarding attitudes and experience of staff as well as central management strategies.

The second year of the 'Innovations' project involved a process of 'progressive focussing' both from the project point of view and also from the perspective of this doctoral study. A decision was made to re-visit four of the 15 universities involved in the first project phase in order to further investigate the institutional aspects of change in teaching and learning. A critical aspect of the plans, for me, was the idea to include the Open University as a fifth case study as it has very different structural, organisational and cultural features from other institutions in our sample. It was at this point that the decision was made to make the OU case study the main element of this thesis and to take the 'progressive focussing' even further to include two 'mini-case studies' in which to observe and investigate the change process in greater depth. Methodological aspects of this task are discussed under the next 'stage'.

This phase of the 'Innovations' project included initial methodological decisions and tasks which involved the OU and, to some extent, influenced the shape of this thesis. The sample, of 137 participants, consisted of people at all levels of management (for a top-down view) and those teaching undergraduates (to represent a bottom-up perspective). Small focus discussion groups were also set up within departments in order to generate a more informal setting for lecturers to discuss 'burning issues' at the institution related to change and teaching and learning. The bottom-up interviewees, including the focus group

membership, were chosen at random for this phase - in contrast to the first phase which included interviewees who were known 'innovators'. This time my involvement in the data collection was greater and included visiting all five institutions and carrying out 43 solo interviews, 20 joint interviews and a further six small discussion groups – also jointly.

The four universities re-visited agreed in this phase to be named – Glasgow, Salford, Nottingham and Middlesex. Again, there was a mixture of old and new, but the sample was chosen this year more on the basis of the differing nature of their cultures and organisation. The 'bottom up' interviews in each institution were concentrated within two departments, one was 'English' – which was present at all five, the other varied for each university: medicine at Glasgow, engineering at Salford, science at Nottingham, business at Middlesex and technology at the Open University. The two mini-case studies explored at the OU in this thesis were based in the faculties of Arts and Technology. In this way it was possible to have some basis for comparison and explore the cultural aspects of the departments which may stem from the nature of the discipline.

The analysis of data in both years was strengthened by the involvement of participants who were given opportunities for reading and feeding back on the reports produced. At the end of the first year, a report was produced (Silver et al., 1998), this was placed on the Innovations web site¹ and all the phase 1 participants were sent an email informing them of the report on the web site and inviting feedback. In addition, a mini-conference was organised in London and two people were invited, from each of the institutions participating in the first year (most attended). This proved to be a successful way of disseminating and debating our findings and highlighting issues that were of mutual

¹ Innovations dissemination, 1997 - 1999 at <http://www.fae.plym.ac.uk/itlhe.html>

concern. The web site was also effective for dissemination in both years gradually increasing in size with working papers, conference papers, bibliographies and publication list.

The second year differed in that a report was written, based on interview notes from all members of the team, for each case study following the visit made to the university. This report included two preliminary reports which focused on each department and had gone through a checking procedure by a 'departmental gatekeeper' (usually the Head of Department) before being included. The institutional report was sent to an 'institutional gatekeeper' who checked for accuracy and offered comments. After agreement had been reached, the report was sent to all those who had participated in the institution with an invitation for comments. This is another example of 'methodological triangulation'. The process of inviting participant feedback on reports was also included in the two mini-case studies at the OU, but involved every contributor rather than a 'gatekeeper' at faculty level. However, an 'institutional gatekeeper' was agreed at the beginning of the case study.

A further analysis in both years of the project took place towards the end of the report writing involving the use of 'Hyperqual'- a qualitative data computer application. Interview notes were inserted on to electronic cards (from the word processor) and 'tagged' (in places previously marked by hand – undertaken by Professor Silver in the first year and myself in the second) into categories. These categories reflected the content of the interviews and were different in each year. The final year categories were:

- institutional culture
- faculty or departmental culture

- institutional frameworks, strategies and policies
- institutional roles
- funding
- change issues – pressures, promoters and inhibitors
- teaching and learning
- research
- rewards and promotion

These research areas are also central to the issues discussed in this thesis.

Stage 3 - The Open University Case Study

In order to study the many layers of the OU community, it was essential to obtain perspectives from senior management to associate lecturers who directly supported students in their learning. In this top-down and bottom-up approach, the methodology overlapped with that in the ITLHE project. However, individuals at various levels of the vertical slice in this institution were often more fluid and less easily defined by their roles, particularly with regard to their contribution within course teams - the core of teaching and learning development. The research design involved the inclusion of two courses that were in development, based in the faculties of Technology and the Arts, and constituted two mini-case studies within the overall study. Following a decision made about which courses to study, course team academics, staff tutors and associate lecturers were identified and their participation was requested.

In the first instance, it was agreed that the acting Vice-Chancellor, Professor Diana Laurillard, would offer guidance as to how approaches to individuals and appropriate committees could be made. She also agreed to the role of gatekeeper (for this doctoral research as well as the ITLHE project) which involved the safe-guarding of confidentiality and the negotiation of sensitive issues (see Appendix 2). Professor Laurillard's role was primarily as Pro-Vice-Chancellor for *Learning Technologies and Teaching* and it was with her advice that many of the senior managers in key positions were identified and interesting courses that were currently *integrating new ICT* came to my notice.

Data Collection

There have been three distinct areas investigated within the OU. The details of data collection and the narrative of events are presented below under the following headings:

- Institutional Context
- Two New Courses
- Regional Support

Institutional Context

The first stage of data collection involved managers and course team academics, all of whom contributed to the study of the institutional context. Email was used to make first approaches to potential participants, requesting an interview (of about 45minutes) and including an ethics protocol which provided a brief description of the research (see

Appendix 2). This process of making interview appointments often included several messages and a phone call, but those asked were all willing to be interviewed.

In this first year of the case study five visits were made to the OU base in Milton Keynes. The first two occasions involved initial negotiation with the institutional gatekeeper and the collection of a variety of documents and material for the study. The other three visits were made to conduct semi-structured interviews with the following participants:

- 14 top down interviews - the Vice Chancellor, 4 Pro-Vice Chancellors, 2 Deans, 2 Sub-Deans, 1 Head of Department, 1 Regional Director, 2 Directors of Units and another senior manager within Academic Computing Service
- 14 bottom-up interviews - 6 from the Arts Faculty, 7 from the Technology Faculty, including Senior Lecturers, Lecturers, Course Managers, staff tutors, an editor and 1 Senior Software Designer from the Knowledge Media Institute
- 1 discussion group involving 4 Staff Tutors and Senior Counsellors from the Southern Region

Five of the 'bottom-up' interviews above were conducted on the telephone.

Contributing to the data collection are internal OU documents and reports with specific reference to teaching, learning and technology, including:

- Senate and Academic Board minutes

- Institutional policies, strategies and re-structuring plans, committees and roles
- Arts and Technology Faculty five year plans
- Course documents for two mini-case studies including minutes of team meetings
- Student survey data and evaluation summaries of pilot studies
- Research reports from 3 different groups based in the Institute of Educational Technology (IET)
- Papers by OU academics (about institutional change and learning technology)
- Reports and articles from *Open House* - internal staff magazine - from 1989 and newspapers for students and associate lecturers - *Sesame*, as well as a nationally circulated 'insert' in the *Independent* newspaper called 'Open Eye'.
- Information and publicity material from various OU services, courses and institutes

An abortive data collection experiment was an 'open' letter to all OU academics published in *Open House* on May 26th 1999. This asked for information regarding experiences of change in teaching and learning methodology in course development as well as an academic's perspective on the role and influence of course teams at the OU. No responses were received! There appears to be no alternative to personal contact and persuasion regarding the effective recruitment of participants in this kind of research. The other, unlikely, explanation is the unpopularity of the 'letters' page amongst the staff.

Interviews constituted the most essential and informative part of the data collection process. Top-down interviews of senior and middle managers were conducted jointly by Professor Silver and myself (14 of the total of 27 individual interviews). Other individual interviews with lecturers or senior lecturers (excepting one) involved course team members and constituted the bottom-up view. The semi-structured nature of the interviews meant

that the same question was not always asked at each interview, but the same themes and issues were explored:

- institutional (faculty and departmental) culture
- roles and responsibilities
- rewards and value given for teaching excellence
- the nature of changes in teaching methodology
- pressures for or against change
- funding or other forms of encouragement or discouragement regarding new initiatives
- the process of course development and presentation

There were a few variations in questions for each type of interview. A 'top-down' example would be – 'Are excellence in teaching and learning rewarded at the OU?' as opposed to a 'bottom-up' question such as 'What is it like working for the Open University? Do you feel rewarded?' (See Appendix 3a and 3b)

Analysis of the institutional context involved using the 'Hyperqual' computer application in which tagged sections of the interview notes were sorted and categorised. Manual linking of issues arising in the documentation with those that were raised during interviews contributed to this process together with discussion and writing. Feedback received from course team members in response to a narrative of the course development process (sent to each individual participant at a later stage) was also extremely helpful with respect to highlighting cultural and organisational factors in the faculties as well as the institution as a whole.

Two New Courses

Following the end of the 'Innovations Project', a further year of data collection was devoted to the OU case study to progress the research for this thesis. In the Autumn of 1999, an additional visit was made to Milton Keynes to interview, for the second time, the course team chairs and managers for each mini-case study. These interviews were un-structured and took the form of an informal talk about the progress which had been made during the five month gap from the last visit.

The two courses that were studied during the latter year of their development were: a third level course in the Arts Faculty - AA306 *Shakespeare, Text and Performance*; a first level course in the Technology Faculty - T171 *You, Your Computer and the Net*. These two courses were chosen as subjects for further investigation of the change process as a result of the following decisions:

1. The faculties were firstly chosen on the basis of criteria used in the second phase of the 'Innovations in Teaching and Learning in Higher Education' project. The Arts Faculty (and in particular, English) was representing a constant feature in all five institutions studied and the Technology Faculty was chosen as one which represented an institutional strength or defining characteristic.
2. In the autumn of 1998, a search of the OU web-site, particularly within the two faculties, was undertaken in order to identify courses in the process of development. A course appeared to be 'interesting' if there was a notable change in the pedagogic approach of the course design. Innovative use of information technology integrated into the course design was also an important factor. The AC team were in the process of developing 'interactive' CD-ROMs (with performance teaching material for learning

about Shakespeare's plays) and integrating them with course activities. The TC team were getting ready to pilot their web-based first level course about the internet and the PC involving collaborative activities and tutor groups in a computer conferencing environment. This was why they attracted my attention.

3. Finally, discussion with the gatekeeper for this research (Professor Diana Laurillard) assisted in this decision making. The two courses were not considered to be 'typical', with regard to the development of new courses at the OU, as they were particularly 'pushing the boundaries' with regard to what and how things had been done before. This was considered to be appropriate for a study about the change process.

Both courses updated earlier versions though at different levels and both were due for presentation in the year 2000. This was where the similarity ended as they showed contrasting features of subject culture, purpose, context, type, size, pedagogy, technology and history of development. Features of these courses are discussed in Chapter 5 (Findings II).

In the Arts course, the following course team members were interviewed: course chair; deputy course chair; course manager; 2 senior managers; 2 lecturers - who were also both 'ex-chairs' at some stage of the course development history; 1 staff tutor. All the interviewees, except the course manager, were full-time academics. One lecturer was no longer employed by the Open University and was interviewed by phone.

In the Technology course team the following members were interviewed: course chair; course manager; 2 senior lecturers (each responsible for the content of a module with the course chair); 1 senior editor; 2 staff tutors. In this team the course manager was also a

full-time academic and the editor had a dual role which included acting as a Tutor Counsellor on the pilot presentation of the course. A senior manager in the faculty with some responsibility for the course also contributed to the data regarding the course development.

Interview questions (see Appendix 3B) focussed on the following areas -

- The role of the interviewee as a course team member (or senior manager)
- The course - how the interviewee got involved, how it developed (what helped and what hindered), how it was pedagogically designed, how and why the technology was developed and its planned use, the intended support for students and tutors and also the process of funding and decision-making.
- The OU - what it's like to work there - colleagues, culture, decision-making

Data collected by interviews with course team members also contributed to the analysis of the institutional context. Equally, some information regarding these courses was obtained from interviews with central senior managers. In addition to the interview notes both the course managers gave me access to course team minutes which spanned the period of course development. These provided little or no 'explanatory' evidence (reasons why decisions were made), but they were valuable as a record of what changes and events took place, when and who were involved.

The process of analysis became an opportunity for further data collection and subsequent clarification of my interpretation of the course team perspectives. In June 2000, the two course 'stories' had been written - each about 15 pages in length. They were sent, with an

accompanying letter (see Appendix 5) to all the course team members that had contributed information by interview (face to face or on the phone) - these were 8 people from the Arts course and 7 from Technology. The letter requested that they let me know if they thought my account was misleading in any way or if I had given some inaccurate information. The outcome was extremely fruitful with 10 detailed responses (one via a phone call) that built considerably on the information that I had already been given. There were no objections in the responses, only further clarification giving more background detail. This process has strengthened the validity of this research by involving the informants in the interpretative analysis and providing methodological triangulation.

A particular concern in these mini-case studies was the dilemma of protecting the informants and respecting the ethics protocol which promised confidentiality, balanced against the need for integrity and clarity in reporting on the findings and discussing the analysis. Naming the courses participating in this study was problematic as the roles of the course team members were highly pertinent to their perspectives and were therefore comprehensively discussed. The letter asking for feedback from the participants included a critical sentence -

I would also like to know if you have any objection to me using this account in my PhD thesis. (Appendix 5)

The courses on each account were clearly identified in the introduction and then sent with the letters. As mentioned earlier - there were no objections received.

Regional Support

The final part of this research sought to explore the implementation aspects of the two new courses during their first year of presentation. This involved the inclusion of another large sector of the OU - staff directly supporting students in the regions. Staff Tutors based in regional offices recruit associate lecturers (traditionally, and still, referred to as 'tutor counsellors') to support the students in their learning. Associate Lecturers (ALs) are not usually involved in the creation of course material (although some are involved in this task), but they do contribute to the teaching aspects through the marking of student assignments and delivery of tutorials. The crucial role of these tutors in the presentation of courses makes their inclusion in this research particularly important in establishing the impact of change in teaching and learning on the student support framework and, to an extent, on the students themselves. In this way, the study of the change process has been taken a step further.

Tutors are typically working full-time and are spread over a wide geographic area, their work for the OU is often based at home and conducted in their 'spare' time. There are 13 regions in the OU covering the whole of the UK. In the Southern Region there were 72 tutors who were recruited to support T171, the Technology Course, and 6 tutors for AA306 attached to the Arts Faculty. Since October 1999 I have been a tutor for T171. The research approach is qualitative and ethnographic which meant that the aim was not to search for an 'objective' truth but to advance understanding with 'rigorous subjectivity' (Wolcott, 1994) involving accurate recording and writing. The use of the internet, specifically emails, as a form of communication in the gathering of data was of great benefit in the sense of having 'verbatim' responses from the participants. It was also of

great help to have been in such a similar position to the participants because of the reasons identified by Woods (1996) who explained that it enabled the researcher to:

negotiate access, develop rapport, trust and friendship, sociability, inclusion, identification with the others involved, sensitivity to their concerns, and ability to appreciate their feelings as well as cognitive orientations. (p.61).

Aspects of negotiating access, feeling included, having some understanding and sensitivity were all important elements in carrying out this small study. Following authorisation from a senior staff tutor, 62 tutors were contacted with a brief email successfully (a few were returned for unknown reasons). These emails contained questions of mainly an 'open' nature and an attached ethics protocol (see Appendix 4). An offer of a phone call was also made on the email to give the tutor an alternative way in which to respond. Tutors were asked to respond within a week. During that time 26 responses were received and four 'follow-up' phone calls were made for those that requested one.

Initial plans were to include both courses in the investigation of implementation issues. However, due to only two responses received from the Arts course tutors (from a sample of only 6), it was not possible to undertake an analysis and discussion of the findings in an appropriate way. Up to this point the data collection on both courses had been approached with the idea to treat both courses equally - in the sense of numbers interviewed and documentation gathered. It became apparent that this could not be the case in this instance. It also became clear that due to the nature of changes in the Technology course (T171), the impact during implementation would be much more significant than that in the Arts course.

An extra opportunity to collect data for the T171 presentation arose just before the email questions were sent out. At a tutors' training day in early May 2000 an interesting

discussion about the tutors' experience and examples of good practice took place. There were 24 tutors at this meeting and permission was obtained from the staff tutor to include some of the general points that were raised in my research.

Conclusion

The research contributing to the ideas formulated in this thesis was undertaken over a period of four years (1996 - 2000). However, in pursuit of a greater understanding of the process of change in teaching and learning involving the integration of new ICT in higher education, it is most directly the data collected during the last two years from the Open University that are used in future chapters that discuss findings. I have included descriptions and explanations of all the methodologies used during the whole research period because the lessons learnt from their application have been very important. The connection between each year of research has been so strong, theoretically and methodologically, that the OU case study would not have been possible without the experience of the previous two years.

CHAPTER 4

FINDINGS I: INSTITUTIONAL CONTEXT

Introduction to Findings

The decision to focus on the Open University as the main case study to develop and pursue the research question for this thesis was based on two main issues of importance to me. Several reasons for choosing the OU have been discussed in the 'Introduction' chapter, but underneath the reasoning are my deep-rooted beliefs. The first is that student-centred, 'open' learning, of the kind offered by the OU, tends to develop 'learner' confidence. This outcome is especially valuable to students as it opens up their potential to wider possibilities in personal, study and career matters. It is also an attribute that has become increasingly attractive in industry, particularly to businesses using new and changing technologies. The government appears to have begun to recognise the need for confident learners in the workforce and have awakened and encouraged the higher education community to give more attention to the teaching and learning methods being used. The second view is that everyone should have an equal opportunity to learn, have access to a lifestyle of learning and a new world of knowledge from their chosen areas of study. These ideals are probably based on my own previous experience of computer programming, teaching in schools, learning by distance and life choices arising from obtaining an OU degree. The OU Vice-Chancellor, Sir John Daniel, has eloquently articulated similar sentiments in a forthright 'Churchillian' manner as a conclusion to a conference address given in July, 2000¹:

¹ This address was given at the 25th International Conference for 'Improving University Learning and Teaching, entitled 'The University of the Future and the Future of Universities' in Frankfurt on the 18th July, 2000. The transcription of the speech was available on the web - <http://www.open.ac.uk/vcs-speeches/> alongside many others spanning 1998 - 2000.

I conclude that open universities and open learning will have a central role in higher education in the new century. Social, economic, political and technological forces are all pulling this form of education to the centre of the policy stage. But they must remember, above all, that their first duty is to their students. We have a democratic educational mission to reach and enthuse an enormously diverse student population; to insist that critical, informed, reflective engagement with the human condition is not a matter for 'elites' or professional experts alone.

Despite these shared values and ideas with the OU, or because of them, stars have not been in my eyes while looking at the evidence. The motivation of wanting to be a diligent and worthy researcher has encouraged a 'double-think' approach and helpful colleagues have endorsed this requirement.

The findings described and discussed in this chapter are based mostly on interview and documentary evidence collected from the OU, but also include the influence of past research and experience as well as published academic works and media attention about related and wider issues. The methods chapter has detailed the data collection techniques that include face-to-face, telephone and email communication with individuals and groups at the OU. The first two methods were used for interviewing 32 full-time staff members including senior managers, teaching and support staff. Email questions added the perspectives of 26 associate lecturers directly involved in teaching and supporting students, making a total of 58 participants in the study.

In the latter stages of the research, my own observations as an Associate Lecturer on T171 have, informally, added further evidence to a data set that has largely relied on the perceptions of others. Internal documentation includes formally produced papers from the Senate, central offices, faculties, course teams and other committees as well as less formal staff and student newspapers containing independent views. These have enabled a

methodological triangulation mechanism to check matching details of operations and events.

The OU conjures up images of icebergs and deep lakes on the realisation that the more one goes 'in' to it - the bigger, deeper and further everything is revealed to be. The complexity and evolutionary aspects of the OU, however, bring to mind features of structure and energy more familiarly associated with living organisms. A recent comment made from a lifetime associate lecturer suggested that :

The Open University, its organisation, education delivery and qualifications gets more and more complex...[...]...Knowledge and understanding of the OU should qualify one for the award of a first class honours degree, named of course. (Purnell, *Sesame*, March 2000, p.24)

While looking through the data and considering ways in which to present these findings, an idea arose from an interviewee. One senior member of staff suggested that there were three different ways in which a problem can be 'tackled' at the OU. The 'problem' referred to an issue arising from the development of a new course and the suggestion was that members of the course team could go to the 'system', the 'people' (or person) with power or the 'informal network'. The 'system', (quotation marks are identifying words provided by the interviewee) can be interpreted as the shape of the OU, the structures, organisation, management and decision-making procedures, policies and plans. The idea of influential 'powerful people' involved looking at roles, responsibilities, relationships, staff development and rewards and 'change agents'. The 'informal network' was explored with regard to institutional culture and sub-cultures (including history and development), collaboration internally and externally, internal politics and individual or group attitudes towards the OU. Discussion of these three important aspects of the university, with regard to change in teaching and learning, is included in each of the three 'Findings' chapters: this

chapter focuses on the *Institutional Context*; chapter 5 discusses the two mini-case studies - *Two new courses* and chapter 6 looks at *Regional support* issues. Note that each chapter also represents a stage in the process of change (see under Review chapter) - pre-initiation (the context), initiation (change characteristics and course development) and implementation (effects of change and issues arising).

[N.B. Quotations, except for those from documentation, are either from interviewees or from notes of interviewees' comments made at the time. For reasons of confidentiality it was agreed that quotations would not be attributed, except with the prior approval of the person to be quoted.]

I: INSTITUTIONAL CONTEXT

This chapter will examine issues of change in teaching and learning at the Open University under the following sub-headings:

- Culture
- System

The culture of an organisation is, in reality, its people. It is formed by their attitudes, beliefs, behaviour, roles, interaction, relationships and ideas. Most importantly, it represents the *energy* of a community. The system encapsulates the frameworks, policies, strategies and connections between them that are put in place by the 'central' management and governing bodies in the organisation. It is essentially, the *structure* in which the energy can flow or be diverted or blocked - as the skeleton functions within the human body.

My task was to investigate the process of change in an institution, and institutional cultures and systems are of prime importance in this process. The view that organisations *are* cultures has been made by Meyerson and Martin (1987) and Meek (1988) who also believed that the only way to study culture and structure was to observe the behaviour of individuals. Trowler (1998) has extended previous definitions of the nature of culture by pointing out that there is not one culture but multiple cultures in an organisation and that they are all dynamic - 'complex and shifting'. The 'lively' nature of this description fits neatly into the idea of 'culture' as 'energy'. This is not to say that sub-cultures within the OU are always in harmony or that there is never any conflict between them, confrontations and tensions would affect the quality of that 'energy'. Trowler also linked cultural

characteristics of institutions to the ease or difficulty in which change is managed or responded to by individuals and groups. Kerr (1964) brought to mind the physical imagery of structure and energy when arguing for a suitable institutional environment for change:

...inventiveness should be left to the individual faculty member with the protection and solidity of the surrounding institutional structure. (in Silver, 1998, p.15)

The purpose of the structure is to provide protection for the body, and to support the functional systems (and services) in which the 'energy' can move and change.

Before presenting the evidence and discussing cultures and systems of the institution further, the following background and context are considered:

- *Defining Characteristics*: an overall picture of how the OU views itself and how the teaching and learning is organised and delivered.
- *A Brief History of the Use of Information Technology in Teaching and Learning*: ways in which the application of educational technology has evolved since the first course was presented in 1970 sets the scene for an analysis of the current dynamic situation.

Defining Characteristics

The OU is the largest provider of higher education in the UK and is acknowledged as a highly respected part of the system - 'The Open University is one of the great achievements of British education in the 20th century' (Booth, 2000, p.3). It is also consistent with other universities with regard to the way it is funded, the nature and level of courses on offer to students, its research activities and the normal requirement of national quality assessment procedures. There are, however, many unique features of the OU which are considered to be its most attractive marketable aspects - as presented in a large advertisement (Open University, *Guardian Weekend*, 19/2/2000) and listed (in order of appearance) below -

- *student profile* - there are no stereotypes, all that is required is a motivation to learn
- *high teaching quality* - 'independently ranked amongst the top 15% of all Britain's universities' (based on HEFCE Teaching Quality Assessment scores)
- *flexibility* - it is a 'real' university but students can study without giving up work and home commitments
- *Supported Open Learning* - the OU's own pedagogic method involving course materials and tutors
- *recognised expertise in vocational training* - 25% of all MBAs in the UK are achieved with the OU and 30,000 companies pay staff to study OU courses
- *course variety* - 168 undergraduate courses, 30 diplomas and 14 named post-graduate degrees are on offer
- *leading edge of technology* - some teaching material using CD-ROMs and the internet. Over 80,000 students are currently networked at home by computer
- *personal development* as well as academic achievements can be expected

In addition to the 'teaching and learning' features listed above, the OU is culturally and operationally different from other universities. The reason for this goes back to the original conception, planning and design of the OU.

There are striking similarities between the characteristics listed above and those listed in a book about the OU written soon after it opened (Tunstall, 1974). Here is a summary -

- it is a correspondence university - based on text and using the postal system
- a nationally spread institution, students study from all over the country
- a credit system is used to obtain a degree
- students are 'independent learners' - mostly adults between twenty and fifty years of age who study part-time while also employed
- there are no entrance qualifications
- it operates using an unusual study timetable (from February to October)
- it has a computer-based administrative system (for processing large numbers of mailing as well as 'computer-marked assignments' - CMAs)
- it shows economies of scale as there is no student campus and the academic/student relationship is different

The structure of teaching and learning organisation and support are also still recognisable 25 years after Tunstall's account -

- Central academic staff work collaboratively as part of a 'course team' to produce a course design, teaching materials and assessments. They prepare 'course units' which

are printed booklets, and radio and television programmes that are integrated into the course materials. Home experimental kits are sometimes produced as part of the course material and often include some scientific equipment.

- Courses run for a number of years (originally four years).
- A large counselling and teaching force are employed regionally who work on a part-time basis to support the students. Tutorials are held in local 'study centres' (rooms usually rented in local colleges) and are held weekly, fortnightly or monthly - at evenings or on weekends. Tutors hold these tutorials and mark student assignments.
- One-week residential summer schools are compulsory for some courses (usually the foundation course) and are staffed mainly by part-time tutors.

Course teams continue to design, develop and present courses but they have evolved, as has been explored in the two case studies discussed in the next chapter. Teaching materials are still generally text-based but with the addition of television programmes and video films. This repertoire has been recently added to (in the 1990s) by special 'simulation' software and other graphic computer programmes as well as 'interactive' CD-ROMs (in the sense that objects can be manipulated by the student to create new situations). Some courses are now beginning to be replaced by the use of 'multimedia' as a form of pedagogy and presentation, as opposed to printed course units and text books. There is also a supportive computer conferencing system on the internet (using 'FirstClass' software) which allows asynchronous and sometimes synchronous interaction between students and tutors thus allowing the possibility of peer group learning. It was recognised in the early seventies, that many people held passionate views for or against the university because of the use of radio and television media in its teaching methodology. It was a concern, then, that education would become too 'entertaining' and would not sustain serious content. The

'World Wide Web' is now the main source of uncertainty and there is a worry of 'commerciality' (as well as copyright issues) upsetting the balance between education, entertainment and business.

The massive 'operational' factors of the OU have recently (during the last decade of the 20th century) been under considerable pressures to change - student numbers, student and course diversity, collaborative partners (specifically the BBC) and the nature of new technology have all been dynamic factors. But, it has possibly been the creativity and imagination of course teams that have tended to 'challenge' the system, because of their importance and need to evolve courses, which has been the main factor effecting change. The OU 'system' is discussed in detail later in this chapter, but in this instance the term is referring to the bureaucratic structures and organisation of support services for teachers and students.

A Brief History of the Use of Information Technology in Teaching and Learning

Terms

The convergence of computers, communication and education has produced a plethora of phrases by which to describe the elements of technology under discussion or the process involving the technology. The dilemma of what phrase to use in which context is strongly evident in the reports used in this chapter and this aspect has been discussed in many of them.

The first phrase is evident in the title of the Institute in which most of these research reports originate - The Institute of *Educational Technology* (IET). This would be a

wonderfully simple phrase to describe an array of computer and education jargon, but as the IET has been in existence since the opening of the OU, 30 years ago, the technology and their applications have progressed and need to be separated from the experimental science kits, television programmes and audio cassettes which would have been included under the original meaning. However, this could be seen as a simplistic understanding of the term when compared to a definition given by Hodgson (1993), who was based in the IET while producing a book about *Key Terms and Issues in Open and Distance Learning*. She explained:

Educational technology is a rather diverse field but basically it is the study, and application, of techniques, systems, tools and media used in education and training. Through a systems approach, educational technology attempts to maximise the efficiency of methods by which knowledge and skills can be passed on. (p.46)

In this sense, 'educational technology' is a very broad term - closer to a subject discipline than a description of hardware and software tools for use in education. The Centre for *Information Technology in Education* (CITE) is also located inside IET and produces both general and specific research papers regarding education and IT. Hawkrige (1989) gave a useful definition:

'Informatics' is short-hand for what our government prefers to call information technology, a combination of computers and communication technology that is particularly useful for storing, retrieving and disseminating information. To those three functions I want to add those of creating, analysing and transforming information. (p.1)

This definition of 'information technology' is one that has been, perhaps, most commonly used from the mid 1980s to the mid 1990s - it was the phrase that was most familiar to me. However, Hawkrige confuses the matter by then calling it something else - *Informatics*. Eight years later, another report was produced with the title '*Information and Communication Technologies (ICTs) in Distance and Life-long Learning*' (Kirkup and

Jones, 1997) - this stresses the 'communication' aspects of IT that had increasingly been taking centre stage due to the popularity of the internet. Some people pressed the point further by referring to NICTs - '*New Information and Communication Technologies*', but by 2000, this was less common than ICT. Another term quite widely used to describe the same machinery, software and concept is '*telematics*' - basically referring to telecommunications and computers: some universities have roles, departments and research groups with 'telematics' in the title. At the heart of ICT (and all of the above phrases) is computer mediated communication described with clarity by Kirkup and Jones:

Computer mediated communication (CMC), was viewed in the 1980s as probably the most important ICT application in education as it allows for dialogue between learners and teachers. CMC uses computers linked through the local telephone network, and internationally via satellites, to provide a new means of communication: machine to machine and user to user. It allows both 'real-time' (synchronous) as well as 'time independent' (asynchronous) communication between individuals; amongst and between groups; and to organisations and databases outside education. Almost all such applications depend on the electronic infrastructure of the Internet: a vast network of computers with agreed conventions to enable communication between them. (p.11)

It is this facility which is seen as having the greatest potential impact on education by breaking down distinctions between distance and campus-based education, by challenging traditional roles of teachers and students and by the widening of access to other students and 'experts' with the creation of a 'network of scholars' or a 'community of learners' (Mason and Kaye, 1990).

Other technological developments have had conceptual and pedagogical impact and are generally referred to under the term '*multimedia*'. It refers to the computer-mediated integration of various different old and new media. Kirkup and Jones describe how this integration has often involved the use of *hypertext* - a computer language that provides flexibility in the linking of text, pictures, sounds and video sequences in a nonlinear way.

The World Wide Web (WWW) is a global system that uses hypertext to link separate pieces of information stored in various computers spread in locations around the world. The heavy use of imagery and sound means that much computer memory is required and that is why CD-ROMs (Compact Disc - Read Only Memory) were used, strictly as a storage device. However, it is CD-ROMs that most people have in mind when they hear the term 'multimedia'. A useful description of the use of CD-ROMs in education was given by Kirkup and Jones:

In theory multimedia provides the student with more flexibility and control over content and learning, and the teacher with a wider range of resources to draw from. It is interactive in the sense that a user can access the material presented in different ways, and the 'program' can give feedback.... (p. 9)

In another report, it is suggested that 'exploratory learning - as a type of learning through experience - can be fostered through computer-based simulations and multimedia applications' (Goodfellow and Kukulska-Hulme, 1996, p.11). This report summarised the evaluation of new technology in learning and teaching and was compiled in the IET from a selection of reports from CITE and PLUM (The Programme on Learner Use of Media), the SRE (Student Research Centre), the TCC (Teaching and Consultancy Centre) and the Computers and Learning Research Group (CALRG). The latter group has recently changed the meaning of the acronym from *computer-ASSISTED learning* to computers AND learning because of 'a shift in the general emphasis from the role of technology in an acquisitive model of learning to its role in constructivist/ experiential processes ' (p.15). Further shifts in the role and activities of the IET at the OU will be explored later. These developments explain why the term 'Computer-Assisted Learning' was used less frequently in the late 90s than a decade previously, reflecting a shift away from programmed learning (mastery of skills) methodologies towards collaborative and self-directed, less structured learning.

In his widely cited book, Daniel (1996) introduced yet another phrase into mass circulation that of *knowledge media*. He has described it as 'the coming together of telecommunications, television and computing' which is 'more than the sum of its component parts' (p.55), a definition which he attributed to Eisenstadt (1995). Daniel used this term in several speeches over the next few years but more recently he has started to use the term 'ICT':

For thirty years each new manifestation of Information and Communication Technology (ICT) has been examined and experimented with to see whether it could be used to scale to add value to the OU's learning system....[...]...what works best is a learning system that balances ICT-based and non-ICT-based approaches.²

Daniel and many other academics in the field are now (in the year 2001) predominantly using this term which seems a reasonable basis on which to adopt it for use in this thesis.

Media and Process in the early days

The acknowledged quality of printed material formed the basis of the OU's reputation as an effective teaching university. MacGibbon (1974), then Director of Heinemann Educational Books, has described the 'striking feature' of the way in which OU books (specifically 'texts' for correspondence courses) were written, published and printed - every department was under the same roof - the course teams, the designers (the Media Division), editors (the Publishing Division) and the printers³. Communication was on-going between all

² Taken from a speech given to the 'Hong Kong Council for Academic Accreditation' entitled 'Towards the Global E-university: Quality or mediocrity?' on December 5th, 2000. The transcript of the speech was available on the web - <http://www.open.ac.uk/vcs-speeches/>

³ Printing is no longer undertaken 'in-house'.

those involved in book production. Regarding the content of the material he made the point that because television was integral to the course, the text reflected some of television's 'visual appeal' and thus incorporated some of that style. Bates (1974) explained that because the OU was given a 'quota' of television hours, the decision to use broadcasting was made before the content of the courses - or even the subject matter was decided. So style and content were designed to maximise the use of available resources - especially television programmes. The programme may be an illustrated lecture or a 'direct teaching device', but normally the aim was to highlight the principles in the printed text ('primary source material') which meant that programmes and text needed to be developed at the same time.

From the beginning, the OU incorporated 'multimedia' in its teaching - though on a small scale - television, radio, computers and audio cassettes were all exploited. However, it was the process in which these aspects were all developed which was thought to be innovative at that time.

The idea of the course team, with its tripartite membership of academic staff, BBC producers and educational technologists, has encouraged media coherence. The course team, vested by the university Senate with collective power over the total learning system, is, I believe the OU's single most important contribution to the future of new media in education. (Hooper, 1974, pp. 180 - 181)

Course teams may be at the core of the teaching and learning 'engine', but the regional part-time tutors who offer students face-to-face and phone counselling and tuition are also highly regarded as valuable components in the teaching operation. The Institute of Educational Technology and its advisory and evaluative function has ensured that research is conducted and used to develop and improve the use of technology at the OU - as shown by the huge number of reports archived at the IET.

Computer use at the OU: 1970 - 1988

Students were required to use computers as an integral part of their OU course from 1970. The Maths foundation course at this time expected students to log into the university's mainframe computers via the use of a terminal at a local study centre or residential school site (Jones et al., 1996). It appears that residential schools (later more commonly referred to as summer schools) were used regularly as a 'testing ground' for new computer applications. This was partly because tutors would be at hand to support students in difficulty and also because IET staff may have been involved in an evaluative capacity. Some courses started using CAL packages (either bought in or developed in the academic computing unit) from 1972 onwards. In 1979 staff and students' experience of CAL at the OU was evaluated. It was first established that many students did not use the optional computing component and after further investigation three widespread fears were identified:

Fear that they might look stupid; fear that they might 'break' the software and fear that they might be spied on, i.e. that the regular computerised assessments might be linked to their performance on remedial CAL tutorials. (Jones et al., 1996, p.2)

The study concluded that the first barrier to successful use of CAL was difficulty in obtaining access to computer terminals by the students. This was followed by other stumbling blocks which highlighted the necessity of a critical student support role and the need for proper integration into courses. It was thought that the quality of the content of the CAL programme was not a priority until these other difficulties of context had been

overcome. In 1988, the introduction of the Home Computing Policy (HCP) aimed to break down the first barrier regarding access to computing terminals.

The Home Computing Policy (HCP) and

'T102 Living with Technology: A Foundation Course'

The HCP was like a baby who did not want to come out into the world - there was always the inevitability of birth, but it was a late and difficult birth. It was reported (Jones et al.) that the whole concept of introducing personal computers to be used in studying courses at home was 'risky' for the OU. The huge concern that access to HE would be limited because of the computer element went against the grain of the 'open to all' ideal. The onus was handed over to students to provide their own computers at their own expense (although there was some financial assistance to help in certain cases with equipment from OU central funds).

Early on in my data gathering period for this research, I was introduced to an ex- OU course team member, someone who had been heavily involved with the development of T102 during the latter half of the eighties - 1989 was the first year of presentation. He explained that it had been a very long struggle - over six years to develop, and that by far the most difficult 'bit' was convincing the VC (and others) that personal computers needed to be involved in the course. It was eventually a victory for the course team - especially sweet, according to my acquaintance, because the VC (then John Horlock) had previously expressed total disagreement with the home computing element in no uncertain terms (...'over my dead body!').

While looking over developments in educational technology utilisation over the last three decades, the influence of the three Vice-Chancellors is evident. Sir Walter Perry, knighted in 1974 - 5 years after becoming VC of the OU, was an inspirational leader and he set the scene, designed the structures, put organisational processes into motion and hired the staff who believed in his ideal of teaching quality and innovation. He was also inspired, so much so that he wrote a book about the OU (Perry 1976). The preface contains the sentence - 'I can hope to stimulate only when I am myself stimulated, to interest only when my interest is caught'. One senior member of the Technology Faculty interviewed thought first of Perry, when asked about the 'institutional culture' of the OU, with regard to his immense influence. In September, 1994, the three VCs gave the Annual Council Lecture as a celebration of the OU's 25th anniversary. Perry talked of the OU's consistent quality and its influence on HE regarding modules and credits and flexibility to a wider variety of students. Perry was reported as seeing 'a technological explosion' in the future OU and finished by saying -

But what the Open University has learned...is to institutionalise innovation. And that's very important. Long may it continue to do so. (*Open House*, 1994b, p.6)

John Horlock who became the second Vice-Chancellor in 1980 is reported (in the same article as above) to have said that the early 80s were 'perhaps the most unhappy part of my career' - he found the politics and the funding issues very difficult. His reflections included diversification into post-graduate and continuing education - especially into vocational areas of health and social welfare as well as management education. He looked to the future in trepidation, remarking on the greater competition from traditional and new universities who were taking in more 'OU-type' students and suggested that the OU would have a tough time remaining as a 'teaching and research' university - though he

acknowledged the OU's achievement in being in that group. It was notable that Horlock made no mention of innovation or technology.

Sir John Daniel, also knighted (like Perry) a few years after becoming the third OU Vice-Chancellor, has also been an inspired and inspiring leader. In 1999 he enrolled as a student on the pilot presentation of the new internet-based technology foundation course - T171. He was keen to tell me this fact as an interviewee and has also proudly reported the achievement in many OU newspapers and key speeches. Daniel speaks openly in interview -

I had deep scepticism about some of the habits of the OU and that created and still creates tensions. I suppose if you can see one thing from my career, one constant, it's change....[...]...I didn't realise how enormous the changes in the first three years would be....[...]. The other thing is, the OU seems to be involved in every major change taking place in society. We're so plugged into everything, that makes it tremendously exciting. It's that feeling that an institution that started off as a marginal, oddball, funny kind of thing, is now at the centre of the system....[...]...I've got the best of all worlds here. I'm in an institution which has a noble cause, which itself is a large diverse community and which is providing life-changing experiences to individuals. (Dalglish (ed.), 1995, p. 144 - 145)

He marked the 25th OU celebration with rallying cries for a technological future -

If any institution can apply the new computer and communication technologies successfully, reliably and excitingly to teaching and learning it should be the OU - Let's get on with it....[.]... Our clear duty is to lead higher education forward into the 21st century with the spirit of idealism and innovation that has served our students so well. (*Open House*, 1994b, p. 6)

John Naughton, chair of T102, described how the process of a rolling course renewal was comparable to 'painting the Forth Bridge' - due to the speed of technological change (*Open House*, 1994a, p.4). He explained at the same time that the 'overall faculty approach of seeing the discipline in terms of issues is explicitly adopted for T102 - it is a way of looking at technology that is useful for looking at the whole world. '

In 1989, the new T102 course gave students experience in using the computer as a tool, for solving mathematical problems, for information retrieval and for information manipulation and presentation. CAL packages were also used and the whole course provided initial computer literacy for the students. By 1993 the course was looking dated as technological developments included a move to a standard 'Windows' format in office systems and an increasing familiarity with networks and the internet (Morris et al., 1998). Computer Mediated Communication (CMC) was introduced into the new, 1996, presentation of T102. It used the FirstClass conferencing system for the first time, but during the first year, the use of electronic conferencing was not mandatory due to many new issues that the OU were trying to deal with -

The administrative, technical and educational demands of this arrangement should not be underestimated. Questions of access, of technical standards, of logistic support, financial support, tutor training and payment and many others had to be negotiated or, in some cases, assumed. (Morris et al., 1998, p. 2)

Discussion following a survey which evaluated student use of CMC in the first year raised the question as to what is the role of the formal conferences. Use of the medium was high (95%, a majority of students, logged in fairly regularly), but it was suggested that the status of the conferences need to be higher with more early visibility of the tutors and course team members in the conferences. The students also commented that the system was not sufficiently integrated into the course and that there was some worries with information overload and the validity of information gathered online (Bennett, 1997). On a positive note, CMC did make students feel less isolated and more supported and it was recommended that this system could be used in other non-technological courses.

The experience of T102 in 1996 was summed up in style by Sir John Daniel towards the end of a report in *Open House* about an urgent review of tutor management and mailings about to take place. While drawing attention to the many changes in the environment he said:

Our largest networked course is T102. Since it began using computer communication this year T102 has bucked the very worrying trend of declining retention rates that is found in nearly all other courses...Once again, OU mythology bites the dust. We can all remember those anguished debates, not so very long ago. Was it fair to impose computers on students? Well, it seems that students like computer-mediated communication and it makes us a better university. In a recent 24-hour period the T102 students opened and looked into 27,000 folders in the conferencing system. That hardly sounds like a reluctant group of people. (*Open House*, 1996, p. 1(front))

It is evident that the T102 Technology foundation course had been pushing out the boundaries into new areas both pedagogically and operationally in the late 80's and 90's. In 2000, another new foundation course was presented for the first time - T171. How the course was designed, developed and implemented will be explored later chapters, but the evidence from T102 shows that issues of changing student and teacher roles, purpose and integration of CMC and organisation of regional support are high on the list of potential problem areas.

1995 - Acceleration in the spread and progression of IT

In early 1995, the internal OU newspaper - *Open House* was buzzing with news and views - creating an interesting debate about the INSTILL (Integrating New Systems and Technologies Into Lifelong Learning) plans. A summary of proposals was:

INSTILL... brings together a number of new technology projects which will enable the OU to keep ahead of the field. £10m has been granted for the project out of the OU's reserve funds. INSTILL proposals include the creation of the Knowledge Media Institute (KM_i) for research and development in Knowledge Media. The

£10m price tag includes a 'new blood' scheme for staff renewal, and an investigation of a satellite broadcasting project.

Other new high-tech plans include the greater use of technological innovation in our course materials, such as CD-ROM, making better use of the internet for academic purposes. Part of the money will be used to set up loan schemes to ensure students can afford new technology for study. (*Open House*, 1995, p.5)

The Knowledge Media institute is now (in 2001) a 40-strong interdisciplinary laboratory. It was set up in 1995 with an infrastructure supplied by Apple and Sun (computer manufacturers) at Milton Keynes. The term 'knowledge media' is described in the publicity material as 'a convergence of the cognitive and instructional sciences, multimedia enabling technologies, human computer interaction, artificial intelligence and the education superhighway'. A senior systems researcher, when interviewed, explained that KMI are cultivating education and technology and trying to have a greater impact on OU courses than they have had since opening. In 1999, KMi received £1m of OU funding and £2m of external funding, and it has 30 on-going projects with 18 course spin-offs (KMi, *Focus*, 1999). The director of the KMi, Professor Marc Eisenstadt, made a technological and pedagogical breakthrough by leading the first OU Virtual Summer School (VSS) as part of a third level social science course (D309) in 1994. The purpose and experience of this project and many subsequent ones are explained in a recent book -

The VSS was designed to enable students to participate in many of the activities of a physical residential school. Our intention was that they should be able to undertake group discussions, run experiments, obtain one-to-one tuition, listen to lectures, ask questions, participate as subjects in experiments, conduct literature searches, browse original journal publications, work in project teams, undertake statistical analysis, prepare and submit nicely formatted individual or joint written work, prepare plenary session presentations, and socialize. (Scott and Eisenstadt, 1998, p.155)

The use of audio was found to be far more useful a vehicle for conveying content than video. Problems included the sheer amount of time spent by students and tutors in communication during the school. Also, technological fragility and poor connectivity

meant that issues of scaling up to large numbers of students would need some very careful consideration in terms of design, method and support.

From 1995, CAL and the use of the internet were being introduced in courses across the faculties. However, most of these courses were at post-graduate level (involving small numbers) and some limited the use of CAL to the residential summer schools. A few courses carefully integrated the use of ICT, while most considered the 'added value' of the internet as giving access to online research resources, or of computer conferencing as giving students and tutors additional informal opportunities to communicate (Goodfellow and Kukulska-Hulme, 1996). Examples of more radically ICT integrated courses are -

- A295 Homer: Poetry and Society - included a multimedia project, interactive teaching environment and more student control over their investigations and presentations.
- T203 Materials: Engineering and Science - CAL programme included to develop skills of interpreting diagrams representing physical phenomena (like a game involving questions, answers and prompts).
- M206 Computing: An Object-oriented Approach - involving CMC and group learning as well as 'object technology' (meaning co-operating parts with no central control) in a designed learning and programming environment.
- S103 Discovering Science - a foundation course which included 13 interactive CD-ROMs and the requirement of database and word processing applications. A student survey was carried out (Whitelock, 1998) and although some students experienced problems, 90% would recommend this style of studying to prospective students.
- H801 Open and Distance Learning MA - Course presentation is mostly using the internet, including electronic submission of assignments, CMC and group projects.

The OU Business School has many post-graduate courses that exploit the internet and CMC, but the latest most radical course, first presented in 2000 - entirely web-based, is the new Technology foundation course T171.

Teaching and Learning Issues arising from the use of ICT

Laurillard (1993) has set the 'ground rules' for the basis of design and discussion about the effective use of educational technology in HE. She explored the concept of 'teaching as mediating learning' and defined characteristics of the learning process in relation to the development of a teaching strategy. The characteristics are described in terms of a dialogue between student and teacher and are discursive, adaptive, interactive and reflective. In a later paper she explained how different types of media can be related to different modes of learning:

...the narrative media which support learning through acquisition, the discursive media which support learning through discussion, the interactive media which support learning by discovery and adaptive media which can be used to support 'guided discovery'. (p.1, Laurillard, 1995)

This description linking technological and pedagogical definitions arose from experimental activities involving ICT and highlighted the need for considered learning objectives with their integration into courses. A particularly pertinent example of an existing problem was given by Taylor (1995):

Interactive technology should allow people to take control of the ways they learn, but unfortunately, designers of many existing systems have tended to make gross assumptions about learners or the learning process, resulting in applications which simply do not exploit the interactive medium, or which are so over-designed that the learning environment becomes inflexible. (p.1)

Another growing awareness has been the evident change of focus away from the individual towards group and collaborative aspects of learner-computer interaction (Goodfellow and Kukulska-Hulme, 1996). Collaborative learning on a Teaching and Learning Online (TLO) course offered by the IET in 1994 used CMC via the FirstClass system and was the subject of a research report (Wegerif, 1995). It was a short, three month course with 21 students and was judged to be successful by the quality of work produced and the student feedback received. The course success was attributed to 'the socio-cultural processes of establishing and maintaining a community and of acquiring a particular communicative style ..' (p.18). It has also been observed that the role of technology is being emphasised more in 'constructivist/ experiential' learning processes than in an acquisitive model of learning (such as in an information retrieval and processing system).

Since the incorporation of CMC into courses, there has been considerable debate regarding teaching and support structures as well as definition of teacher/ tutor roles. Following a pilot project involving computer conferencing, the IET made a suggestion for the role of an 'Interactive Media Facilitator' (IMF), who would help to reduce the workload for teachers and students (Goodfellow and Kukulska-Hulme, 1996). The issue of difficulty in drawing boundaries between teaching and support roles was also discussed by Wilson et al. (1998). A member of the centre for Information and Innovation at the Open University Business School, Gilly Salmon (2000) has coined the phrase 'e-moderating' which she described as 'the key to teaching and learning online'. The 'e-moderator' is seen as a specialist tutor role distinct from other people/ roles that contribute to the teaching responsibility at the OU. The other roles include 'authors' who are subject specialists and produce course content, and tutors who also have subject knowledge but have additional training and experience in

'dealing with students'. Salmon explained the role of a third person involved in courses involving CMC :

E-moderators could be described as specialist tutors: they deal with participants but in rather different ways because everyone is online. An e-moderator, like a tutor, does the job part-time and probably has another job too: typically, this might be teaching, but it doesn't have to be. (p. 38)

Her book describes a five-step model for teaching and learning online which outlines tasks of technical support and e-moderation that students require. The latter involves -

1. Access and motivation
2. Online socialisation
3. Information exchange
4. Knowledge construction
5. Development (p.26)

This book addressed the growing concern of teaching roles by identifying a specific need and tasks for an 'online tutor' and explaining how people can be trained for such a role. The supportive and integral role of personal tutors, as established by the OU is not seen, however, to be necessarily 'cost effective'. In another recent book (Inglis et al., 2000) the following solution is recommended:

Delivering courses online at a distance calls for reorganization of the ways in which support services are provided. This is important both to ensure that the highest standard of support is provided for the resources available as well as to avoid costs escalating. In most situations the most cost-effective arrangement will be achieved through establishing a centralized 'help-desk' facility to track and manage students' requests for assistance, to direct queries to the staff who are best placed to answer them and to ensure that requests for assistance receive timely replies. (p. 118)

Help desks are also a feature of student support at the OU, but the 'personal tutor' aspect of the teaching and learning organisation is heavily engrained and online tutors are a part of this system. The degree of cost-effectiveness of this kind of student support is probably linked to the earlier findings of CMC - that of tutor time (mentioned above). This may be linked to another interesting problem area described as 'orientation and overload' for the

student (too much information) which was noted under 'internet' issues (Wilson et al., 1998). The same problem was also experienced by students undertaking 'resource-based learning' courses (Macdonald et al., 1998). It suggested in the latter case that the necessary skills to cope with 'information overload' were lacking and could be acquired. If these kinds of skills, involving internet learning, could be taught and learnt, perhaps the tutor's time would be reduced and this would result in less expense for the institution. Teething troubles with the technology used has been another common barrier to both teaching and learning (Wilson and Whitelock, 1997). The initial cost of using technology has also been high - the university has high labour, equipment and service costs and the student also needs to meet these costs. (Wilson et al., 1998)

No longer is it an issue that the Open University is forsaking its ethos of 'openness' by requiring students to use a personal computer at home to study. Issues about online learning stretch far wider than those arising from inside the institution and involve external collaborations between universities and private sector partners at a national and international level. In response to government plans in 2000 to create a national 'e-university', the OU Vice-Chancellor has written in *The Independent* -

E-universities imply a body that brings together the electronic offerings of a range of universities and coordinates a global marketing effort that no institution could afford by itself...[.]...I am honoured to have been invited to be a special advisor to the e-university steering group and will try to give it the benefit of the OU experience. With 90,000 students online from home and 30,000 students studying OU courses outside the UK, the Open University is already Britain's global e-university. The Secretary of State's welcome announcement encourages us to develop that role even more strongly. (p.2, Daniel, 2000)

His statement emphasises the way in which the OU has developed in line with its strategic and development plans published in 1997 -

We shall develop new ways of working on course development production and presentation that exploit the full potential of new technologies, where these are cost effective and improve the quality of student learning (Open University, 1997, p.17)

These plans establish strategic aims over the ten year period 1997 - 2006.

Culture

What *is* an institutional culture? What is or are the cultures at the OU? How does culture influence the process of change in teaching and learning? These are the questions under consideration in this chapter.

There have been varied views of what an institutional or organisational culture constitutes or means. One cultural paradigm sees an organisation 'as a social construction where participants constantly interpret and create organizational reality' (Chaffee and Tierney, 1988). Another view puts 'values' at the core of the culture (Deal and Kennedy, 1988).

Along similar lines Handy (1976) has viewed 'ideologies' of an organisation as cultures and then elaborated on this concept:

In organizations there are deep-set beliefs about the way work should be organized, the way authority should be exercised, people rewarded, people controlled. What are the degrees of formalization required? How much planning and how far ahead? What combination of obedience and initiative is looked for in subordinates? Do work hours matter, or dress, or personal eccentricities?... Do committees control or do individuals?... These are all parts of the culture of an organisation. (in Silver, 1998, p.13)

It seems that what Handy has described are the practical aspects of an organisational ethos, 'the characteristic spirit and beliefs of a community' (OED). It is in this light that most

interviewees understood this 'cultural' line of questioning. It was also a mutual understanding between interviewer and interviewees that their perspective, experience and attitudes towards 'the university' and their colleagues was more relevant to ascertaining an 'institutional culture' than an external view. The questions regarding 'culture' that were asked of the senior and middle managers interviewed (14 in all including department heads, sub-deans, deans, directors and PVCs as well as the VC himself) were something like the following (see Interview Schedule in Appendix 3A):

How would you describe the culture of the OU? Are there any identifiable sub-cultures? Is the 'institutional culture' recognisable in any of the literature regarding these concepts?

These questions were not always asked verbatim. The kind of broad questions put to other OU academics (see Appendix 3B), particularly the staff tutors and the course team members of the mini-case studies were less specific, but were intentionally aimed at illuminating culture and sub-cultures at the OU e.g.

How would you describe the OU as a place to work?

The institutional context here is divided into 'culture' and 'system' and will be explored using evidence arising from the perceptions of all the participants. However, there were more questions of this nature, purposefully, posed to the senior and middle managers and therefore it will be noticed that their views are more frequently seen. Interview evidence from course team members and tutors will be more prevalent in subsequent chapters that focus on developing new courses and implementing the changes arising.

[In what follows the following **interviewee codes** have been used:

'S' refers to senior management - VC, PVC, Director, Dean or Unit Head

'M' refers to a middle manager - Head of Department or Sub Dean

'R' denotes a regional staff tutor, based in the head office of the region

'RDG' means 'regional discussion group'

'T' and 'A' stand for faculties of Technology or the Arts and also represent the course team members interviewed including lecturers, senior lecturers and course managers]

A Pro-Vice-Chancellor [S02] suggested that there were two aspects of organisational culture - one was the 'ideology/ mission or vision which is a shared value' and the other was the 'immediate environment'. A mission statement may try to declare shared meanings or objectives of the university, but it is often the underlying values and assumptions that create a 'climate' which has been described as 'a manifestation of culture' (Reichers and Schneider, 1990). The 'immediate environment' is an indicator of those values - reflected in the behaviour, activities and relationships of those at work, on an informal and formal level. This 'culture as environment' idea could be a starting point to further sub-divisions throughout the institution, be they geographical, subject-based, role orientated or divided by informal networks of personal interests.

Extracts given from interviews have been taken from notes written at the time of interview, which means paraphrasing unless words or phrases are inside quotation marks. Specific comments about OU culture or sub-cultures have been made by 25 of the 32 participants. The frequency with which a similar point was made is shown in brackets following the comment. However, as will be seen, some interviewees made several comments on this aspect whereas others may have made a single observation. The groups are, therefore, not mutually exclusive.

Staff dedication and specifically their high commitment to students (9) were the most frequent points made about the OU culture. Democracy within the institution, in the sense that staff felt generally consulted about policy changes and experienced a high level of debate (7), was also near the top of the list. These two features of OU culture are illustrated in extracts below, in which can also be seen some reference to perceived 'sub-cultures':

Institutional OU Culture?

There is more than one culture - administrative and academic. Large numbers think that research is the only thing but still sign up to the OU's mission - commitment to students (from either culture). ...[...]...The experience of working with the OU is of endless debate and discussion. Academics have lots of scope for change and acting on their initiative. Those in Administration have a more 'rigid' experience.[S7]

The OU is a 'captivating place'.... The staff turnover is very low and there are massive organisational structures. The service units found it very hard to adapt to the demands and needs of the new Centre...new staff were needed for editing and printing. On the one hand the decision-making process is democratic ('we need to consult the world and his wife'), but finally the power is vested in individuals ('like myself'). [S1]

The department feel that there are large sums of money going into KMi instead of supporting students with more face-to-face teaching and new courses. [MA5]

Regarding university culture, he thought that 'dedication' is beyond anything in other universities, people will go to any lengths. Software designers do not get any over-time and sometimes work through the night - they are motivated by their very keen and demanding students! [M11]

He thinks that the OU is 'wonderful' and he feels totally committed, yet he also feels as if 'all my life has been fighting it'. [T2]

'The OU is conspicuously a well-motivated place'. [MA3] responds to the concept of an institutional culture in terms of there being a strong ideological framework in operation at the OU. He elaborated by describing a heavily 'consensual system' because openness and distance are 'inculcated' within the system...[...]... In response to a question regarding how people are valued and

rewarded at the OU, he explained that people may say that they feel under-valued or under-resourced, but they would not go and work anywhere else. [MA3]

The OU has many different cultures - one thread that runs through is a real commitment to the students of the OU - there is 'student centredness'. Technology is a sub-culture - it is a controversial area with many For and Against. TQAs are good. If there is a difficulty in recruiting students then the curriculum offered needs to be checked that it is matching student needs.... 'physicists are more concerned with physics'. Degree ceremonies connect everyone, there is a real sense of achievement. Students really matter and everyone mucks in and helps if there is a crises. [S8]

Inter-dependence within the OU and an overall 'idealism' that is held by most has meant that the OU has a stronger culture than most. He thinks that all staff share the mission which is about commitment to students. They have a strong level of allegiance to the OU and what it represents. The OU is certainly not 'homogeneous' though - they may be more inter-disciplinary than most, but different areas have different cultures. For example, the Business School is very financially orientated and into marketing and innovation whereas the Social Sciences have 'an old labour' approach. The School of Modern languages are also 'innovators'. [S9]

Is a tolerance of diversity allowed in the Culture?

Diversity becomes public at the OU in a way that it wouldn't elsewhere. There is 'vigorous debate'. [S9]

What's it like working at the OU?

- The OU is always dynamic - the challenges are generally exciting rather than frustrating.
- Some debates going on at the moment are good ones, such as named degrees and academics are given the opportunity to contribute - it's democratic.
- 'OU degree ceremonies are the best' [RDG]

The picture portrayed of the OU - as a culture or group of sub-cultures, is generally positive. This often seemed to be the case when interviewees were thinking of the institution as a whole. Another contextual point is that the picture is painted largely from the 'top-down' perspective (as discussed earlier). Two 'bottom-up' interviewees gave a contrary view - in part, and it was within the context of discussion about course teams and courses:

Course teams started off small and then became very big in the 80's. People were very committed during the first 10 - 15 years because the OU needed a good set of core courses to get off the ground. He thinks that people are now slightly less committed and more interested in their own careers....Culturally, there are tensions between the OU and traditional academic values (in terms of old universities). [T1]

Also, with respect to the response of colleagues to the introduction of a new course...

Some people in some faculties were panicking...this created a general feeling of resistance. They were worried that this new way would take over from the existing system - replacing it. One can't talk about 'faculties' as it is individuals that react. This meant that T171 became a political football... there were Fors and Againsts for all different reasons... some from a personal or group 'vested interest' reason.[RT6]

Reference to 'careers' and 'vested' interest create a more 'realistic' picture of the OU, which was beginning to look rather 'ideal'. However, the institution did stand out as one with an unusually high level of staff commitment to the institution.

Sub-cultures referred to in the extracts above include: administrative; academic; technological and discipline-based (that may be 'corporate' or 'innovative' or 'old labour'). These could all fit into the 'immediate environment' aspect of organisational culture referred to above by [S2]. It certainly appears that many staff saw their own environment as a separate 'sub-culture'. Here is another view from an editor:

... sees the university as a hybrid involving an academic sub-culture and a producer/publisher one. Everything has become more competitive with the outside and with support services internally. [T5]

There were only a few references to some kind of 'departmental' culture. Interestingly, in the following two extracts, the descriptions of the 'sub-culture' were similar to each other as well as to a central mission of the OU:

.... thinks that there is a departmental culture though it does not come through very strongly. .. they are more student-orientated in the sense that they worry about how

their teaching is being received and how to make the content accessible to a mass audience. [MA5]

The culture of the School is to try and write courses that are inclusive rather than exclusive - in order to maximise their market.... Their key value is 'openness'. [S4]

Despite these two aspects of 'departmental culture' being in line with the 'institutional culture', the same interviewees commented on the way in which their department or school intentionally resisted external influences or pressures:

The department has some discomfort about the university's drive towards new technology in future teaching. [MA5]

There are more external pressures on the curriculum than is the case with other schools or faculties...[...].though... 'I try and make sure that this does not dominate the curriculum we offer' [S4]

Other comments included a more general one that describes the underlying purpose of departments and their operation:

Academic departments still exist for staff development, scholarship, research and to maintain the traditional 'community of scholars' atmosphere. The smallest departments consist of about 10 people and the largest have about 25 staff. There are 5 Curriculum Programme Boards which manage curriculum development. [MT7]

Tensions are apparent between faculties or departments with regard to issues of research and technology. It was found that the emphasis on research and the way it was organised are approached differently by staff depending on the flexibility and expectations of the faculty, school or centre. The Centre for Modern Languages, a recent addition to the OU (presenting their first French course in 1995) had many staff who had managed their research time differently than others at the OU. It was generally the case that staff accumulated 'study leave' (up to 2 months a year) while they were producing course materials. But new staff designed their own way of working in 'pairs', doubling up on their

responsibilities, so that they could take it in turns to be on study leave and get on with their research. The Arts Faculty also show a differing research emphasis in the sense that they expect their regional staff tutors to produce more research output than is the case in other faculties. The subtleties of subject approach may well emphasise different cultures within these sub-groupings. For example, one interviewee [RA8] explained that contemporary issues in the subject matter of the Literature Department together with a mixture of 'progressives and traditionalists' amongst academics, created the need for 'coherence' in the approach to the subject. In this instance the type of 'leadership' in operation could be more culturally significant than in other, more homogeneous, departments.

The 'technological drive' of the OU centre fits in (not surprisingly) quite comfortably with the very experienced Technology Faculty who have a head start:

The staff in the Technology Faculty have gradually got used to using FirstClass - as the whole faculty was networked together with this conferencing system several years ago. It does take a long time for people to get used to - as it will in other faculties.[T3]

Interestingly, one interviewee concerned with student support commented that Arts Faculty students were less receptive to IT than Technology students.

The above extracts indicate that there is cultural diversity at the OU, but perhaps these differences are not as 'fixed' or as separate as they might be without a unifying institutional ideological commitment. Costello (1992) discovered that during its short history a 'very strong set of cultural norms' had developed. One of these was that the OU showed evidence of being 'open' - in an informal, egalitarian and trusting sense of the word. He described the following examples:

Walter Perry insisted that all members of staff should be on first name terms. Dr Horlock found this tradition difficult and used titles, creating a certain amount of confusion within public meetings about the appropriate name to use. However it is Perry's tradition which has continued and which reflects the espoused equality and interdependence of different categories and seniorities of staff. In the mundane features of organizational life these features are carried over. There is no distinction made between categories of staff or students in the provision of facilities on the University's main campus, for example, nor are distinctions made in such things as the provision of accommodation at residential schools. (p.22)

This extract also shows the powerful influence of the Vice-Chancellor (VC) in building the OU Culture. There is a low staff turnover at the university and many people interviewed had been employed by the university since the beginning. One such senior lecturer endorsed the powerful influence of VCs:

...it was too simple to say that the OU is driven from the bottom-up - because of the power of the VCs - particularly Walter Perry who was instrumental in 'creating an environment where people could get on with it and were protected to do it' [T2]

Another interviewee also mentioned Perry

- about course teams ... 'Perry thought it was the most important innovation of the OU'.. Perry also thought that the OU was 'institutionalised innovation'. [S9]

Sir John Daniel, has been thought responsible for the current technological drive and for giving the OU its 'international' flavour. The centrality of leadership in the formation of organisational culture has been argued by Schein (1985) who suggested that as an organisation evolved, the culture created 'patterns of perception' in new generations of employees and this had an influence on certain kinds of leadership. Thus the organisation created its own leaders:

As scholars, we must understand this paradox: Leaders create cultures, but cultures, in turn, create their next generation of leaders. (in Silver, 1998, p.26)

This sounds very much like evolution and inheritance processes in nature, another example of the applicability of the 'living organism' analogy of an institution.

Culture has also been referred to by interviewees as 'collaborative' (4) and 'innovative' (3):

We have a 'collaborative ethos - we all feel a collective responsibility for the whole thing'. He was talking here about all staff - including estate managers and janitors - though this aspect is less strong, it does still apply now. He felt that on the whole innovators are often isolated, but at the OU successful innovation comes out of a collaborative culture which makes a huge difference, people are not isolated. [T2]

There is a recognition that the OU has founded its reputation on being innovative - 'it is in the blood'. This is an infectious atmosphere where new members of staff come in to work on course teams that are always trying to do something new. [MT7]

Networking involves 'scratching backs' with others. Particularly with inter-disciplinary things, it is a strength of the institution that funding is managed in such a way that units (faculties) can collaborate rather than the funding organisation 'putting up brick walls'. [S6]

Regarding culture he described the 'OU thing' as being to do with innovative curricular development which involves new thinking and constant re-examination. Course production is never repetitive, they have a notion of 'doing things now'. [MA3]

..... the OU is more about being 'collective' rather than 'corporative' people have lots of responsibility, but they need to work on more opportunities for high level consultation. 'Most people think it's a great place to work.' [S10]

One interviewee introduced a new feature of cost-consciousness in the OU, and put the 'innovative' aspect into a wider perspective:

It has changed - become more cost-conscious and cost-efficient. It has expanded but individuals are carrying heavier workloads than before. Innovation still exists - especially in the sciences, but the bulk of courses are still being produced to the same model. [T5]

Some resistance to change from the standard 'print' form of presentation to one that includes multi-media has been attributed to a culture that is reluctant to take risks that may result in 'large-scale' mistakes.

So the university upholds the necessity for research as it leads into the quality of the content of its courses, but it needs to constrain that academic freedom during the process of turning materials into multi-media format. [S2]

The reason they are trying to encourage people to share more is so that people don't make the same mistakes in a different area - because they have a 'must get it right first time' culture. He feels that people are not always keen to take risks. [S3]

The last two remarks overlap slightly with reference to aspects of the bureaucracy or 'system' at the OU. It makes sense that, to some extent, the system will affect the culture. Features of the system are explored later in this chapter, but one comment connected with the reluctance for risk-taking and was made in the context of a question about obstacles to change:

It was the university infrastructure first. There is a justifiably tortuous process at the OU to get courses authorised. But this course needed to be quick because of the nature of the changeable subject area.[RT6]

As also hinted by a few others, the 'justifiability' of a slow and 'tortuous' process for new courses to be accepted is due to the commitment to quality and the very large number of students that will be studying the course. To balance this evidence of a 'must get it right first time' culture are comments related to the drivers of change. One is an ambition to change things outside the OU:

She feels that the Centre ...[.].... will affect national policy [S1]

He thinks they are getting more responsive to external pressures... especially in the last 5 years, but they are also trying to influence the outside world. [S3]

There were some staff who felt that the OU was on the brink of big cultural changes due to large numbers of staff retiring and making way for new ideas and younger staff. Issues involving the age/ generation of staff (3) are also perceived as influencing the process of change:

He feels that the culture/flavour of the OU will be vastly affected by the many long-term members of staff, like himself, who have been with the university from the early years, shortly taking retirement. He says that it will be 'hundreds' of staff members that will go in a short time and that it is likely to result in more centralised policy and planning and less bottom-up influence on the university. [S6]

There was also tension between the generations in the department. Many people had been working for the OU for over 20 years and had a traditional way of working. But it was not a culture-clash... people were suspicious that it was innovation for innovation's sake and that there was no coherence. [A1]

Lots of staff started working at the OU when the it first began and many are due to retire very soon which will mean a huge cohort shift over the next few years. So many staff were old and established - this affected their attitude to technology and long-term planning as well as the reward/promotion structure.[A6]

There was no agreement whether or not the shift of generations expected after the retirement rush would help or hinder the process of change. One interviewee, who had been with the OU for 30 years gave a frank and critical account of how the university has changed since the 1990s:

He thought that since being here (the VC) had tried to reduce the power of the Senate and runs the university with his own select management team. The counselling side had been reduced but now they needed to get it back and will have to pay for it...people used to do things for nothing..but not anymore, they will need to be paid by the hour. The VC has more of a 'political' view of things which he felt is wrong. He does not like the way the VC has tried to turn the OU into a commercial and global organisation. The OU need to 'advertise hugely' for staff - people come in late on projects and then don't stay very long... so there is no longer any continuity like there used to be....staff used to be hired by recommendation - now there are problems in finding staff. Students don't stay either. There has always been a problem with retention but this has got worse... because they have a different attitude towards the OU - we are treating them like customers...so they are behaving in that way. He sat on exam boards and dealt with 'students... not clients.. I suppose I'm from an earlier generation'. The university could collapse, he felt, because it is so dependent on advertising - the economics 'are going to defeat us'. [RA8]

This gives a very gloomy picture of the OU's present and future which does not appear, from these findings, to be typical of the view from an 'older generation' of staff. However,

it does provide an example of how cultural tensions could easily arise between the older and newer generations of staff.

Costello studied the organisational structures and culture of the OU (Costello, 1992) as a Staff Tutor in the East Anglian region. He identified organisational distinctions which illustrated 'significant cultural differences' (p.22) in the institution. A diagram of a simplified OU organisational structure was divided into three broad areas which, he considered, represented the sub-cultures. The first group, he labelled as the 'creative areas' and these consisted of the Faculties, Schools and Institutes (including the IET) as well as the 'Office for Programme Development' (since changed in 2000 when the system was re-structured - see Fig. 1, p. 164). It is these areas that are involved with the creation of courses and associated materials. The regions, whose task is to support the associate lecturers (tutors) and students involved with the courses, formed the second sub-cultural group and the third area consisted of the 'Operations and Administrative Divisions'.

Since Costello's research there have been some changes in roles and responsibilities in the identified 'sub-cultural' areas. This has meant that staff roles often 'overlap' between the areas. However, in the main, these broad distinctive parts of the OU do still exist and in various ways (as will be shown) have been perceived as separate sub-cultures by interviewees. These three areas are:

- *Creative* - faculty staff, research institutes, editors/ producers /publishers
- *Operations and Administrative* - central management, administration and services to staff and students
- *Regions* - regional full and part-time staff - staff tutors and associate lecturers

As mentioned above, there are overlaps. In particular, regional staff and middle management are often course team members and therefore contribute, creatively, to the teaching of students. The regions have recently been joined, in their main task of supporting students and associate lecturers, by the Academic Computing Service (especially since the first presentation of T171 in 2000). This service had increased rapidly in size (due to the large numbers of OU students online - in 2001 there are over 100,000) and has been re-named, *Learning and Teaching Service*, reflecting their new, broader role of technical support to full-time academics, tutors and students. In the third 'area' - operations and administrative divisions, Costello had included service areas to the faculties with regard to editing and producing. However, with the increased use, during the 90s, of multi-media in course materials and the integration of web-based technology, it is now appropriate to include these members of staff in the 'creative' areas as many are key members of course teams.

Creative areas

If there is a 'creative' sub-culture at the OU, then it is situated in the 'immediate environment' and the 'shared values' of the organisational culture (see interviewee [SO2] referred to earlier). This sub-culture may have developed from an over-arching OU culture of collaboration and innovation, but how did the OU create this environment? The first Vice-Chancellor, was clearly influential in initiating the idea of course teams to develop new courses. Subsequent Vice-Chancellors and 'leaders' at various level have also contributed to the development of a creative environment and added to this are other influential factors including low staff turnover and individual motivation. In addition,

documentary evidence of specific events show how the process of creating an 'innovative' environment can be 'managed'.

In 1986, the OU arranged a series of 'seminar workshops' that consisted of residential weekends for about 25 members of staff from various parts of the university who were asked to examine the subject of innovation in the institution. A resulting paper (Melton, 1986) recorded views arising from the discussion with themes that included how the university may encourage individuals and groups to 'search for common understanding and shared goals' and 'facilitate the implementation of good creative ideas' (p.3). With regard to the first theme, it was noted that participants felt that the seminar workshops should be a regular feature in the university to support and encourage a sharing of ideas and that an increase in opportunities for staff to widen their experience of different parts of the university would be helpful. The role of management and their interpersonal skills of enabling others and giving high levels of freedom and responsibility were thought to be of importance as well as the involvement of staff in decision-making at all levels (this was thought to increase a commitment to 'institutional goals'). In some ways the above points also came into the thinking behind suggestions made for 'facilitating the implementation of good ideas' (p.7):

- Ensure appropriate political support is obtained
- Enlist a critical mass of motivated personnel
- Make use of pilot schemes (playing a key role in the developmental process)
- Provide appropriate training
- Encourage management to respond flexibly to good creative ideas (pp. 7-8)

Some of the above features are recognisably in current operation, particularly with respect to the two new courses discussed in the next chapter.

In 1993, a Pro-Vice-Chancellor, initiated a plan involving a series of workshops called 'New Directions'. Carol Russell a senior editor in the Faculty of Technology was appointed chair of what became an 'action group' in 1995. The aim of the workshops was to involve as many different people as possible from across the university in the development and implementation of the university's strategic plan - defined in a document called 'Plans for Change'. Russell and Parsons (1996) described how the highly creative workshops led on to a conference and a staff survey and began to apply pressure to senior management to respond to some of the concerns that emerged. They concluded -

What began in 1993 as an exercise in consultation, evolved into an innovative, self-sustaining programme for cultural and organisational change ...[...]... organisations need to worry less about management control and more about providing the support, information and infrastructures that allow people to organise themselves. (p.32)

The above two examples of events engineered by 'management' to involve staff in policy creation and development demonstrate an awareness by central administration (at the highest level) that a 'creative' culture needs specific encouragement. However, all is not perfect and tensions do exist. For example, conflict can arise when people in the 'creative areas' need to negotiate with 'the system' which has a different, slower and more solid kind of culture.

Operations and Administrative areas

This sub-cultural area is discussed more fully under the 'System' part of this exploration into institutional context. However, there is an attitude, expressed by interviewees, towards the system that could be described as part of the OU culture. The OU has a very large and complex operational system with many fixed procedures (necessarily so for the production

of printed and broadcast material with consistent high quality). It has a reputation of being slow to respond and even slower to change and some interviewees thought that this was a constraint on potential innovation:

It was partly to do with finance and partly 'the system' that made the attempt to bring in short courses fail (after trying very hard). It was thought to be uneconomical in the support and examination of students. She feels that there is a very constraining and fixed system at the OU.[S4]

He mentions again an example of the power of people in the exams area by saying how when the Arts Faculty wanted to change their 3 hour exams - it took them 4 years![S9]

Academics have lots of scope for change and acting on their initiative. Those in administration have a more 'rigid' experience.[S7]

.... some people like to 'stay put' and 'distrust the administration'. An example was when a Pro-Vice-Chancellor invited 300 people to come to 20 workshops - only 10% of the academic invitees responded - this was quite 'telling and typical'.[S2]

The above extracts are all from 'top-down' interviewees and the last, interestingly, puts themselves under the 'administrative' umbrella by describing the general attitude of the 'bottom-up' perspective.

Costello (1993) described, the administrative division as having a bureaucratic structure and modelling itself on the Civil Service. He made the point that these kind of structures are found to be suitable for complex, yet stable environments (Mintzberg, 1991, in Costello). He went on to explain that staff who work in this area relish the challenge of finding solutions to complex problems, but -

Problem solutions rely on the relative stability of the surrounding world and tensions arise therefore between those who seek change, or wish to experiment and those who have to deal with the consequent organisational complexity. (Costello, 1993, p. 7)

This has certainly been the experience reported in the OU, which, as the evidence has shown so far, could accurately be described as a complex organisation with a diverse culture. Again, the picture of the human body comes to mind, where the structure - represented by the skeleton, needs to be strong and stable in order to enable flexibility and movement of energy in the body. It is the case, in this analogy, that extreme flexibility in movement de-stabilises the structure, unless preparatory exercises are performed. This would indicate that gradual change towards a more flexible body would be more effective in the long run, which would allow the structure time to adapt to the nature of the energy.

Regions

The regions do have their own cultural flavour, but they are also part of the OU 'system' in the sense of their structure and responsibilities. Out of a total of 13, the Southern Region has been the only region participating in this research. It was chosen for inclusion because it was felt important to discover the perspectives of regionally based staff who are crucial in the teaching and learning organisation of the OU. The southern region is also the area that includes my home address and it was therefore logical to contact the nearest head office and seek their help with this project. It stands out from other regions because it has a Head Office in Oxford which is relatively close to Milton Keynes and consequently many regional members of staff have strong links with the 'centre' there. It is an economically buoyant area with a population growth of double the national average. In this region 900 organisations sponsor a total of 2000 students to study with the OU (the Ministry of Defence being a large contributor). The region employs 750 ALs with just over 80 members of full-time staff employed at the regional centre.

Cultural differences are made evident by the display of tensions between groups. Frustrations regarding the relationship between the region and Milton Keynes were expressed in the discussion group:

What's it like working at the OU?

- Every year is different, it is never routine. Assignments and exam boards have been more consistent.
- The OU is always dynamic - the challenges are generally exciting rather than frustrating.
- Sometimes change is too slow in terms of policies and directions (hopefully the re-organisation of the Committee structure will make things quicker).
- 'Lots of our constraints are Milton Keynes-based'
- 'We have an overview... but this is not always valued at the centre'[RDG]

Despite these tensions, the full-time academics at the region did feel that they were included in current debates - named degrees, summer schools and short courses were a few examples of current issues⁴. They did have a sense of democracy - many serve on committees at Milton Keynes.

Senior counsellors are based outside the faculties and are responsible for associate lecturers and students from all subject areas. This position enabled them to support students from a 'safe', more objective standpoint than faculty members:

A current issue at the moment is whether students should have feedback from their exam papers. This is a particular area where the senior counsellors can be a 'proper advocate for the student' without the tensions from the faculties.[RDG]

Staff tutors, on the other hand believed that:

They have 'the best of both worlds' as they are in contact with students, associate lecturers and teaching with central academics on course teams. The work load is great, but they do it 'because it's attractive' and 'we're our own worst enemies' as

⁴ The OU have only just introduced the option that a student can follow a specific set of course modules to complete a 'named' degree, previously the choice of course modules was completely open and a student could study for a BA or a BSc. A few subjects achieved 'named' degree options in 1999 - others may or may not follow. There was also a debate about whether summer schools should be compulsory or optional or be suggested as a separate course module. The introduction of short (3 month as opposed to 9 month) courses were also on the agenda.

they said. In some faculties there are 'staff tutor co-ordinators' and they have an office and have a similar task to a Head of Department - these relieve some of the tasks from the staff tutors. This is the case in the Technology Faculty, but in the Arts Faculty, staff tutors are contracted for 3 days a week to be the Co-ordinator. Both staff tutors felt valued within their faculties - in the Arts, the Sub-Dean is also a staff tutor, so knows the pressures involved and always values and accepts their contributions. In Technology they are more physically integrated into the faculty demonstrating how importantly they are perceived. [RDG]

One regional staff tutor, interviewed at a later date (May, 2000) by phone, offered the following comments about some ongoing 'restructuring' plans for the regions:

It sounds as if there are going to be more layers and more complexity....putting people into different teams with different names but they'll be doing the same jobs. More work because of the amount of co-ordination required. 'Matrix management failed in business 20 years ago... why should we start trying to implement it at the OU!' 'In life there are complicaters and simplifiers... there are too many of the former!' 'There will be too much co-ordinating and justifying... creating an expectation that you can do what you can't do but then you can't do what you can do!' The decentralised bit of the structure has always been a poor relation - they don't realise it exists. The pragmatic stuff is done in the regions... the real needs of students and tutors will be missed in 'the brave new world'.... They are suggesting call centres the personal touch will be missed. Goodwill is facilitated by people knowing people, there is great value in the tutor-student relationship. Regions are in danger of marginalising themselves.... [RT6]

Plans in circulation regarding the regions were not clear, but there was clarity in the amount of concern for the survival of the personal tutor-student relationship that hallmarks the OU's teaching and learning system.

Concluding thoughts on OU 'culture'

There has been a fascination amongst academics in the mid 1990s with the contrasts between 'old' and 'new' universities. This followed the creation of many 'new' universities - primarily by changing the name from 'polytechnic' or 'college' to 'university'. 'Old' universities are therefore, generally seen as more 'respectable' because of their history and

culture. The following three interviewees have compared the OU with 'traditional' values or universities in terms of research, pedagogy and medium of delivery:

Promotion is still heavily reliant on research though teaching needs to be there too, excellent teachers with no research are less likely to get promotion. Culturally, there are tensions between the OU and traditional academic values (in terms of old universities). [T1]

The OU has a different angle on interaction than the American way which is that the teacher presents (does the work) and the students ask questions, but the OU thinks more like the Oxbridge approach which puts emphasis on the students doing the work and the tutors then asking questions of the students. [S9]

Distance learning is becoming more prevalent, there are more mixed-mode universities who are becoming more flexible regarding time and place. He feels that they are moving more towards the traditional universities with the introduction of online face to face tutorials. [MT7]

My colleague, Professor Silver, in an interview with a senior manager, introduced the notion of a possible 'parochialism of the OU'. The response included the interviewee's own perception of what that term meant and why it would be attached to the 'OU':

...he admitted that this was a valid question...because of the OU's history - where it always seemed that they were the only ones doing anything interesting.. they tended not to be as aware as they should of what is going on elsewhere in other universities. He said it was a good idea to bring in CHEP (the new Centre for Higher Education Practice) and that they took part in TLTP (the Teaching and Learning Technologies Programme) because of connecting with higher education as a whole. He also felt that the OU had become more like the old universities than the new ones. [S3]

It is possible that an external view of the OU as being 'parochial' may have arisen from what some interviewees described as a 'family analogy' with regard to culture because families are generally seen to look inwards rather than outwards. An amusing illustration of the OU vs. an 'old university' debate is presented in an OU publication (by Laurie Taylor, of *THES* 'University of Poppleton' fame) produced to celebrate the OU's first 25

years (Taylor, 1994). It also illustrated the level of support given to students throughout their degree programme. The scene is an interview for a Masters course registration....

And you've recently completed your first degree?

Yes I have a first class honours degree in Arts subjects.

And that's from which university?

From the Open University.

Ah. So you haven't actually been to a **real** university.

Yes. I've studied with the Open University

But not a university *qua* university. Not a university where you enjoyed any sort of regular feedback.

It was a university where I completed 64 marked assignments...where each was sent back with a detailed commentary and at least half a page of helpful notes.

But if you'll excuse me saying so, Alison, all that is not a substitute for the essence of a proper university - the real contact with living human academics.

I had over 50 face-to-face tutorials during my course.

Really. But not, I suppose, much sense of intellectual community with other students.

I was part of a self-help group which met regularly in a friend's house.

But nothing wider than that?

There were week-long residential schools where we worked up to 12 hours a day and heard lectures from leading academics in our area of study. And then there were 84 television broadcasts. And the audio-cassettes and the radio programmes.(p.25)

Eventually, the student is rejected due to an inevitable anti-climax she would experience at the old university!

Conclusions from Costello's research highlighted the need for an understanding of cultural background and acknowledgement of differing perspectives in order for organisational actors to manage effectively. Here he argued a need for cultural (and sub-cultural) understanding in the central management of an institution. In stage 2 of the research contributing to this thesis⁵, it was found that this kind of understanding is also important for the cultivation and support of innovators in the context of teaching and learning:

The position of the innovator depends considerably on the institutional culture, its declared and operational priorities, the reward structure for staff, the availability of

⁵ ESRC funded project - 'Innovations in Teaching and Learning in Higher Education'

resources and the assumptions about what is best for students and for the institution. (Hannan and Silver, 1999, p.29)

Peters (1998), from an analysis of the working methods at the OU, gave an 'outsider's view' of an 'academic teaching and learning culture' which he felt was unique to the OU. His impressions included:

- the 'optimism, zeal and confidence' with which it approaches the future (motivated by past successes)
- 'the determination and drive with which it is prepared to play a leading role in the development of mass higher education'
- the satisfaction shown at preserving the policy of open access
- the resolution to continue to provide quality teaching but increase opportunities for the educationally disadvantaged
- 'the readiness to provide real help and support for students' (p.172)

The above impressions could be picked up from the VC himself, but there were not many interviewees who did not also display some of the above characteristics. It is an interesting choice of adjectives that Peters used to describe an institution, when they have such personal connotations.

I have commented above that the 'culture' of an institution is essentially about the people. In terms of the way people operate inside a culture, it represents the 'hidden agenda' that shapes the way people act and respond on a personal level. In relation to the 'system' - which is primarily about 'formal' procedures and frameworks, the 'culture' of the OU can be revealed in the 'informal' procedures and networks that dominates how things are done on a day-to-day level. In trying to understand the process of change inside the institution, interviewee data show that some people are more instrumental in bringing about change at the OU than others. It can also be seen that other people know who those people are. A focus on the 'transition stage' in the process of change, from an idea to the development of an idea, has revealed that personal energy and networks are of fundamental importance -

regarding people at all levels of the institution. The 'bottom-up', course team view, is illustrated in the next chapter. Below are examples of informal networks and individual effectiveness in bringing about change from the 'top-down' perspective :

He feels that the most effective way of getting things done is networking and knowing people who are able to do things.... 'Networking involves scratching backs' with others in the same role...[S6]

Software designers and managers have a specific responsibility to be pro-active and talk to people at every opportunity...[...].he always has lunch with someone in one faculty or another' [M11]

He thought that one senior manager 'spreads good practice '- by organising an annual day of showbiz - where people can talk about what they have done and what they have learnt ...[...].he tries to involve as many people as possible from different backgrounds to increase awareness that the OU must move quicker ...[...].New ideas tend to get turned into projects - which 'drags in all the right people'. [S3]

Everything that she set up to do was challenging established university systems and routines ...[...].and it is her new job to infiltrate the whole of the OU with this idea and 'enthuse people to propose new short courses...' [S1]

'...he was course chair of the new social science foundation course DD100 and is very proud of the 'revolutionary' aspect of dropping the usual summer school element' [S10]

One interviewee felt that 'goodwill is facilitated by people knowing each other'. In the same interview, the word 'goodwill' was used to describe the ultimate requirement in the OU community:

If they tried to develop the OU on a green field site, it would not work! There are four strands to the OU system -

- The development model (course teams,etc.)
- The regional support infrastructure - tutors and students
- Central administration
- The goodwill of students and staff

It is the last item on the list which is the 'primary and only reason it all works!' If these people are alienated then the rest of the institution will fall apart. That's the key to it.[RT6]

Staff and student goodwill appear to be at the core of the 'culture' at the OU. The people are the physical, pragmatic part of the 'culture' which is otherwise defined by abstract things such as ideas, feelings, shared experiences, understanding and values. Although they are separate concepts, both influence and affect the other. Consequently, the way people are affects the culture which is also affected by the 'system' and then circulates to the people again.

Institutional cultural factors found to have an important influence on people and change are:

- the amount of power invested in individuals at all levels
- the level of flexibility in procedures
- formality or informality in everyday life
- the opportunities made for debate and the discussion of new ideas
- the level of staff consultation in policy-making (openness and inclusion)
- the existence of shared values and understandings
- the amount of mutual commitment and shared institutional goals (mission)
- the nature and style of leadership (at all levels)

All these elements create the 'immediate environment' which allows for the possibility of change as well as the nature and process of change at the Open University.

System

Within the institutional context and as a framework for the data analysis, the 'system' is seen as the structure or 'backbone' of the OU. It provides stability, connections and flexibility for all the cultural 'areas'. Its general 'shape' has remained fairly constant since the OU opened, but parts have changed - grown or reduced in size, with more or less flexibility. As seen in Fig. 1(p.164), the 'system' includes policies, formal strategies and procedures, administration, management, committee structures, quality assessment, leadership roles and hierarchies, the rules and regulations. It is, necessarily for a 'mega-university', a huge and complex part of the OU and it needs to be approached with discrimination. The focus is on how the system responds to change in teaching and learning and how it enables or constrains attempts to change. In addition, the question is why the system may want to change its teaching and learning methodologies and in what ways - as the system is also actively involved in the process. This section will be presented by looking at:

- The teaching and learning framework and procedures
- Policy, funding and rewards
- Change issues

The teaching and learning framework and procedures

The Quality Assurance Agency (1999) describes 'the learning infrastructure' as including the organisational structure, advice to students, induction and academic support, use of multi-media and printed learning materials, library provision and staffing matters. Under another heading of 'internal communications' the committee situation is discussed and

provides a clear description of where the OU has come from to arrive at the new 're-structured' system:

...the University's committee system had evolved in response to task-based requirements and processes, and that there were, at the time of the audit visit, well in excess of 100 committees, boards and panels operating in the institution...Senior university staff suggested to the team that the complex structure, while slowing down the process of decision-making, ensured that staff felt that they 'owned' the decisions that were reached.. (p.18)

The audit encouraged the university's plans to review and re-structure the Academic Board committees as well as the roles and responsibilities of Pro-Vice-Chancellors because they found that:

... the terms of reference of some committees were unclear and that the existing structure might impede the university's operational effectiveness...the Teaching and Learning Committee, which had within its remit 'oversight of institutional procedures for quality assurance... of the quality of teaching', did not include in its membership the Pro-Vice-Chancellor with overall responsibility for quality assurance...(p.18)

By the middle of 1999, the new boards were in place and running. Interestingly and probably predictably, information contained in documents gathered during a visit to Milton Keynes in the Autumn of 1998 has since changed. These documents were reports of the Senate, the Council and, regarding the re-structuring plans, the Academic Board. The diagram of the management and organisational structure in Figure 1 from early 2000, constitutes the latest available information.

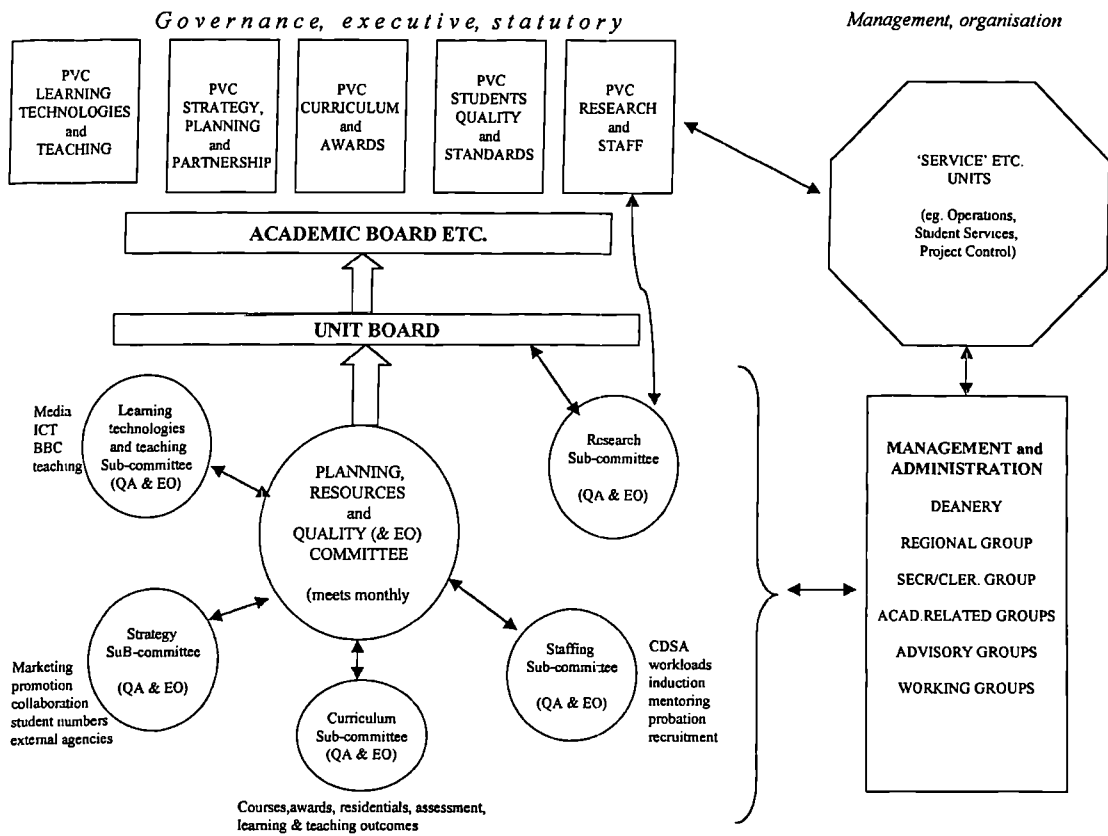


Figure 1 - The OU System (Open University, 2000b)

The most relevant area of responsibility to the process of change in teaching and learning was the 'Learning Technologies and Teaching sub-committee' (LTT), responsible for Media, Information Communications Technology (ICT), teaching and the BBC - quite a wide remit. This sub-committee met with the 'Planning, resources and quality (and equal opportunities) committee' on a monthly basis. The 'Curriculum' sub-committee had some cross-overs as it was responsible for courses, residentials, awards, assessment and learning and teaching outcomes. One senior manager explained that each PVC had a specific role representing *What* they do; *How* they do it; *Why* and *How well* they do it!

The most crucial and pragmatic areas of responsibility in policy making and implementation issues concerned with change in teaching and learning are the regions. The OU has many different areas associated with the overall task of teaching and learning (directly or indirectly). It resembles a layered cake completely covered in melted chocolate representing the external world - on the outside, but part of the whole thing. Other parts of the OU, integral but distinct, form the inside layers. The spread is horizontal, rather than vertical, hierarchical distinctions. They each have cultural and organisational differences, but they don't just overlap, they are nested together - slotted in from top to bottom with involvement of full and part time staff and students in policy making, course design, teaching, learning and evaluation.

The sub-structure of the Academic Board has five main areas - Learning Technologies and Teaching, Strategy, Planning and Partnership, Curriculum and Awards, Students Quality and Standards and finally Research and Staff - each headed by a Pro-Vice-Chancellor. The regions are represented in all of these areas - integral to the main university functions. Only

under a sub-section entitled 'Management and Administration' is there a specific 'Regional Group' among other groups with titles such as 'Academic Related', 'Advisory', 'Working' and 'Clerical'. The central core of the university appears to involve regional input at all levels.

The university's strategic plans include the following aim -

To provide students with teaching and assessment that is appropriate to the course, responsive to their needs and of recognised quality. (Open University, 1996)

This statement separates the role of regional staff from the role of staff involved in course teams because it distinguishes between teaching and the course. It relates specifically to staff tutors and tutors, which is probably why it is quoted in a publication sent to newly employed associate lecturers (Open University, 1999a). It also draws attention to the OU's student charter which confirms that students and regional staff are represented at all levels of university business:

The university is committed to equal opportunities for all. It is open to every section of the community regardless of background or circumstance, and it is committed to creating conditions whereby all students can participate fully and equally in the University's activities. (Open University, 1995)

The 13 regions of the OU were all primarily concerned with the function of recruiting, registering and supporting students as well as appointing, training and supervising ALs. Full-time staff in each regional office consisted mainly of administrative employees but also included one or more staff tutors linked to each faculty of the OU, cross-disciplinary senior counsellors and the Director and Deputy Director of the region. Each region had links with the Confederation of British Industry (CBI), the Regional Development Agency (RDA) and the Staff Education and Development Agency (SEDA) as well as other

regional colleges, schools and employers. In addition to the pro-active role of recruiting and supporting students, other important tasks involved regional staff in serving on policy-making university boards and course team meetings.

Pressure and proposals for change (from units, including the regions, or from the 'centre') in content or method can take place during the production and approval of 'Unit Plans'. These documents are produced annually by faculties (including regional staff) and are discussed in a meeting with the 'unit' head and a PVC (Curriculum or LTT) who 'check that it fits with overall university strategy'. Until 1999, when the first 'Curriculum Development Plan' was produced (based on senior management ideas), these five year plans were the only form of curriculum planning in the university. The Planning Division were in the process of producing 'guidelines' which would include a request that units highlight two novel areas in their plans so that the rest of the university may hear about them (to 'aid the spread of good ideas'). Another function of the Planning division was to 'estimate' the number of students who will register for a new course. This is a key aspect in the process of approval for new courses, as we heard from one interviewee:

Estimates of student numbers heavily influence commitments to future activity. They were notoriously inaccurate! The OU had just been given the biggest allocation for new student targets to reach next year. Without T171 they would have struggled to do this as a university. The Planning Division estimated 2000 students for the first presentation (next year) - but they had that number of registrations already and think it is more likely to be in the region of 10,000... the estimation was being reviewed.[MT7]

In the first year of presentation - 2000, there had been approx. 12,000 registrations, but not all these students actually started studying the course - this figure was about 9,000

students. The question of how estimates of student numbers were calculated, was put to an interviewee in the Planning Division. The response was:

These estimates are produced by the statistics team who use a complicated model which tracks student behaviour - irrespective of the nature of the course. They have done it like this since 1972. For Modern Languages courses some market research was done. It was felt that when named degrees have been fully introduced then student cohort tracking will be made much easier.[S5]

Perhaps this is one example of the bureaucratic system being left behind the 'creative' areas and being extremely 'slow to turn'. In any case it represented an obstacle that needed to be negotiated in the process of change. One interviewee explained that :

There is a strong student-centred ethos/focus. A strong tradition of openness, social democracy and welfare, but they are rule-driven. 'They deal with student issues on the basis of a huge rule book...exams are like this too'.[S10]

It can be seen in Figure 1 (p.173), that the Unit Board was served by all the PVC sub-committees, which were served by many management and administrative groups - the deanery, the regions, academics, 'operations and student services' and administrative staff. The interviewee above was keen to explain how things were beginning to change - for the better, as this 're-structured' system had just been put in place a few months before the interview took place:

Restructuring? He thinks that the new boards do seem to be functioning better than before – though most have only met once. He gives the example of the School Policy Board which used to be a 'student support committee' – this committee had a reputation of 'being nice to students' and the membership did not have enough authority to make decisions. They now had a different membership - including those elected by the Senate, faculty representatives, student reps and AL reps. [S10]

In contrast to the static nature of the statistics team in the Planning division, the structure had changed in this instance in an attempt to be more responsive to the OU community and have more effect on it.

Another plan connected to the restructuring was prompted by an observation, made by a PVC, that it seemed as if sub-deans had the real responsibility of 'running the place'. As a result a sub-dean representing each faculty was recruited to serve on her board. The idea that middle-managers were the most effective 'actors' led to a recommendation that there should be more project managers and staff development activities. The adoption of this plan will mean a new layer of 'development managers' who would be connected to the Academic Computing Service operations group but would work with ('be of service to') the sub-deans.

A more visible and active management system is perhaps a sign of the intention for the university to become more centrally planned. This may be evidence that confirms the fear of the long-standing member of staff who commented that as people retire the OU would become more centrally controlled. One senior manager commented, when this question was put, that:

The university needed to hold on to its core, as it is built around independent and academic research - that is how academics can retain their freedom. This was their unique selling point as a university (unlike Microsoft). So the university upholds the necessity for research as it leads into the quality of the content of its courses, but it needs to constrain that academic freedom during the process of turning materials into multi-media format.[S2]

Another member of staff who had been with the OU for many years described how course teams are receiving more attention from 'the centre':

In the old days it was an entirely bottom-up approach - the HoD would need to agree, but then the course team would have 'carte blanche' to develop their ideas and present them to the Faculty Board as a proposal. There were few criteria on which to judge them - equal opportunities, planning and resources. Recently, there is some thought given to what is needed and ideas are introduced from the top-

down - there is not so much of the pursuance of personal interest. The dean and sub-deans are at the interface between the Programme Boards and the university.[MT7]

It is interesting to note that this interviewee also saw the role of sub-deans as being of crucial significance to the centre for the management of change, or would it be the implementation of central policies?

Most course teams in the year 2000 operated in similar ways to the way they worked in the mid seventies. Riley (1975) described how a course team has the task of producing teaching materials (now called 'learning materials') within a specified time limit and budget. Once the course went into the 'presentation' phase, the size of the course team would dwindle and a core group was left to make any revisions or vary the assignments until such time as a remake was necessary. Several interviewees described the procedure of course team development from the start of an 'idea' -

Interesting ideas are formed into course proposals within faculty and disciplinary groups, but nothing can be committed until faculty approves - this may require the addition of more staff. [MA5]

1. People in the faculty individually or collaboratively design new course ideas on the backs of envelopes.⁶
2. Thoughts are circulated in the department and a proposal is taken to the sub-dean for his Annual Planning meeting with the Dean - where they discuss new course ideas for the following year.
3. This idea/proposal may then get into the faculty 'Unit Plan' which is produced every year and spans the following 5 years [MA3]

There is a departmental meeting to discuss developing courses - ideas are in the form of a 2-page outline. [A7]

⁶ Numbers in this extract and the next from interviewee MA3 refer to steps in the procedure from an idea to the creation of a course team to develop it

Again, no change over the last twenty five years -

The initiative for a new course team usually stems from an informal group of lecturers with a strong interest in a particular subject. (Riley, 1975, p.2)

But the process included many more hoops to go through (which vary between faculties) and a sub-dean took much of the responsibility for the next stage...

4. If this procedure goes forward, the following year a course team is formed consisting of academic and non-academic people.
5. A course specification document is produced and the course team chair presents the document at a Faculty Board (FB) meeting.
6. Detail is then scrutinised by the FB sub-structure of which there are four strands - printed materials, audio-visual, technology development and face-to-face tuition strategy. They think about questions regarding practicality, resources and overall coherence. The sub-dean chairs all the scrutiny boards.
7. The outcomes are reported back to the FB (chaired by the dean). Specifications are then discussed at 'higher institutional curriculum committees.' [MA3]

Planning and development of proposed courses sometimes took place informally while the formal procedure went through the system. In the case of T171, a case study in this thesis, much of the course content was complete before the proposal was made (with the assistance of funding from a PVC's special fund). The use of the internet and multi-media has meant that courses can be produced in a much shorter time than usual. Some resistance was expected because it was felt by some at the OU, according to one interviewee, that a shorter length of time spent in course production must inevitably mean a drop in the quality. This was not considered to be the main problem, however:

What will be more difficult to deal with is 'the inertia of the university system'. Because the production of courses is totally interlocked with the editing, publishing and production services, the constraint is the degree of inflexibility that exists currently. [S9]

The above view added weight to others that have suggested more flexibility was needed in the system. Although this sounds like an alternative perspective to the difficulties of course development expressed earlier by a PVC who thought that academics needed more 'constraint', perhaps senior managers are united in thinking that the system needs more flexibility *and* academics need more control. These issues will be explored further in the next chapter about the two new courses.

Policy, funding and rewards

'Plan', 'strategy' and 'policy' mean the same thing according to the OED, though perhaps this is not the case in their common usage. In OU documents the first two words are used much more often. In the current OU 'Plans for Change' document (Open University, 1997), the only specific reference to the word 'policy' is linked to 'open access'. The university's mission is clearly described and teaching methodology is a part of it -

The Open University is *open as to people...*[..]*open as to places... open as to methods* - using and developing distance teaching methods, including the use of new technology, to improve learning effectiveness and efficiency, and to reach students irrespective of location;...*open as to ideas...* (p.5)

Curriculum and teaching methodology are particularly difficult to separate at the OU due to the nature, design and presentation of courses. Therefore references to curriculum in this document are relevant to teaching. In order to meet the needs of 'lifelong learners' and broaden student intake the OU plans were to increase vocational courses and award certificates, diplomas and degrees, both undergraduate and postgraduate, as well as continue with updates for professionals and the provision of informal courses for those in pursuit of particular personal interests. The curriculum on offer will become more wide-

ranging and the offer of named degrees with specific modules to follow has just been initiated. Many objectives were given in the planning document, including those (of particular relevance) listed below:

- To provide quality lifelong learning experiences
- To increase student numbers, course retention, repeat registration, pass rates
- To widen access - identifying disadvantaged groups
- To work collaboratively with other organisations to improve student opportunities
- To maintain leadership in the application of educational technology, especially ICT
- To develop the use of new technology in courses

Funding

The funding procedures at the OU are only interesting here in the way they may either encourage or discourage change in teaching and learning methods. Each of the PVC's have their own budgets and are able to fund specific projects:

There are resource limitations to a certain extent, but course teams do have scope to get hold of additional funding. One PVC will fund innovation and 'star gazing' as much as possible. [MT7]

A [different] PVC supported them with £25,000 (there was no money left in the faculty budget)...[T1]

This possibility allows some flexibility in 'the system' to course teams, or potential course teams. The above extracts also demonstrate the effectiveness of individual action in supporting innovative ideas. In this case the helpful senior managers are in key roles which enable them to enable others, but their supportive intentions could be a reason why they were appointed to these positions. Their actions may be a levelling factor also, as faculties

have different funding procedures. The Arts Faculty, for example, which is relatively small (only eight small departments), has centralised budget control which is held by the Dean, HoDs are less autonomous in this respect than they would be in the Technology Faculty where budgets are devolved to departments.

The research group 'EMERG' (Electronic Media in Education Research Group) had a substantial part to play in the course team for T171 development in the Technology Faculty. They were funded partly by the faculty and partly by the LTT office. A course chair explained that research and development of the CD-ROM designed by the AA306 team (in the early stages of course development, several years ago) in the Arts Faculty, was funded by:

- The university Technology fund (under the wing of a PVC)
- BBC Resources
- The Faculty
- Esmée Fairbairn Charitable Trust (£64,000)

The data collected was biased towards change in teaching that involved IT. This kind of change is clearly 'on message' regarding university policy and consequently funds for these types of projects are available or could usually be found -

There is no way they could get money from the CTI (Computers in Teaching Initiative) subject centre because it only receives £108,000 each year for 3 years, whereas in their faculty [Technology] they can spend £400,000 on software development each year.[MT7]

Interviewees suggested that resources were limited and that they needed more, however it appears that change has not been constrained by a lack of funding, possibly due, in part, to an attitude expressed in one of the course team's motto -

Nothing succeeds like doing something![T2]

and echoed in the words of a senior manager -

Innovation happens often 'in spite of' the existing frameworks - T171 is a good example of 'kicking against normal practices'. It works because of the attitude 'we are going to do it' - senior management need to find funding to support these - problem is that sometimes this makes the ideas stay out on a limb. [S2]

Rewards

There were mixed responses to the question of whether teaching is rewarded at the OU.

Attempts are made to give teaching a high status – there have been cases where people have had promotion based primarily on excellent teaching. A balanced portfolio is needed. A good research record gives proof of a good teaching record – staff tutors are given more weight on teaching – a special case. The model is that lecturers must be strong in two out of three from teaching (at least at course chair level), research and administration/ management). [S10]

For a young lecturer to get promotion, in most cases, they need to have the experience of chairing a course team and getting publications - this represents both teaching and research...administration can also be very meaningful - sometimes more than teaching or research. [MA3]

Promotion is still heavily reliant on research though teaching needs to be there too... excellent teachers with no research are less likely to get promotion. [T1]

Teaching is the most important of the four components (the other three are research, administration and 'external activities'), though there has been recently a much stronger sense of the importance of research...[...]...promotion can be achieved to senior lecturer without a serious research record, especially when people are considered to be innovative in their teaching. [MA5]

In order to get promotion staff must be found to be above average in two of the following areas - teaching, research, administration, external activities. One of these must be teaching. [MT7]

The OU ran an appraisal system as a basis for promotion opportunity. An HoD explained, during interview, that he had been trained by the university to be an 'appraiser'. He suggested people for promotion at the Faculty Promotions Committee which when approved would go on to the University Promotions Committee for final agreement.

The official promotion criteria (obtained from the personnel division) substantiated the four areas of performance that would be under scrutiny:

- teaching - with an emphasis on exceptional contributions and innovation as a member of a course team, PG student supervision, training of tutorial or counselling staff and summer school teaching
- research
- administration and management - committees, course managers and 'outside liaison'
- 'other work' - such as representing the university externally and 'outstanding contributions' to the attainment of the objectives of the university and its corporate life

It appears that not everyone is clear about the priorities given on the above criteria. The question of promotion raised a 'sticky issue' for one sub-dean who explained that he had been with the OU for 16 years and was still a lecturer despite being involved on many course teams, chairing a course and being responsible for a large block of writing and co-ordinating on a course. As a sub-dean he had a high level of responsibility for someone

near the bottom of the academic pay scales. Here was an example of someone answering the description of 'people' at the OU, given by a senior manager:

People may say that they feel under-valued or under-resourced, but they would not go and work anywhere else. [MA3]

Course managers provide another example. They have short-term contracts and no kind of career structure (there were 140 employed in the university in 1999). One course manager felt very overworked, as he was employed on several courses and said that 'academics are renowned for being difficult to get hold of - they work at home most of the time'.

Regional staff tutors said that they felt 'valued' by their faculties. The part-time ALs were not always regarded as 'teachers' by the regional staff, who were course team members. ALs were seen as 'facilitators', who were rewarded at a lecturer's rate of pay, but were expected to work for the number of hours necessary despite what hours had been allocated for a certain task or course (which set the amount of pay). Tasks included giving tutorials, marking papers and supporting students in any other way they required, generally by phone, letter or email.

Overall, teaching is held in high regard by all, it goes hand in hand with the very high level of commitment to students that has been frequently expressed. Evidence of teaching quality can be accessed and evaluated by others from course team meeting notes and the materials that are produced. However, consistency and clarity in the reward structure are missing. It is certainly not a clear picture from the perspectives of those interviewed and a few have expressed unease about the situation, including a course manager. Some course managers are also academics and do get involved with the design and development of

courses, but most are not regarded as 'teachers'. Although there is a questionable situation regarding rewards given for creative teaching, this does not seem to directly affect the staff motivation level for developing new teaching ideas.

Change issues

Motivation and pressures for change

Extracts below from interviewees provide a comprehensive list of reasons why change was seen as happening or was felt to be needed in the OU:

There are more reasons for change now than before. .

- there is academic motivation and environmental change...
- 'we must be improving the quality of student learning and the effectiveness of the OU in this society'.
- student needs - the OU is good at collecting student data about the course components and produces excellent quality print material... but what else...tutorials are fine, but students want more of them and summer schools have an 88% success rate despite half the students admitting anxiety about them.
- it is the area of T.V, Audio-visual and computer-based learning (CBL) which is 'patchy' and has a 'less good' satisfaction rate amongst students. This is where the OU could make a big difference.
- the OU are not as flexible as they could be - because if they were it would make the organisation more complex and more expensive. Short courses are on the agenda, but because of the attention needed with support and administering various registration periods it all becomes very complex - but this is what people want, and the university needs to respond to that. [S2]

The incentives and pressures are:

- 'external vigilance' is necessary to be healthy - especially recently due to rapid technological change....awareness of the environment is very important.
- the global competitive market is growing and the OU is more vulnerable than others.
- the UK HE system - expansion with more students. More universities heading towards distance learning and are getting more flexible for student learning.
- demographics - most OU students are over 30 and this is a depleting market - it is totally out of the question for the OU to decline so it must keep growing.[S3]

Why Change, Why Innovate?

.... because of pressure from the VC ('kicking backsides' and 'rubbing noses in it') The environment has also been quite helpful:

- not a seller's market any more - it is a buyer's market (queues have disappeared)
- more students (variety) and more with UG degrees - the demographic cohort is dipping
- Market needs are changing and there is more competition
- University for Industry (described by politician as 'doing for the future what the OU did for the past' - made them sit up and take notice!)
- evolution of the delivery vehicles for teaching and the format of the courses...'we have evolved with the technologies at just the right rate - one can't go too fast or too slow'. There is a steady migration to learning with the Web - they now have 50,000 students online. [S9]

He feels that his profession (engineering) is pushing for students to have experience of collaboration and group learning online.[MT7]

They are trying to widen participation – but not taking for granted that students will come just because they say they are 'open'..[...]. named degrees are about the biggest and most significant recent change. It was driven by students, resisted by the senior level at first, because of cost and potential complication. [S10]

There are more external pressures on the curriculum (as it leads to professional qualification) than in other faculties or schools. [S4]

The OU is currently looking at questions such as the introduction of undergraduate courses in Business Studies, Media Studies and Environment and Health - these are current growth areas in the 'market'. [S7]

Basically, he knew there was a need for people who were buying computers but knew nothing about them and who needed informing. 'The OU has such a potentially vast audience that we can change things'. He sees the OU's role in this as almost missionary - involving knowledge, perspectives and ideology. There is a new sub-culture forming which has its own language and excludes people because of this ...[...].he wants to take lots of ordinary people into that culture. [T2]

The reasons they made the change were:

- there was a market need
- growing competition for mature students and Technology courses from elsewhere

- the OU were in serious danger of going downhill - getting left behind (especially in delivery mechanisms).
- (we were).. 'fervent about the internet... the web being central. We were both evangelical about it. This was the strongest reason.' [T4]

The above extracts highlight the following areas of motivation and pressures for change:

1. Academic motivation - illustrated particularly in the last two interviewees' feelings regarding their strength of interest in the subject.
2. Environmental change - including: global and national competition in HE; professional bodies indicating a need for change in the curriculum; a growth of a new market in specific subject areas and student types and the rate of technological change providing new opportunities for change in methods of teaching and learning.
3. Institutional motivation: to respond to student needs as identified by the OU's own evaluation programmes; to work towards improving student learning; to respond to environmental changes; to fulfil their ambition to influence society; to continue to recruit more students and be actively engaged in projects for growth in order to ensure their own survival.

Motivation for innovating in teaching was explored in the second stage of research connected to this thesis for the 'Innovations in Teaching and Learning in Higher Education' project (Hannan et al., 1999). At the top of the list of reasons given by 103 interviewees, who were primarily teaching academics, was the need to improve student learning, followed by the need to respond to the changes in student intake. Although student learning and student profiles are included in the list above, more reasons were given from the perspective of institutional needs and external pressures. Perhaps this was partly due to

the type of interviewee being predominantly from senior management in this instance. Curriculum needs followed in the list above, but other reasons such as pressure from external agencies, like the TQA process or demands of employers were mentioned at all. This may be partly because the needs of employers have always been a focus for the OU (many companies support their staff to study with the university) and therefore this aspect was not an issue for change.

What changes are happening?

In the extract above, it can be seen that *short courses* are on the agenda, but because of the attention needed with support and administration and with multiple registration periods, it all becomes very complex. Regional staff generally agreed with the above comments and doubts, with one exception shown in the extract below:

Short Courses? Three of the four people around the table were positive about this idea - as it would widen participation though doubts were expressed about the huge implications for student support, advice and guidance. The system could also become too complex with so much choice and variety. However, the main reason given against such a move was because the existing OU students had expressed a preference for longer courses. [RDG]

The planned introduction of short courses illustrates the priority that the OU is giving to attract new students and different types of students than have traditionally been registering with them. Senior management were clearly aware of the problems involved:

He expects greater difficulty in trying to change the format of courses to be shorter and at the interface between FE and HE. They are trying to devise a quick method of 're-versioning' and 'adapting' courses for this purpose. He also acknowledged that OU students do prefer long courses. [S9]

Importantly, he made the point that these new courses will challenge the traditional course team approach, in the future they will need smaller teams with a faster process from idea to delivery.

The introduction of *named degrees* was also mentioned in the extracts above. The OU had not previously offered specific degrees, which has given students a huge flexibility in course choice. This subject was under debate at the time of interviewing and views on this proposal were requested. Here is a regional perspective:

This issue had been raised by the students themselves - the 'centre' seems to have taken this on board but several academics have reservations. One staff tutor thought that students cannot be forced to take a particular module path and follow recommendations. He also felt that it would be impossible to incorporate an 'oral' aspect into the assessment (as required by the discipline accreditation for his subject). Basically he disagreed in principle, so he is fighting it. [RDG]

It is interesting that the 'oral assessment' argument exposed a lack of knowledge about what was happening in other areas of the OU. In the language courses offered since 1995 oral assessment in exams has been successfully incorporated.

Another issue at the time of data collection was *residential summer schools*. One senior manager thought that they were likely to be more common in five years time than they are now. He thought that summer schools may become separate courses - that can be taken by anyone - even those not studying anything else with the OU. Once this was done, the OU could be more flexible with their academic year. Courses have always run from February to October, so that summer schools could take place at university campuses during July and August when all the students are away. The idea of not having summer schools as part of a course is thought to attract more students, because it then becomes less expensive. In

the past students have had the liberty to float around the system. There is currently an excusal rate (of summer schools) that has reached 20 - 25% in the social sciences. This has caused some problem with the idea of named degrees as summer schools are usually considered an important teaching element of the course. It is likely that a residential course 'module' will be needed in order to complete a 'named' degree course.

Interestingly, since the start of this research, the OU has, for the first time, included a second course start date within a year. The new T171 course that began presentation in February 2000 was so popular that the university decided to allow registration for an additional start time in May 2000. Admittedly, this is an internet-based course, so it has a greater 'independence'. 'Flexibility' in the system has begun.

Due to increasing complexity, *the counselling function* has changed and this has led to Associate Lecturers beginning to feel threatened. A senior manager [S9] explained that in the past, the counsellor would remain the same for one student throughout the years of study with the OU. This allowed the development of quite a close relationship, but the 'advisory' function was being planned to be undertaken by people in the regional offices who were trained and 'know the system inside-out'. The need for more 'knowledgeable' help is expected to be greater for those registering for shorter courses. Here is an example of one change leading to another and perhaps having a wider and greater impact by affecting all courses being offered. Another, unspoken, and possibly underlying reason for this change could be to make the student support services more 'cost-efficient'. However, it was questionable as the current or projected new cost was not known. In relation to counselling and with regard to the availability of advice lines and student

helpdesks (which had just increased their 'open' hours), the same interviewee [S9] thought that the OU will need to become more like the '24/7 economy' now present in the United States (24 hours a day, 7 days a week).

The nature and organisation of *'online' tutor support* is another area that was attracting attention of senior managers, as over half the registered OU students have access to computer conferencing. Experience so far regarding email communication showed that many tutors were being inundated with messages. However, this medium has also enabled students to seek support directly from course team members bypassing regional staff, who explained that this practice (discovered in the pilot year of T171) needed to be filtered or stopped. Another idea was also expressed:

...it is obvious that students need more support - they have difficulties online... and the touchy/feely bit is more difficult...[...].New styles of supporting students may need to be considered - perhaps using groups of tutors. [RDG]

It was also acknowledged that the technology is still not entirely reliable and that the pedagogy needed further consideration. Course team members have been looking at ways of sorting out these issues during the first year of presentation.

Three PVCs are directly involved with the formation of the *Centre for Widening Participation* - another initiative happening at the time of interviews taking place (1999). The Centre would provide 'pre-foundation' level courses - which could also be shorter but would include a tutor who would guide students through the first year. As one PVC explained:

So far, level 1 foundation courses have fulfilled their responsibility of meeting all ability levels - to an extent. They are now in the process of encouraging the

production of short packs of starter material to encourage an even wider group of people who 'want to put their toe in the water'. There has been an experiment in Wales with 100 students and this has showed that they coped better and stayed longer on course following their 'starter pack' - 80% survived a year and 80% of those went on to further or higher courses - most with the OU. [S3]

The idea came from a Dean who now had responsibility for its development. This is another example of a change which 'fitted in' with the OU mission to widen participation.

It also provides another incentive for the planned review of tutor and student support because:

They are also looking at differing levels of tutor support to match the smaller modules and slower rate. [S3]

Change constraints

It was evident that the Arts Faculty felt more under-resourced than the faculty of Technology. One Arts Faculty middle manger explained:

There is '*pressure* to prescribe more and more'. This pressure - arising from a lack of resources has inhibited innovation in the course team as they have been inclined to 'stick with what we know rather than take risks'. They have been using IT more recently and the 'OU policy is that the future lies with this'. [MA3]

The last sentence suggests that there has also been some pressure to integrate IT more into their curriculum. Availability of resources could, possibly, be linked to the use of ICT.

One senior manager was asked a specific question about whether 'cost-effectiveness' was a constraining factor in the production of new courses. This was thought not to be the case:

New courses are much more constrained by the people on the ground and how busy they are. First year courses massively subsidise third level courses. There is now 'Inter-unit Planning & Contracting' - which will affect faculty financing...[...].

Other constraints come from the student services area as well as the exams and assessment people. He gave an example of a course that did not want any exams and took a year to reach approval of the assessment for a new course. [S9]

Here, a much more important influence (than resources) on whether change happened or not was about people, the staff - their interest, their dedication, their motivation and their priorities. If the culture, which I have argued to be synonymous with the people (and the 'energy') has a greater influence on change than the system, then the people would be the largest blocks against as well as the instruments of change. However, the above comment was made by a senior manager who would rely, entirely, on others to do what was needed (or what *he thought* was needed) for change to happen. This is probably what is meant by the remark and also the possible reason why 'student services' were included under constraining factors. Interestingly, administrative procedures are also exemplified as a problem and this aspect, engulfed in comments about 'the system', was mentioned by a further six interviewees (including top-down and bottom-up perspectives) as a constraint:

'Our existing systems need to become more responsive' [S2]

She feels that there is a very constraining and fixed system at the OU - there is a tension between providing for existing students (who like long courses) and encouraging in new ones by offering something different in the form of short courses. [S4]

He felt that going through the system was 'such a complete waste of time' so he and a few colleagues 'got on with it.' [T2]

Everything that she set out to do was challenging established university systems and routines. [S1]

The next hurdle was to try and talk to 'the system', much of the course design had not been encountered before, so this needed extra communication. [T1]

Basically he was saying that he needs more support (from management) in order to make things happen - he is frustrated at the rate of change - being so slow. [M12]

In four of the six extracts given above, the 'hurdles' imposed by the system were eventually overcome. The 'system' may have been making change difficult, but was beginning to 'turn' and change itself.

Raggatt (1993), at that time Head of Centre for Youth and Adult Studies in the School of Education at the OU, appeared to be ahead of his time when he predicted major changes in the nature and structure of higher education and the effect this would have on the OU's organisation and production system. He argued that the OU had been producing courses based on a 'Fordist' principle which has a production system identified by the following features -

- mass production and long production runs providing economies of scale
- a small range of products
- fixed automation (p.22)

Raggatt was prompted to assess the production process at the OU because he felt that it was :

ill-equipped to respond to the substantial growth which will take place in the professional development/ continuing education area in which a shorter life, lower volume, sophisticated materials for specialised markets will predominate. (p.23)

He described a proposed future model with flexible specialisation which would have 'short production runs for specialised markets, a wide variety of products and flexible automation'. (p.22)

One PVC who was interviewed identified an important 'educational' drawback to this model - the OU does not just make 'products' and there is the added matter of supporting students, so the costing part of the equation needs consideration:

The OU runs with the Fordist principle - low cost per unit because of mass production. Now that web-based production has come on the scene - it is cheaper and faster to produce and modify courses but so far it has shown to be more costly in the presentation part than the text based courses... because of the high level of support built in. [S10]

Regarding the organisation of work, the Fordist model involved a bureaucratic, hierarchic organisation with centralised planning and vertical integration, a specialised division of labour and a full-time flexible workforce with a restricted range of skills. The flexible 'post-fordist' alternative suggested by Raggatt involved:

Intelligent organisation, de-centralised decision-making, flatter hierarchies, partial vertical integration...[together with]...multi-skilled workers operating in teams with job rotation, few job classifications and a low staff turnover. (p.22)

The production system may be just on the point of change (shorter courses, flexible start and finish dates) whereas some of the organisational features have been in place for some time and are moving further towards this model, especially with consideration of the LTT Board's proposals of 'development managers'. This latter proposal has, however, met some resistance from course managers, according to one interviewee, who suggested that more resources for course managers would be more helpful as the skills already existed. With regard to devolved decision-making, the same PVC [S10] observed that policy direction comes from the people working within his area of responsibility and that sometimes he feels the need to 'fight to be a part of what is going on'.

Conclusion

In 1990, the new Vice-Chancellor gave a lecture to a residential meeting of the OU Council in which he concluded:

My final remark is about the balance between administration and the management. Perhaps you think of them as the same thing and wonder why I distinguish between them. It is simply that I find it helpful to think of administration as 'doing the thing right' and management as 'doing the right thing'. Obviously you need both. There is no point in doing the right thing badly or doing the wrong thing right.

I am very impressed at the ability of this university to follow the implication of every small decision right through our complex system. I am less convinced that we are as good at assessing the appropriateness of the original decisions. We must match our ability to administer with an equal professionalism in management. (Daniel, 1991, p. 8)

Since this lecture the evidence has suggested that much of the required attention has been given to re-structuring the management. Interviewees from senior management appear to be highly aware of the challenges, problems, needs and pressures of the OU 'system'. There is general acknowledgement that administrative procedures, particularly in the planning, exams and assessment area, are very slow to change in response to the increasingly dynamic environment of teaching and learning at the OU. The nature of courses - their length, their student target, their purpose, and the methodologies used (especially involving ICT) are changing simultaneously. At the same time, student profiles are producing different requirements and needing different types of tutor support. The overall scale of the OU is growing continuously - involving collaborations with institutions in many different countries and involving more students. The support needed by the 'system' to take all this extra weight (of activity) is great, but it could fall over if it does not bend and flex.

But what *is* 'the system'? Interestingly, as has been shown, interviewees who were part of the management structure sometimes talked of the 'system' as being 'out there' beyond their reach or control. By including the 'management' in the exploration of the 'system', I have linked administration and management and, in some way, the service areas, suggesting that all are responsible for the stability and flexibility of the OU 'structure'.

This part of the findings has presented evidence and analysis of the institutional context in which the process of change is taking place. This stage of the process I have identified as the 'pre-initiation' stage by stretching the first two stages ('Initiation' and 'Implementation') suggested by Fullan (1991) to the contextual situation in which change can and does take place. But how do these findings fit in to theories of organisations? In the review, I summarised various models and approaches that have been defined over the last 30 - 40 years and highlighted three main paradigms for the analysis of organisational theory. These were 'functionalist', 'interpretive' and 'dialectic'. The closest match for this research was considered to be the 'interpretive' paradigm. I have used an analogy of the human body when looking at an organisation, although this has been done before under the theoretical 'functionalist' approach. I have, however, viewed the body from a 'holistic' point of view, which emphasises the symbiotic nature of mind and body - or 'energy' and 'structure'. This perspective contrasts with the 'medical' view of a body where various 'parts' are investigated separately and perceived in relation to their specific function. Silverman (1970), reviewed theories of organisations (available up to the time of his book) and lamented the situation, as he found it, that organisational theory had not contributed to sociological theory of the time:

The failure to come to grips with theoretical issues is due to carrying out organisational analysis within a theoretical framework which is assumed to have been already settled, rather than trying to use it to contribute to the evaluation of various perspectives none of which, at the present time at least, ought to be taken for granted. (p.218)

He explained the inappropriateness of the functionalist approach and agreed with Emmet (1958) that social activity should not just be considered in functional terms, but also in terms of the people, the 'social actors' and what purpose they had in doing things. But who separated the concepts of 'purpose' and 'function'? The Greek philosophers (who were the 'scientists' of their era) Pythagoras, Socrates, Plato and Aristotle looked at 'big' questions in terms of 'form' which involved both concepts. According to Plato structure is subservient to function and dependent on it (Guthrie, 1950) - they also considered structure and function to be symbiotic.

Handy (1976) has made, in my view, considerable contribution to the field of organisational theory in his book *Understanding Organisations*. But, he has pointed out that the purpose of his work is not to contribute to the world of 'theory', but to contribute to an understanding of the field:

Scientific observations and scientific unearthing of the facts of organizational behaviour are most important; so is the establishment of any causal sequences that can be traced. But we should not expect such causal sequences to be endlessly repeatable, to hold good for all time, nor should we look to them for a total understanding of organizations and what happens within them...[...].this book is clearly an interpretive approach and must be judged as such...[...].the organizational interpreters are assessed by society not so much on the scientific validity of their work but on whether leading practitioners find it interesting and meaningful. (Handy, 1976,p.386)

Fullan (1993, 1999) could be considered as one of the most influential people currently working in the field of change in educational organisations. He and Scott (1999), who

worked with him, both appear to have interpreted and presented their research findings in a way which may be more meaningful to practitioners in the field, than to social theorists. Scott (1999), has depicted a complex 'change management framework for education' and produced a list outlining a change management approach. Many of these recommended features combine 'apparently paradoxical tactics' such as:

- top-down and bottom-up strategies
- an internal and external focus
- pan-institutional developments and uniquely local ones
- clear direction and flexibility
- stability and change (p.18)

These are just 5 of the 11 items on the list and they show that both, sometimes opposite concepts, are considered effective when present. For instance, at the OU there is a culture of diversity, strong and open debate, alongside one of consensus - shared values and mission. The above list represents features of the 'system' and many are recognisable as being in existence or are 'intended' to become features at the OU. The first strategy (as explained by one PVC) is hoped to be achieved by the introduction of new 'middle managers' who will work with sub-deans in order to assist in easing a two-way flow of communication between the top and the bottom.

Overall, the findings here suggest that the institutional context at the OU has many of the characteristics that have been identified as needed for change to take place, many of which are to do with informal rather than formal aspects. The challenge for management is to find a balance between change coming from the centre (themselves) and change arising from the initiative of academics and the needs of the students. It was interesting to discover that when interviewees at any level explained that they had been trying to change something - it

was a matter of 'going around' or bypassing *the system* that enabled some changes to occur (especially when speed was an issue). Perhaps the most interesting part of the system is that which is not seen, like the 'hidden curriculum' having a greater influence in a school. The concept that it is 'the unseen' that enables change will be explored further in the next chapter.

The next chapters of the findings look at the initiation (development) period and implementation stages of the process of change. By following the stories of two new courses in their final stages of development to presentation, new variables are explored. Most importantly, the nature of a specific change is looked at in relation to the institutional context, which throws further light on tensions between culture/s and the system.

CHAPTER 5
FINDINGS II: TWO NEW COURSES

Introduction

To explore the process of change, questions such as 'how does change happen?' and 'why does change happen?' would seem to be of uppermost importance. It was with these particular questions in mind that I approached the data collection for the development of two courses. During the analysis of this data, the equal significance of the question of 'what changes are happening?' became visible. Change in teaching and learning methodology involving information technology has been the focus, but the nature of that change - from what, to what and in what context have proved to be very important questions that influence the 'why?' and 'how?' ones. The need for a detailed investigation into course teams fits in with a framework for the analysis of change in education suggested by Morrish (1976) - the three main units of analysis being the institution, the group and the individual. The 'group' could refer to the region, faculty, department or course team. As these teams consist of a mixed group of people, aspects of the 'individual' can also be explored - leader, change agent, innovator, supporter or inhibitor of change. Senior managers such as department heads, sub-deans or deans of faculties tend to have peripheral involvement with course teams, therefore most course team members interviewed were lecturers or senior lecturers.

This section presents and discusses data largely arising from interviews with course team members from two courses that were in the later stages of development in 1999. The first, in the Arts Faculty, was a course at level 3 (the highest level needed for an Honours degree), and was planned to be presented in the usual OU academic year - from February to October. It was worth 60 credits on successful completion, which would contribute to the 360 credits needed for a degree. The title was *AA306 Shakespeare Text and Performance* and it replaced a similar course at the same level which awarded 30 credits.

The second course was at level 1 (originally called a 'foundation' level), and was worth 30 credits. It was presented over the same period of time. The title was T171: *You, your computer and the net* and it also updated a previous technology course at level 1. These two courses will be subsequently referred to as - the Arts course, (AC) and the Technology course (TC).

In the account that follows, data will be presented embedded inside the narrative of each course development. Some participants have contributed more information than others and some information was given without a specific question being asked. An attempt has been made to distinguish between contributors, so as to indicate the same or different contributions on a similar issue. Extracts from the minutes will be included to identify timings of eventful changes in the development. Role identification is so integrated in the course development process, the evidence and discussion that it cannot be avoided.

Each of the course stories was sent to all the course team members who had contributed. The feedback given was particularly informative and is incorporated with regard to the detail and analysis of each 'mini' case study. Five of the eight interviewees responded with feedback from the AC and five out of seven responded from the TC.¹ Most feedback responses were also by email which enables an accurate record and presentation of these views. Indication of a direct extract from the email is given by quotation marks and when these are absent it can be assumed that my own record is reported in note form.

¹ Feedback will be indicated by '[FB-interviewee code]' at the end of the extract or explanation.

< NB. So that the feedback extracts and further discussion can be clearly distinguished from the original 'course story' as seen by the interviewees, they are enclosed in diamond brackets. >

The course development narratives that follow will describe the 'change characteristics' (Fullan, 1991) which are the pressure, need, purpose, source and motivation of the change as well as the clarity, complexity, type (is it consistent or divergent?), method (planning and evolution) and practicality. Roles and relationships of those in the course team will be highlighted as the analysis involves looking at personal, social, cultural and political aspects of the change process. In this way, the analysis of course development can examine the importance of influential factors of internal and external politics as well as informal and formal power with regard to individuals and groups.

The Arts course Story
AA306 Shakespeare Text and Performance

Introduction

The course team minutes began before June 1995 but this was the date of the first set of minutes viewed. The last copy of minutes seen was dated September 1999. Data collection through informal talks with senior managers and interviews with course team members began in October 1998 and finished in May 2000. As the first presentation for this course was in February 2000 and first meetings were taking place prior to June 1995, the development time for this course was about five years.

To set the scene, here is a brief story outline. Course development began with some radical ideas reflected in the planned new material as well as the teaching and learning methodology proposed. Initially, the course was to incorporate three main text books with three CD-ROMs which were to be developed simultaneously - thus allowing for integrated activities and assignments. A considerable amount of additional audio-visual (a/v) material was also planned. The technological aspect soon became a separate research project with BBC producers and editors involved. The Academic Computing Service (ACS) contributed to development in the later stages and evaluation of the CD-ROMs was carried out by the Institute of Educational Technology (IET). Following several changes in membership and authorship in the course team, about half of the course texts were replaced with material that took a different approach. The a/v material was still present, but the multi-media technology was reduced to one CD-ROM that was to be used experimentally at a compulsory summer school. The final pedagogy of the course changed from what may have been an innovative style of delivery, involving integration of CD-ROM teaching material, to the traditional 'OU model' - individual study and written

assignments with a one-week residential summer school. This was similar to the former course that was being replaced except that there was no summer school. Course development issues are highlighted in the following detailed description.

Who's Who?

Changing membership and roles of members within the course team has been a particular feature of the course development. This aspect is therefore recorded and explored with the use of aliases, including in some cases a different sexual identity as added protection for anonymity.

The course team (as noted in minutes of November 1995) originally consisted of the course secretary and the following 15 people -

- Iris (chair)
- James (deputy chair)
- Mary (course manager)
- Anne (academic)
- Marcel (academic - and course chair of previous course)

Regional staff involved were Morris, Ethel and Helen. There were three BBC producers and two multi-media editors. A publishing editor and book trade consultant were also listed on the course team.

In addition to the above, a further 11 people were considered to be part of the course team 'for information, minutes and agenda only', notably the dean, the sub-dean and the head of department (HoD) as well as eight others including a regional staff tutor. This meant that a total of 26 people were involved (or were expected to be involved) to some extent in the development at the beginning.

What happened in the beginning?

The context in which the course evolved reflected the factors of need, pressure, source, purpose and motivation. The situation existing before any decision was made was described by one interviewee:

Arising from the 'mid-life' review of the old course, the IET made comments that some new areas in the subject matter were missing from the content. Some ad-hoc additions were made but the subject was always being discussed at departmental meetings. It was high in the 'vision' statement of the department...[since 1992] debate raged on about the third level course. There were three options: to make minor amendments (preferred by the previous course chair); to have a 'rolling re-write'... gradually replacing about 50% or to start from scratch with a new course. [A6]²

From this scenario it is clear that there was a need to replace the existing course that would bring the teaching material up to date with regard to the subject matter. Reference to the decision to start the course development was made by three other members:

To update the old course and create new materials using CD-ROMs was the idea of the first chair. [MA5]

It was a course in the past that was just a 30 credit module - it was decided at a departmental board meeting to re-write and update it as well upgrading the course to a full 60 credits at undergraduate level 3. The Dean appointed the course chair. [A4]

The previous course ran for 15 - 16 years, and is still being presented in Singapore, it was a half credit course with four assignments and no summer school. There has been a move away from half credits - students don't like them, they say that two half credits are more than one whole and they're probably right. There are many new philosophies and pedagogies in the approaches to teaching this subject - so the original idea was to turn the half-credit course into a full credit course and update it. [RA8]

This suggests that a decision was made at a departmental meeting to update the old course, but that it may have been the idea of the course chair who was appointed by the faculty dean. Two further reasons are given for updating the old course - the fact that students had

² A reminder - an interviewee code follows each extract from interview notes. The interviews were not all tape recorded, so the words are taken from my notes and can not be attributed to the speaker verbatim, they are often a note of what had just been said.

indicated a preference for longer courses (in general) and that it was not just the subject material that needed updating but also the approach to teaching this topic. It is unclear what decisions or definitions were made (at the time a course chair was appointed) as to the extent and nature of the change proposed in the new course.

The minutes of a meeting in June 1995 suggest that the dean and the HoD felt differently regarding motivation or enthusiasm for this course:

- ⇒ The chair reported that the Dean had shown 'enthusiasm and support' for the course.³
- ⇒ It was noted that the HoD should be included as an author but that his role on the course would be minimal (due to research and management commitments).

At this meeting the new course was given a code and title as well as a schedule - stating that the 'full production stage' would start in April 1996 and that first presentation would be in 1999. The course rationale and materials were identified as:

- ⇒ Most of the material from the previous course will be included, but all the broadcasting will be replaced.
- ⇒ There will be 3 main texts - the first was to focus on history, themes and issues, the second on contemporary critical approaches and the third on performance and gender issues.
- ⇒ In addition to videos and audio cassettes it was hoped that a CD-ROM component would be included to provide original and exciting new material and that structured teaching around the CD-ROMs would happen at summer school.

It seems therefore that the course was planned as about a 50% update, retaining the old materials but producing a similar quantity of new material. More clues about the nature of the pedagogy were given at the same meeting:

- ⇒ The chair pointed out the need for early outlines so that the text, the a/v and the multi-media could be developed in tandem from the beginning.
- ⇒ It was noted that James and Marcel 'stressed their present and future commitments' which meant that they would not be able to produce outlines in the near future.
- ⇒ Ernest (the BBC producer) pointed out that the relationship between text and video needed to be agreed within the year (by April/May 1996).

⇒ ³ (this symbol is used to show information reported in the minutes of course team meetings)

The chair was obviously keen to link all the different types of material including 'multi-media' (referring to the CD-ROMs) so that some integration could be achieved. The suggestion was met with an un-supportive response. Other factors may well have been contributing to a lack of motivation for this course at that time. Some illumination was given by one interviewee:

It was quite unusual to start a new course at that particular time as many members in the department had just finished work on another course and normally staff would take their accumulated leave and try to catch up on research. It was a struggle to get a course team together - the department had shrunk and the RAE was pressurising for research priority. Eventually, when a course team was formed over half of them did not attend any of the meetings in the first year - due to research commitments. There was also no course manager available for allocation in the first year, so administration was an extra burden. Problems with poor attendance and the unsettling lack of continuity caused by temporary contracts meant that specific tasks needed to be commissioned. There was no precedent for this and it was very difficult to introduce the idea into the huge bureaucracy of new contracts. [A6]

Departmental and faculty pressures on staff at this time clearly arose from exhaustion following the completion of another course development, demands of the RAE, staff cuts in the department and unsettling temporary contracts. These were not, however, the only factors affecting motivation on the course team. Two other interviewees described the existence, from the beginning, of other tensions between course team members including disagreements about the extent of 'the change' from the old to the new course and the proposed new subject material. Tensions due to a mixture of difficult personal and academic relationships were emphasised in the feedback - presented under *course Team Issues*.

Change and Technology

In Autumn 1998, a set of pages I found on the OU web site described some of the material on CD-ROMS that had been developed for the AC and it highlighted the course as

potentially interesting with regard to change in teaching and learning methods involving new technology. Since then the course has changed considerably and the technological aspect has been very much reduced. It is therefore helpful to look closely at how the idea of incorporating new technology progressed from the beginning. Two original course team members gave their versions of the first few foothills of development:

The chair had the idea to produce a CD-ROM to give students a chance to experience how it would feel to be directing a performance. This could be achieved by using interactive software customised for the purpose - allowing for changes to be made in lighting, set and action. An early decision was made to have three text books with a CD-ROM to support each one. The material was planned from the beginning to integrate with the text but the chair was blocked at every stage by those who did not want such radical changes. Encouragement for the idea was given by the VC and a PVC, but not from within the department. There was a BBC producer on the team who was very experienced and was a major figure in the CD-ROM production. People were often suspicious because they did not really understand how it could work. In 1996, the course became a 'project' while development of three CD-ROMs took place. This was funded by the University Technology Fund, BBC resources, and the faculty. [A4]

It was around early 1996 that the chair and a few BBC people decided it would be a good idea to put things on to CD-ROM. The course team agreed, but it had to be done on top of the existing workload and separately funded. [A6]

There is a high level of consistency in these two descriptions of the CD-ROM launch which probably reflects the interest in this aspect from the interviewees.

< However, extensive feedback from one course team member (who joined the team in October 1995 and remained until the end) gave a different picture of events:

'The decision to have three CD-ROMs was made by the project team after it had been separated from the course team process. The original agreement was that there would be one CD-ROM. It was never agreed at the course team that the CD-ROM would be used in any way apart from at residential school. To have the CD-ROM integrated with the other course materials would have required a compulsory access to a computer, which the faculty would not have supported for a third level literature course. The dean did rightly suggest that the CD-ROM could be integrated at a later stage, say at the midlife review in 2005. The course team accepted this. Further, the decision to move from one CD-ROM to three was made by the project team outside of any approval process of the course team or the faculty. As you can imagine this had large resource implications and was quite a

disruption to the already shaky support in the department and the faculty..[..].It was the dean who stipulated that the CD-ROM production be ring fenced within a project team, and this happened in 1995, not 1996.' [FB - A7] >

This perspective together with the one below at time of interview highlights the disagreement and strength of feelings about whether the integration of any CD-ROM material should have been included in the new course:

The chair was pushing the use of CD-ROMs and multi-media in the presentation of this course and it consumed a large amount of time and energy investment. [MA5]

These stories raise several issues about the technological aspect which involve the OU 'system', the course team and the content:

- The CD-ROM material was designed to give students a learning experience that could not be achieved with the usual text and audio-visual forms of delivery.
- Not everyone on the team believed that this could be achieved or agreed that it should be achieved because of the demands on student equipment, course team effort and resources.
- The development was accepted by the course team as long as it did not replace anything else, but was regarded as an additional task, outside course content development - thus giving it a peripheral status rather than an integral one.
- Funding to develop the CD-ROMs was achieved largely from outside the course team budget.

A senior manager explained this part of the story in a more detached manner and added the suggestion that funding was achieved not necessarily because of the 'technological flavour' but also because of the way in which it was made into a 'research' project which opened doors to research funds:

Funding for innovation outside course development has been achieved for some things, for example, the CD-ROM was loosely attached to the new course proposal then became detached and received some research funding as a project and then it became attached to the course again. [MA3]

In February 1996, it was noted that the research group had received a grant from the PVC for Technology Development and that no funds were used from the course team budget. However, funding and the separation of multi-media development may have happened the other way around - therefore dashing the argument that a research project was needed to obtain funding, as is also suggested in the minutes. According to one interviewee:

We managed to persuade the PVC to provide funding from the Learning Technology Development Fund and it was then discussed with the dean that this would be an experimental project which the course team could use if successful. [A6]

The chair stepped down at this stage to work intensively on the CD-ROM development and also take some study leave. The deputy chair took over temporarily. The BBC were heavily involved while some collaboration took place with the University of Alberta involving students and resources to make a film for the CD-ROM. Nine students from London were involved in a first phase of the CD-ROM evaluation nine months later. An interim report from the IET in November 1996 (Chambers and Rae, 1996) made the following observations after a formative evaluation of the first two CD-ROMs -

- most students enjoyed using the CD-ROMs
- most students thought that the operation was not easy, but they found the material 'absorbing and stimulating'
- five of the nine students were judged by the evaluators to have a fuller understanding of the subject - as intended.
- only three students could articulate 'what they were trying to achieve'

It was clear that there was more work to do, but the first few observations suggested that there was potential for students to gain a better understanding of the subject matter by this method of presenting the material. The problems appeared to be about a lack of clarity in the learning objectives and operational practicalities of the activities.

< But these 'problems' may have had deeper and wider roots than indicated above,
according to this feedback:

'If by innovation you are limiting yourself to the CD-ROM / multi-media aspect, then yes that has almost gone out of the window, the suspicions of those on the team being confirmed by the newcomers, who were strongly of the opinion that the material was seriously lacking in academic and pedagogic credibility - the latter view backed up by the IET survey... remember that we are obliged to take IET feedback really seriously, and it was evidently a serious blow to the then chair's ambitions when they reported as they did.' [FB - MA5]

The IET survey had questioned the clarity of the pedagogy used in the CD-ROMs, but some course team members also questioned the academic credibility of the material. >

A difficult time followed as the BBC were re-structuring and two producers who were heavily involved were 'axed'. However, in January 1997, the minutes showed that Iris was back as chair, James had left and the HoD had moved from a background to a foreground position in the course team. By June 1997 the minutes noted that the multi-media project had folded into the course team and would follow the production schedule alongside other course materials. All CD-ROM funds had also been spent and the project was fully committed. At this stage the first and second CD-ROMs were 'about to be completed' and the third was in development, this time with the help of the Academic Computing Service.

There was some good news for the course team noted in the minutes of March 1998 about a successful bid for a substantial amount of funding for audio-visual production. Also, the first two CD-ROMs had been demonstrated at a conference and had been 'well-received'.

They would be made available at the next meeting for approval by the course team.

However, at this meeting in April 1998, poor attendance of members meant that a quorum

was not achieved in order to validate any agreements. Poor attendance at a meeting in which it was planned to demonstrate the first two CD-ROMs indicates that there may have been a continuing lack of interest in this aspect of the course.

< Feedback on the issue of a 'lack of support' revealed some interesting insight into the importance of informal communication within course teams:

'A perception you report of the 'lack of support' ..[.]. should be balanced by the perception of the majority of the department that support was never properly sought among us outside department or team meetings, ie by the usual means of approaching or lobbying individual colleagues.' [FB - MA5] >

These course team issues are discussed later in this chapter. The story continues with a change of membership in the course team. In response to staffing shortages and an appreciation of the workload on the team, it was noted in the minutes of May 1998 that a new member of staff was welcomed to the course team. This person later turned out to be a key academic contributor and author of the final form of the course. At this meeting it was also noted that another testing (with students) of the first two CD-ROMs was soon to take place by the IET.

A significant event in the developmental story was a 'special' meeting of senior managers and a few members of the course team in September 1998 without the presence of Iris - the chair at that time. Minutes are not available but an agenda item was 'to discuss the structure/membership of the course team for the remaining production period'. At a later meeting in the same month a new chair was in place - Anne, and another member of the course team made a first appearance. An additional 'course manager' also joined the meeting. Various changes were recorded regarding book texts and authors and it was noted

that the IET testing of CD-ROMs 1 and 2 did not take place as there were operational difficulties.

In December 1998 outcomes of a meeting held with ACS about the CD-ROMs were recorded -

- ⇒ That the CD-ROMs 'are not integral components of course teaching materials' and that 'their main pedagogic purpose is to introduce students to IT in the subject'
- ⇒ That the 'issues concerning the CD-ROM must not over-ride the course teams' essential priority of development of core teaching materials.'
- ⇒ It was agreed that the CD-ROMs be uncoupled from the books in regard to tendering for publishing

In the minutes of a meeting held in March 1999 it was noted that the three CD-ROMs be revised into just one 'for the first year of presentation'. This followed a discussion of the summer school working group who were also defining objectives for the IT element in summer school.

< Feedback regarding specific technological aspects involved in the making of the CD-ROMs, gave more strength to the view that the suggested development of the CD-ROMs amounted to more risk and more cost than some could accept:

'Post BBC production of the CD-ROM there has been strong criticism of the use of M Peg technology on the CD-ROM which has meant that final production has distinctive problems with video footage on the programme. This signifies two categories of experimentation, firstly pedagogic, secondly technological. I expect that the faculty is not very happy with projects absorbing academic and funding resources while carrying out technological experimentation.' [FB-A7]

This person also mentioned that the CD-ROM project at summer school was to be integrated with another 'important element in the ICT development of the course' called ROUTES. This was explained by another interviewee in a feedback comment as:

'...a webpage listing all web-sites of use to students studying AA306. This was compiled by a librarian and the course chair and is available to all students' [FB-A2]

This appears to be a useful electronic information resource, but it is an institutionally-based initiative with preparation of web-sites being made available for many other courses.

Therefore, it is hardly an innovative aspect specific to this course development. >

Change and course team issues

Two course team members hinted that the course team operated in an unorthodox way, but both were rather ambiguous about the 'change' that had been happening outside the team:

The course had a different and chequered history because it mirrors a number of changes happening over the last few years. [RA8]

The normal way course teams work is to report to the faculty via the department, but so many things have changed. [A6]

Were they talking about a change in the 'system'? If so, was it funding procedures or course management? Or perhaps it was about the BBC - who were being restructured at the time and contracts with course teams were changing? Perhaps it related to other staff changes or learning technologies? It could have been any of these things. Another interviewee added some helpful detail about the course team:

There was no agreement and not enough funding. There was a constant tension between the desire to do something totally new and the practical limitations. [A1]

Perhaps this was at the root of why, as one interviewee explained, the chair felt very under-resourced and would go over department and faculty heads to seek support. This was within the context of agreement that some change was needed.

Comments regarding leadership style and power/control issues were made as well as references to personalities, relationships and competition. The above interviewee remarked:

there were tensions with regard to power in the course team....it was a friction-full process. [A1]

And another suggested:

There were strong personal relationships affecting the way the course team worked. The course fell apart because of personalities and competition. [A6]

It is clear that the needs and interests of the individual members were not in harmony with the needs and interests of the course team.

< Three of the five course team members giving feedback refer to issues of 'personality', 'tensions', 'clashes', course team 'dynamics' and course team role expectations as being more important than I had recognised. For instance, the aspect of 'lack of support' identified from the course team has been attributed to lack of mutual interest or agreement on content and method, and lack of informal networking between course team members. But there is another possibility, a small but significant feedback factor was scrawled next to the sentence - 'It was noted that the chair was concerned with low levels of attendance'.....' because of tensions' [FB-RA8]>

Generational staff issues were mentioned by two people. It was suggested that promotion was quite difficult to obtain for young lecturers because of the perceived need to keep a balance between senior and junior members of the department. Another perspective was that the older and more established staff often had a different attitude to technology. However, this was not regarded as a 'culture-clash', but more that 'people were suspicious that it was innovation for innovation's sake and that there was no coherence'.

Two interviewees describe the period when course development changed direction:

The turning point in the course came in a meeting at the end of December 1998 - after the course chair had left. An external assessor attended the meeting and the course was revised to bring in the later plays and sonnets. This kept in some traditional scholarship but involved a modern historicist approach. [A8]

Following a key meeting with an external assessor, the last half of the course was replaced making the course more 'academically coherent and pedagogically satisfying'. [A1]

<Feedback received endorsed the point made that the technologically defined 'innovative' method of teaching and learning that was originally planned for the course was not matched with academically rigorous content - at least not to the satisfaction of all course team members. >

Course content change

During a team meeting in December 1998, revised outlines for Books 2 and 3 were discussed and dramatic changes were agreed. Decisions were made to replace some of the material produced by the previous chair and others with new texts of different subject matter and perspectives by recent course team members. By June 1999, significant changes in the content of the course material were finalised by the following decision:

⇒ the chair needed to inform contributors (seven in total) who had submitted texts for inclusion into the course that they would no longer be used. [...] The contributors were to be told that the decision not to include their texts was as a result of a 'restructuring of the course' which was now requiring a 'broader approach' than any reflection on the quality of the material.

The Ending

In October 1999 there were 800 students registered – which is higher than usual for a third level course. The final shape of the course was explained in the course guide, which stated that its aims were to introduce the subject and develop students' critical responses. Course components consisted of three set books, seven videos and 21 audio CDs as well as the compulsory summer school which used the CD-ROM in a tutored activity. The list of course team members in the guide consisted of all those who had contributed to the course - there were 18 in total.

The Arts Course Key Issues

The development of this course was difficult. There were considerable changes in membership of the course team, the content and the pedagogy of the course over the five year creative period. It is not surprising how much more is learned from the frank accounts of the interviewees than from the surface information contained in the minutes. Discussion of factors contributing to these changes will be made under the following headings:

- Context - internal and external pressures
- Culture and design - traditional v contemporary
- The course team

Context - internal and external pressures

At the beginning of the Arts course narration it was suggested that the context in which the course evolved includes Fullan's (1991) 'change characteristics' of need, pressure, source, purpose and motivation. The findings have shown that the source, purpose and motivation for the new course were unclear, particularly in the sense that not all course team members

subscribed to the new course proposal, which may have been due to a lack of mutual understanding about the purpose. There are many variables that contribute to the level of motivation for any task: individual reasons; factors arising from the group or due to a wider influence from the environment or the institution. It is the influence of institutional factors that are under consideration in this section.

The Arts Faculty, unlike some other faculties, controlled the budget for all departments centrally. One senior manager explained that there was pressure from a lack of resources which inhibited innovation in a course team as they had been more inclined to stick with what was known rather than take risks. Linked to this was a suggestion from one course team member that the subject matter was expensive to produce and present which meant that it was not given priority. It was also felt that the department wanted to build up a reputation for a different subject area than the one originally proposed for the new course. As the AC story showed, in the early days staff shortages and temporary contracts inhibited the course development. There was also a general feeling of low energy due to the recent completion of another course and staff looking forward to study periods and an opportunity to focus on their own research. This seemed to influence motivation for the new course which - due to its multi-media element - was bound to be demanding in staff time, effort and financial resources. This contribution to low morale for developing the new course, however, is minimal when compared to other factors involving the dynamics of a course team and personality tensions.

Three members of the course team also suggested that the pressures from the RAE, and the re-structuring of the BBC all had an impact on course team motivation. This pressure did not appear to ease up between 1996 and 1998 when a staff stress survey was carried out in

the faculty. One interviewee explained that the Arts Faculty results of the survey showed a very high level of stress due to the poor academic accommodation in the faculty, the pressure of the RAE and the pressure of course writing. In this latter task, though, academics were often pushing themselves rather than being pushed by anyone else and, as the interviewee added, the commitment level was very high - 'people usually do turn up at faculty meetings'. This highlights the aspect of low attendance at the course team meetings in this case study, perhaps indicating low commitment in this instance. On a more general level at the OU he said that people may say they feel under-valued or under-resourced, but that they would not work anywhere else. One course team member did leave the OU for 'career' reasons. This points to the likelihood that the nature of the change proposed - the task, and the motivation level of those in the course team - had a greater influence on course development than other external pressures.

Culture and design - traditional v contemporary

As has been shown, two members of the course team brought up the issue of generational differences amongst the staff in the department. This aspect was also mentioned by two other senior central managers who recognised that the institution would be likely to change considerably following an imminent mass retirement of people who had been with the OU since it began.

One course team member suggested that the older generation of OU staff had a different attitude to technology, long-term planning and the reward/promotion structure. There were various unenthusiastic views expressed towards technology and this may have created barriers to the course development. However, the OU, as an institution, was actively encouraging the use of multi-media in new course designs and this was evident in the

funding given to the development of the CD-ROMs by the university's learning technology office. The faculty dean was also supportive of this aspect as he appointed the chair to the course team and supported the CD-ROM development. The department felt differently, as one interviewee explained:

The department has some discomfort about the university's drive towards new technology in future teaching. [MA5]

This view may have been behind a lack of support from the department, which appeared to have encouraged a search for funding and support from outside. However, as we have seen, seeking support externally was resented and mistrusted by some of those in the department and this added to a deterioration in personal relationships.

Linked to the generational issue is the structure and opportunity for promotion which is also a contributory factor in motivation for course team members. A senior manager explained that in order for young lecturers to get promotion, in most cases, they needed to have the experience of chairing a course team and getting publications - this represented both teaching and research. Another interviewee said, slightly ambiguously, that teaching was the most important of the four components (the other three being research, administration and external activities), though there had been, recently, a much stronger sense of the importance of research. A general comment was made by one course team member that eight years was a long time for young people to stay in the department as promotions were rare. This aspect of a perceived lack of opportunities for career progression did impact on course team membership changes which were also influenced by the short term contracts received reluctantly by some members of staff.

If the technological element originally proposed in the new course methodology could be described as 'innovative', it could be linked to the nature of the course content, which had

been referred to as representing a 'contemporary approach' to the subject matter. They are connected because both diverge from the traditional and familiar format, but as one interviewee pointed out:

Teaching methods cannot be divided out of the overall curriculum design. Right from the start of course team discussion, method is a subject matter - it is built into an overall pedagogic structure of assignments and media to be used - the whole picture must be seen from the beginning of course development. [A3]

It is notable in this case study that a substantial part of the method was divided out to become a separate research project near the beginning and when it was accepted back into course production no evidence of support for it was shown. This early separation of the method and course design may have affected the eventual abandonment of the original ideas as the content also changed to provide a greater element of traditional views. Perhaps there was more departmental support for a traditional course design than for an innovative one.

The Course Team

This case study has shown that people within course teams can have power to change and to obstruct change. One new course team member successfully argued for significant change in the course material and methodology, whereas another had felt obstructed by colleagues to develop plans for the new course. The first commented that the OU was 'good at franchising people' and the second thought that academics have responsibility at the OU but not always the power to enact. As this demonstrates, it seems that individuals, including those in responsible roles, can achieve very little without the support of their academic peers and colleagues.

The Arts course story also shows that, most importantly, there was a lack of mutual vision amongst the course team members despite its appearance after several years of debate

about the shape of any new course. The development was hindered by an un-shared understanding of the task as well as being fragmented at a practical level. The methodology was detached and then re-attached, book chapters were commissioned from many sources and people joined the team for short periods and were then cut off due to short-term contracts or the re-structuring of the BBC. This made the task of the course team particularly difficult.

<Feedback received highlighted the problem that, in addition to a lack of mutual vision, there was a lack of mutual understanding in the team on an academic level:

'... it might be worth making the point that the projected course's biggest shortcoming wasn't so much the CD-ROMs but the lack of a clear sense of what was being taught...'[FB-A1] >

Course development did not follow a typical path at the OU, but nevertheless the formal procedures were undertaken - funding was sought and found, evaluation was undertaken and reported, peer review and feedback were given and yet problems were abundant. External and cultural issues were a part of the problem-making but some problems snowballed from the first design idea, which was relatively divergent from the norm of the subject approach and previous course formats in the department. The original proposal involved a new and untested pedagogy that required expensive multi-media development and the persuasion of others that it would work. This meant that 'the task' (which was another of Fullan's 'change characteristics') was complex and not equally understood by all the course team members. Possibly, as a consequence, unhelpful relationships developed and personality clashes arose from the conflict of ideas. The story of this course development, incorporating vastly different perspectives on the 'whys and wherefors' is certainly more complex than this feedback suggested:

'there is perhaps a tendency for the participants to say either 'the course didn't work as planned because of institutional idleness/ or personality clashes' - the truth is probably somewhere in between. How conveniently Shakespearean!' [FB-A1]

This study highlights the need for course teams to have (or develop):

- a clarity of task definition;
- a mutual understanding and vision of the proposal (agreement regarding the content and nature of the change);
- a pro-active, communicative, democratic and sensitive leadership;
- a mutual respect and trust between its members on an academic and personal level;
- many opportunities for informal dialogue between team members and the chair;
- access to informal networks outside the department or faculty;
- a cohesive core of members who share an equal level of motivation and commitment.

The Technology course Story
T171 - You, Your Computer and the Net

Introduction

The course team minutes began before March 1998 but this was the date of the first set of minutes viewed (number 5). The last copy of minutes seen was dated September 1999 (number 25). Data collection, through informal talks with senior managers and interviews with course team members, began in October 1998 and finished in May 2000. In February 1999 a pilot of the course began with a total of 900 registered students. An interim evaluation report of student and tutor feedback prompted several changes - these were also based on the experience of some course team members who were also tutoring on the pilot course. The course chair and the manager of the course were interviewed near the beginning and end of 1999. This was very helpful as many developments and changes took place during the six month interval.

The team came together in December 1997, which indicates that there was just one year of course development before the pilot presentation. Briefly, the picture of the development begins with a certain amount of preparation undertaken by the three protagonists who wrote most of the course material, motivated by their own enthusiasm for the subject, before adopting the idea for the new foundation course. It was acknowledged early on by all three that the nature of the course delivery and content would, necessarily, change quickly and considerably, making the standard OU administrative procedure impossible to undertake. Therefore funding and support were obtained via informal networks and personal meetings with senior central managers. The course team needed great belief in what they were doing and persuasion skills to recruit the help of others, though some colleagues were so excited by the innovative style of the course, that they offered their

services. The way in which the students would be supported by tutor-counsellors and staff tutors in the regions was of particular concern as many new procedures were to be used, including online tutoring and submission of assignments. The course changed following the pilot presentation and evaluation and change were expected to continue in the future with reviews taking place on, at least, an annual basis. The February 2000 presentation attracted around 9,000 registered students.

In November 1999 I was appointed as a tutor-counsellor on this technology course.

Therefore, my perspective as a researcher changed as I became a 'participant ethnographer'.

However, this happened following most of the course team data collection which is explored here.

Who's Who

In June 1999 there were 24 members of the course team listed on the course web site. A year later (in June 2000) this had increased to 31 members. The membership had not changed significantly but it had expanded and roles had been revised. The cohesion of the core course team members has been a significant aspect of this course development story.

In the following narrative aliases have been given to those specifically referred to in the course team as added protection for anonymity, but their roles will be as described (by themselves, by others and by the course minutes). From the first few minutes of meetings in the Spring of 1998, core course team members were:

- chair and author (Stephen)
- 2 senior lecturers/ authors
- course manager (Tom)
- graphic artist and web designer
- editor and tutor counsellor

Other important members included a senior counsellor (and member of the electronic student support team), a key system developer from EMERG (Electronic Media in Education Research Group), a study skills advisor and three staff tutors who also acted as critical readers. By May 2000, the team had two course managers (Tom was one of them) and a new role of 'Presentation Chair' was shared jointly by two staff tutors. An additional editor joined the team and three other critical readers and tutor counsellors. Other contributors included an IET person who set up the web site management structure, a designer, a picture researcher and three members from the Academic Computing Service. At this stage there was also a 'team within a team' (TeSS - Toolkit for Electronic Student Support) consisting of four people who create electronic materials to support both tutors and students throughout the course.

The combination of roles in this team reflected the online, web-based design of the course. There were three main academic authors, one for each module in the course, and roughly equal numbers of those involved with technology design and development as those involved with the pedagogy and student support.

What happened in the beginning?

Most of the data collected about getting the course off the ground came from the interviewees, as the course team minutes of meetings had not yet begun. Three core team members gave their perspective of the purpose behind the course design:

We identified the market need. Basically, we knew that there were people buying computers but who knew nothing about them and needed to be informed. The OU's role is almost missionary - involving knowledge, perspectives and ideology. There is a new sub-culture forming which has its own language and this excludes people - this course aims to take ordinary people into that culture. [T2]

There was growing competition for mature students and technology courses from elsewhere. The OU was in serious danger of going downhill - getting left behind (especially in delivery mechanisms), but it has a potentially vast audience and it is possible for us to change things. We are fervent about the internet... the web being central. Two of us are positively evangelical about it. That's the strongest reason why the course got off the ground and how people became involved. [T4]

The background to this course coming into the limelight was several years of faculty discussion about the possibility of replacing the existing Technology foundation course, but this required the contribution of a very wide group of people and was very difficult to organise - we tried over a one to two year period. Then someone suggested that instead of one large foundation level course there should be three 'smaller' ones - representing IT, engineering and the environment (the three main areas of the faculty). This idea was met with agreement and relief by all concerned. It had been done before with a Maths foundation course. It was then decided that IT would be the first one off the ground. [T1]

Explanations of how the decision was made at faculty level to proceed with the course were given by two of the above interviewees and one other contributor:

It was known that the previous foundation course was coming to the end of its life and in November 1997, during a faculty board meeting, when the sub-dean suggested that they should be thinking about this new course ... the response was "Oh well, here's one we made earlier!". [T4]

The three authors had a 'flying start' as all had written some relevant material for other projects. [T1]

The dean convened a special meeting with selectively invited people already active in the field and the new 30 credit technology foundation course took form. It was unexpected, but needed. [T3]

The way the course team operated and why was described by the following interviewee -

- As a team, we have operated outside the normal way of doing things at the OU. The usual way for a foundation level course to be developed was to have a large course team who take about three years to produce a new course. We (the three initiators) decided that this was not the way we wanted to proceed mainly because we wanted a web-based system - as the subject matter was dynamic - and material on the web could be produced and changed quite easily and quickly. The first stage is usually a course outline which needs to be approved by the faculty Board - this was avoided as we had nearly finished writing the whole course by the time we went to faculty Board. [T4]

Four of the course team members interviewed gave the following descriptions of how they became involved and how roles were filled:

The chair was initially a shared position between two of the authors, but in early 1998 Stephen shouldered the responsibility partly because it was agreed that this would be valuable experience for him (not having chaired a course team before) and partly because the university course board needed someone to relate to.⁴

The senior course manager in the Technology Faculty suggested that Tom might like to be course manager because he had developed an interest in the Web - designing a web-site for his department. This was December 1997.

The senior editor heard about the course 'on the grapevine' and went to see one of the authors to volunteer his editing skills. This was in April 1998 and he started work in the following month.

One of the staff tutors had a mutual sporting interest with the chair and also heard about the course as the chair of 'The Policy and Presentation Group' (a working group of technology staff tutors). The staff tutors were aware of the potential impact of the course and that there needed to be a pragmatic perspective from the start with regard to implementation.

This detail is important because it demonstrates the high level of interest and motivation among the members of this course team. The initial project control meeting produced a decision about the nature of the course which was to include:

- a 10-page course Guide
- a CD-ROM - to contain software needed for the course
- the use of First Class software for a conferencing facility
- a tutor strategy

The nature of the early meetings was described by one interviewee as:

...quite 'philosophical' - talks about how to incorporate group activities / discussions and narrative in the modules.[...]... Staff tutors were visited at quite an early stage (just after the faculty meeting in December '97) - we knew that nothing was going to work unless the staff tutors came on board. Several joined the course team and helped develop the tutor model which is supportive as usual, but online the tutors have the capacity for 'primary teaching' - introducing group activities and running the computer conference. [T4]

The motivation of the course team was a critical factor in course development but it could not have happened without key meetings with powerful individuals in senior management positions. Four interviewees gave the following examples of funding and support obtained:

⁴ Interviewee codes are not included with these extracts too avoid obvious links being made with course team roles which would identify the contributors.

The faculty budget was used up with other projects (planned five years ahead)... but the PVC for Planning Strategy provided £25,000 to help us get things developed. [T4]

This helped to clinch the help of an editor who also had a research interest. Informal cricketing and football networks were used to talk to people in key positions. [T1]

He managed to get a small amount of funding and put the course on the web site before going to the faculty board. [T2]

The VC gave his personal support for the course to one of the authors. [RT6]

In the minutes of May 1998, the course chair reported that:

- ⇒ The course has been approved by Academic Board
- ⇒ There has been a great deal of interest from both potential tutors and students
- ⇒ No face-to-face tutorials is still a worry to some tutors
- ⇒ Stephen would prepare a paper which can be sent out to tutors and colleagues setting out the tutorial strategy of the course

The end of the minutes referred to the regular and informal way in which course team members were interacting and working together :

- ⇒ Tea and chat at 3.30pm in the EMERG meeting room on Wednesday afternoons and further discussion on the conference.

Course development challenges

It was noted in the minutes of the June meeting that the chair was being interviewed on the following day by Radio 5 Live - indicating national interest in this course. However, many problems about the nature and implementation of the course were needing to be confronted, particularly with respect to the appropriate bureaucratic systems within the OU. It was reported that:

- ⇒ Exams and awards need a response from us regarding their concern about proof of students' own work.

One interviewee explained:

The first obstacle was the university infrastructure. There is a justifiably tortuous process at the OU to get courses authorised, but this course needed to be quick because of the nature of the changeable subject area. [RT6]

And another mentioned the need for additional persuasion and justification:

The next hurdle was to try and talk to 'the system' - much of the course design had not been encountered before, so there were many aspects that needed extra communication. [T1]

Most of these hurdles were cleared by the informal strategy of personal meetings, but much leg-work was needed by the chair and course manager to meet the more formal requirements of Boards and presentations.

Two examples of other challenges and how they were overcome were given by the same interviewee:

Some resistance to the whole idea came from the direction of ALs at the beginning, who thought that all the online communication would be in addition to other normal duties they fulfil - but this was a mis-understanding, rapidly cleared up. The most notable moment of resistance came from a PVC who thought that a pilot with 500 students would be out of the question suggesting that 50 would be more appropriate. This caused some panic because the idea of the pilot was to try the new system with large student numbers. The resolution was achieved by one key course team member talking to a different PVC who managed to sort it out. [T1]

Events leading towards the pilot presentation

In September 1998 a three day residential meeting for the course team was held. This was relatively unusual and was needed because of the speedy production time and the expected large number of students on the pilot. The meeting is of interest as it demonstrates the behaviour of a cohesive team. All areas of the course development were discussed including the presentation model which was to consist of student study and tutor group activities, self-reflection and self-assessed quizzes (SAQs). Module content received much attention and some worries were expressed - particularly with regard to workload for the students and getting online at the start. Skills, assessment and tutor roles featured heavily in the discussion as well as the pragmatic considerations of cost and expenses.

< Feedback from a core course team member suggested that another event, regarding the technological foundation for the course was equally as important in its development as the meeting described above:

'I don't think we would have succeeded in developing the web site successfully in the short time available to us if we had not been required to prepare a prototype to demonstrate to a visiting government minister in June 1998. The visit was by Kim Howells MP, who at that time was the minister for higher education. The timely development of a working prototype that defines the structure and navigation of a web site is crucial to the subsequent rapid delivery of the content. This prototype demonstration was as key to the success of the course as the later residential meeting.' [FB - T5] >

In November 1998, critical readers made recommendations for modifications in the presentation, directly referring to the course pedagogy and group learning. It was decided that group activities needed to be led by tutors who would also conduct the development of constructive criticism skills with the use of specific readings.

In February 1999, the minutes reported that the IET was drawing up a plan for a web based survey of students and tutors on the pilot presentation - evaluation would start soon.

During the pilot presentation

The minutes of April 28th noted an overall drop out rate for students of 15%, but that in some regions this was as high as 40%. It was thought that many of those dropping out were complete beginners and some were struggling with the workload. Changes to the course content were discussed for the presentation in February 2000. It was also noted that a meeting was to be arranged with two PVCs about the scale of the operation. There was a need for more staff and a structure to be worked out to deal with tutor and student queries.

In the minutes of 19th May 1999 the main findings of the interim evaluation (a web site survey) conducted by the IET were reported. Issues of work overload, work pace and greater course integration of group activities were to be addressed for the first full presentation.

Support Issues

Staffing and resources were recognised as vital issues regarding the 2000 presentation. In the minutes of July 21st 1999, it was noted that over 4000 students were registered for the course and there were ongoing discussions with various parts of the university regarding numbers of students and resources needed for the 2000 presentation. The course team felt that numbers would have to be capped at some point, as AL training plus student services and counsellors would be unable to cater for unlimited numbers.

Two interviewees commented on issues of online tutoring:

The internet is not *just* a delivery mechanism. It is a means by which each student can have a personal tutor, available by email and one who is aware of all your work patterns and progress (results of self-assessment exercises on the web are automatically sent to the tutor⁵). [T2]

As a tutor, this course team member has been encouraging students to get going on the activities and to respond to each other (he sees the role of tutor as 'facilitator'), intervening as little as possible has paid off with the tips that students are giving to each other. It has taken about 2 - 3 hours a week, starting with a group of 17 students, which by the end of June stood at about 13/14. Other tutors had put in twice as many hours - this may be to do with style or with the nature of the students. ...[.]. This course has been much cheaper to produce due to the speed and simplicity of the process (less people and less stages involved). However, it may not be cheaper to run - tutors are spending more time helping the students, marking and giving feedback. There is a similar tutor/ student ratio on this course as on other OU courses. [T5]

In the minutes of September 1999 concern was expressed that:

⇒ Adequate tutor and counselling support will not be sufficient if student numbers rise above 8000. Senior counsellors are discussing this at a meeting with Regional Directors.

⁵ It is my own comments inside the brackets when part of an interview extract.

The chair confirmed that the course team would need a presentation chair and an additional course manager, as a response to the expansion in numbers.

Following the pilot presentation, a number of additional changes were planned⁶ -

1. From the 850 students who started the pilot study there had been 310 submissions for assessment. The drop-out rate at the beginning was no different from the other technology foundation course. In anticipation of about a 50% drop-out rate there was a planned change to tutor group size from a nominal 15 (most were about 12) to 20 for each group. Another reason given for this change was a concern that there would not be enough Associate Lecturers available for the number of students expected in the full presentation.
2. In October 1999, there were 8,500 registered students on the course for the presentation starting in February 2000. Up to 13,000 had shown an interest, but the course had been limited for the February 2000 start (due to the time available to employ enough ALs). However, the VC had stepped in and decided to present the course for a second time, starting in May 2000. This would be the first time a second registration in one year was offered at foundation level.
3. The student support network and conferencing arrangements were to be re-structured to serve and manage the large number of students.
4. New tutors to the OU would still have a short face-to-face briefing about the role of tutor-counsellor and one other about Distance Education in general. Additional tutor training would be augmented by the inclusion of a video, produced by the course team, packed with examples of setting up conference areas and using the electronic marking tool as well as providing personal explanations of the course content by the module authors. An online training application was available for the management of tutor group conferences using FirstClass software.
5. Roles for course team members were changing. The original course chair would be concerned with 'production' and two staff tutors would share the role of 'presentation' chair. A second course manager had also been requested.
6. Other parts of the university were increasingly involved due to the large scale of the course. The Academic Computing Service, for instance, would be assisting with certain aspects - technical help in particular.

The course changes listed above were mainly concerned with aspects of presentation. The amount of attention given to supporting the students and tutors on this course had been

⁶ The description of these changes is based on second interviews with two course team members undertaken in October 1999 and a later first interview with another course team member in May 2000.

considerable and necessary due its innovative nature and the scale of student registration. Student support and online tutoring issues will be discussed further in the next chapter.

< Feedback sent in July 2000 gave an update of the 'actual' drop-out rate (following on from the first point given above) of students on the pilot presentation:

'Actually we were higher in the end. I think most Level 1 courses ran at about 40-50%, whereas ours was 57%. There was some evidence from tutors that approximately 10-20% of students studied the course to the end but did not submit assignments (and thus wouldn't show on our records). These were probably people who never intended to take another OU course, and were studying for interest only, so gaining credit points was not a concern. T171 may be unusual in having such people, so its drop-out may always be higher than average.' [FB-T4] >

The Ending (or is it?)

Due to the nature of this course being 'fluid' and non-existent as a printed/hard copy, it is inappropriate to think in terms of 'the ending' - as it seems as if there will never be one. The course team, rather than reducing in size, as is usual at the stage of first presentation, has expanded. As has been shown above, from the beginning the nature of tutorial support had been regarded as integral to the pedagogy of the course and this had led to a large amount of involvement from staff tutors and associate lecturers in the course team.

The Technology course Key Issues

Characterising features of this course creation process are the speed with which it was developed, the unorthodox way in which it achieved authorisation and cooperation from 'the system' and the extent to which tutorial support issues were integrated in the course design. Discussion of the contributing factors in the process and nature of these changes will be made, as in the Arts story case, in the following areas -

- Context - internal and external pressures
- Culture and design
- The course team

Context - internal and external pressures

The institutional and departmental context as well as the external situation indicated that the nature and content of the course were apposite - the large numbers of registered students endorsed the perceived need. Due to the course being at foundation level development involved a group of people from different departments within the faculty. This meant that there was no specific cultural influence from one department or discipline. At foundation level, the course would have a relatively high status in the faculty, enhanced by the prospect of attracting a large number of new students. One senior faculty manager explained:

It was a bottom-up development - though it did fit within the faculty plans for developing IT courses. Estimates of student numbers heavily influence commitments to future activity - the OU had just been given the biggest allocation for new student targets to reach the following year and without this course they would have struggled to do this as a university. [T7]

The increased requirement for new students was a pressure from the government on the university and subsequently became an internal pressure on the faculty. Those in the faculty also knew that there was external pressure in the growing market need to provide up-to-date IT courses. This was a particular point expressed by two of the course team members, who were aware of the growing market need and were also personally excited by new developments in technology.

In the distant background to the course there had been pressure from the OU about not incorporating too much technological sophistication in a new course because of the possibility of excluding people without the equipment to gain access to studying. This view kept appearing in the archive issues of *Open House*, the internal staff newspaper, where the debate of technology vs. access had been raging since 1985. At that time the VC was very much against the idea of introducing personal computers on to courses, but these were eventually accepted in the early nineties. It is only recently that enough people have become computer owners to justify this method of online course presentation, as one course member said:

The world has moved on, we needed to embrace a paradigm shift. Most students now have better 'kit' than academics and students who don't can get loans from the OU or rent a machine...[T2]

In a sense, the OU procedure of authorising new courses could be considered to be a pressure on the course team authors who wrote most of the content and design before going to the faculty. The authors knew that this course was needed in a hurry and they knew that the bureaucratic route was too time consuming. This put pressure on them to become 'mavericks' and work as much as possible outside the system. Two course team members have contributed the following contextual perspectives:

The OU has changed - become more cost-conscious and cost-efficient. It has expanded but individuals are carrying heavier workloads than before and this is what makes it difficult to produce large new courses. [T5]

The OU is wonderful and I am very committed to it, but at the same time I spend my life fighting it! There is an old-style management system - driven by accountants. [T2]

< Feedback given on this story, suggested that there had been another saga running in parallel with course development involving more change in the 'system':

'I note that you concentrate on the story of the development of the idea and the writing of the material, and the administrative hurdles that had to be overcome.

There is another aspect to the story, and that is how the production systems coped with a novel course. This is perhaps a little beyond the scope of your study, but it parallels in many ways the story of how the faculty was persuaded to support the course.' [FB-T5] >

At no time during the interviews of this course team was the impression given that the task was a burdensome one. The contributors were highly motivated and often expressed a very similar vision during interview. Two of the authors from the technology course demonstrated their positive outlook by quoting exactly the same phrase - 'nothing succeeds like doing it!'

Culture and design

The 'generational' issue discussed in the last section concerned the possibility that hundreds of staff members would go in a short time which could mean more centralised policies and planning and less bottom-up influence on the university. The fact that three of the course team members interviewed had been with the OU for over 25 years and that the course was largely driven from the bottom gives some weight to the view that much influence was then possible from the bottom-up. However, another interviewee pointed out that:

Recently, there is some thought given to what is needed and ideas are introduced from the top-down - there is not so much of the pursuance of personal interest...[...]. People with new ideas and high motivation are sought to fill appointments...'being innovative' is an infectious atmosphere at the OU. [T7]

On the one hand it sounded like the OU was, already, becoming more centrally driven and on the other hand, staff were being employed who are likely to drive from the bottom-up.

A long-standing OU staff member described the OU culture as:

A collaborative culture with a 'family analogy'. The deans and department heads are much less powerful and influential than they used to be which allows enough freedom in the system so that people can attach themselves to projects like 'free ions'. [T2]

It is interesting that those in faculty or departmental management positions saw the prospect of their weakened power as an increase in power from central management, whereas it was viewed quite differently from the bottom as being more liberating with a greater potential for innovation and collaboration.

The regional support design for this course had been particularly important, as we have seen, and one regional staff tutor emphasised the aspect of 'goodwill of students and staff being the 'only reason it all worked!'. This seems to fit easily with the 'family analogy' and many references to staff commitment to the university and its students. The emphasis of an informal network of friends and sporting companions which stretch across the hierarchy for getting things done seems to support the above sentiment. A senior manager also held the view that the most effective way of getting things done was networking and knowing people who are able to do things. Another course team member suggested that although some people thought that the course was developed in a highly irregular way, this was what always happened in practice.

However, since the course began in the first presentation year (2000), course team 'control' has dissipated to an extent given the greater involvement of the Academic Computing Service for instance. This is a recent development and may reflect the cultural shift that one interviewee considers has taken place:

The university is now a hybrid involving an academic sub-culture and a producer/publisher one. Everything has become more competitive with the outside world and with support services internally. [T5]

Overall, it seems that a traditional 'innovative' and bottom-up culture of the OU has set the context for this course to develop, but that it was heavily reliant on personal and group effort involving goodwill and that once the design was generally complete (although still

evolving) and presentation was underway, the more contemporary 'cost-conscious' and competitive culture began to have an impact.

The course Team

Perhaps it was because many of the interviewees on this course team had been with the OU for most of its life that they were quite forthcoming when asked about course teams. One interviewee who had been commenting about the low quality of web-based courses that he had seen at a recent conference abroad explained that OU course material was very sophisticated, which was due to a mix of roles and professional people on course teams - editors, producers, educational technologists and academics. This team is not different in the above respect from other course teams in the university but it is the cohesiveness of the team that particularly stands out. The nature of the task and the motivation level of those involved were connected in the following comment made by one interviewee:

Innovative people are not isolated at the OU - the course evolved through people talking about the idea and some getting excited and joining in. [T2]

The course team members not only acted with the use of informal networks to overcome time-consuming and bureaucratic procedures, but also incorporated informal activities within the course team itself. One example was shown earlier in the minutes about a weekly 'tea and chat' meeting regularly used to discuss progress and problems by team members.

The way in which course team members took on multiple roles was another example of working in an 'open' way. The course manager also took the role of a critical reader and the

editor and 'web-master' additionally dealt with project control system tasks - 'vital to the process of the unofficial and flexible way of working' as one interviewee had expressed it. An amusing, but nevertheless relevant, picture of informal course roles was described by one team member with the chair as 'the hero - he did all the leg work' and another member who became 'the course Luddite....muttering things like - that'll never work!' A third role of 'the absorber of uncertainty', was fulfilled by the team member who reassured and dispelled all doubt. These informal roles, and particularly the last two concerning interaction in the group, give a clue as to how the team helped each other with the course development.

The process of developing this course may have been relatively fast, but it was not easy. Most of the struggles were associated with administrative procedures - as already mentioned, but there were other less specific obstacles. One interviewee explained:

Some people in some faculties were panicking...this creates a general feeling of resistance. They were worried that this new way (the online presentation) would take over from the existing system - replacing it. [RT6]

It may have been that the struggles and difficulties the course team needed to deal with helped to link the team even closer to each other than would otherwise have been the case, though the minutes show that agreement amongst members was not always easily achieved. One course team member described his enthusiasm for the 'team' approach:

course teams are special at the OU because it is like working in a fish bowl - every detail being scrutinised and going through an iterative process of refining drafts.... by colleagues and external assessors. [T5]

< Feedback regarding the course team in this story gives emphasis to the effective ways in which it operated to develop the course. Not only were the team proud of their new course but there was also pride in their interpretation of the course team concept:

'What was interesting was that although we set out to develop new ways of working we eventually re-invented the course team. I have been to lots of educational conferences recently and a number of presenters who are now discovering distance education because of the web are doing exactly the same – discovering the course team model.' [FB-T4] >

This study highlights the importance of flexibility within an institutional 'system' which acknowledges and encourages informal networks of people who have the energy and enthusiasm to make necessary changes. The extent of the change and the speed of the change process demonstrates the necessity for the support and goodwill of colleagues as well as an equal and active involvement in decision-making.

The OU and the Course Team

The need for a 'collaborative culture' and 'team effort' in effective change processes have been emphasised by Fullan (1999) and Scott (1999). Lessons regarding the change process have been learnt and shared, but it is uncertain how they were learned. The data presented in the previous section have shown *how* the way in which course teams operate is influenced by a variety of factors. Motivation of course team members and the nature of the task are evidently of critical importance. The challenge that course teams face is to design a syllabus and present it in a way that is accessible to a broad range of people with varying experience and abilities, on a wider spectrum than universities have done in the past. This is the primary pedagogic issue, added to which is the aspect of distance and dispersed students which poses both methodological and practical problems. Adding to this challenge is the knowledge that a publicly stated aim, in a White Paper entitled *A University of the Air* in February 1966, declared that the OU was to be judged by its reputation for excellence in teaching quality (Tunstall, 1974).

Over the last thirty years many other universities have created course teams to develop new courses, so what makes them particularly special at the OU? One reason is that course teams have consistently had as many members primarily concerned with technology and media as those who are more concerned with pedagogy and content. Most traditional universities do not have resident educational technology experts, editors and publishers. The need for an integration of various teaching media justified the use of a course team approach from the early days of the OU (Riley, 1975). This mix of expertise is still required today and is now more complicated as videos, CD-ROMS and computer conferencing are added to the list of options in method and presentation. The nature of the mix of people has changed in the latter half of the 1990s, due to the BBC re-structuring (and pulling out resident OU producers and editors) and because of a shift from TV broadcasting to use of CD-ROMs and the internet. Both the course teams studied illustrate the need of this mixture of course team members which was explicitly referred to by interviewees.

Another distinguishing factor, frequently mentioned by interviewees, is the rigorous scrutiny and 'openness' of every word produced by any of the course team members. They are challenged considerably by the collaborative process of course development, a feature of the OU that marked a profound change in the process of teaching at higher education level. A report on course teams by the Nuffield Foundation made the point that 'a useful way of looking at course teams seems to be in terms of a move from the private to the public' (Squires, 1975, p.1). This was contrasted with other research that had shown how teaching in higher education was generally a private affair with little contact between lecturers. Teaching is an important factor in promotion at the OU and the course team approach makes the teaching skills and creative ideas of lecturers very visible. All

meetings are minuted, so ideas can be traced - these minutes can amount to 75 pages in length overall (Nicodemus, 1992). All written material is read by two or three others who give detailed feedback to the author for their next draft - in this way 'teaching' is exposed to academic peers during its development as well as on completion. This is one reason why the cohesion of the course team is a crucially important factor - cohesion in the sense that members have a shared aim and are on the same 'wave length' as well as in the sense of actually being physically present and part of the team. This was a contrasting feature between the Arts and Technology courses with the first showing signs of struggle in this area and the latter demonstrating a 'working together' scenario.

A long-standing lecturer, in one interview, explained that the OU made effective the use of correspondence materials by improving on previous quality and producing courses collaboratively in teams with rigorous external assessment and intensive peer review. It incorporated the fruits of educational research, explored various forms of presentation but best of all embedded it all into this huge regional network which formed the support system and made everything function. This is what it is now trying to do in cyberspace. The regional network was changing as a result of the specific needs that tutors and students have with regard to learning on the internet. The implementation phase of the change process has meant that collaboration between individuals has needed to stretch to collaboration between groups in the OU in order to serve and support the large numbers of students who are now needing a greater level of attention with regard to technical aspects of the course.

Course teams as groups

There have been very few studies about course teams in recent published research though one could relate research into learning and working in groups to this particular context. Educational research has tended to focus on implications for the 'learner' in a group task situation and much of this consists of studies in school education. Recent interest in the field of management training has led to many studies that have resulted in the identification of 'trainable' (or 'learnable') skills - communication and team skills being particularly relevant to groups. 'Teams' have also attracted attention in the business world as change is needed as much in commercial organisations as it is in educational ones. Change in teaching and learning at the OU is not only carried out at the level of the course team it is also happening as a result of changes in the whole organisation. Links have been made between individual and organisational learning (Scott, 2000), therefore it may be possible to apply the micro to the macro situation - factors that affect the functioning of course teams could also apply to the way in which the organisation works and develops.

The nature and function of groups has also interested psychologists and one of these has identified the following areas which affect the functioning of a group: the motivation of group members; the task goals or objectives to be achieved; group norms (or 'rules'); group composition (characteristics of members); group size; group structure (roles and relationships between members); group history and experience and the physical group environment (Bligh, 2000). These areas have been explored to an extent within the course stories. There is no satisfactory way, in my view, in which the impact of each of the above variables can be measured, so that one could see which had more influence over team success than others. However, I think the evidence from interviews and feedback has

shown that all these variables are significant, but overall, more attention has been shown towards some factors above others. These are: motivation (linked to history and experience of the group members and group composition) and the group 'norm' or operation of the group incorporating leadership, roles and relationships.

Composition, motivation, history and experience of group members

The initiative for a new course team usually stems from an informal group of lecturers with a strong interest in a particular subject. (Riley, 1975, p.2)

This sounds very much like the way in which the TC team evolved. The difference is that from having the idea to developing the course, the usual procedure was not followed. The team was so confident that the course was needed and so committed to its development that funding and support were sought through unorthodox and informal ways. The team grew and involved much needed additional people as news of the course spread and as a result experts offered their services through sheer enthusiasm in the hope that resources would follow. This informal but enthusiastic way in which the course team came together created a deep commitment and motivation in all the members to overcome the many difficulties that it met on the way to a presentation stage. It could be argued that the use of the internet (email and web documents) between team members and potential team members broadened and speeded up the usual networking process. However, the impact of this useful tool on the process of course development would have been minimal compared to the influence of personal enthusiasm. In the year 2001, the course design, the content and the ways in which students are supported continues to change and evolve.

Past experience of members can be both beneficial and detrimental to the functioning of the team. It is clearly beneficial to have subject experts and experienced writers and editors on the team, however, if team members have worked together before and had an

unsatisfactory experience then this can hamper progress considerably. A member of the Institute of Educational Technology, Robert Nicodemus, produced many internal reports regarding course teams over a 25 year period. In one such report he explained in detail the experiences ('emotional life') of a course team spanning 20 meetings over 2 years that he had observed. Here is an example of the way in which 'history' can affect a course team from the beginning:

Because this particular course was replacing one which was successful there were worries about the new one being as good or, hopefully better. [...] Their experiences in the old team had been difficult and they did not want the quality of the new course adversely affected by problems which seemed unresolved and unresolvable (Nicodemus, 1992, p.2)

This may have been an element in the AC story, there was clearly some disagreement about the desired new course between the original new course chair and the chair of the previous course. There were also mixed views expressed, from those who were in the original course team, regarding the nature and design of the proposed new course. Although some motivation and collaboration was evident, each member had varying reasons for involvement and a mutual vision was lacking, resulting in conflict and fragmentation. Reasons why there was a lack of mutual vision have been explored above, but a strong factor may be lack of clarity in the pedagogy, content and learning objectives from the start. Apart from one or two people, other members had no previous experience of the new proposal (technologically or pedagogically) and could not imagine how or if it would work and how students might benefit.

The experience of the three main authors in the TC was highly appropriate for this type of course, one in particular had a history of 'fighting' the OU for the introduction of new methods and this experience was valuable. From the authors' experience of earlier projects it was felt that an important pedagogic use of computer networks was to link people for

discussion and collaborative work. A paper, written for a conference by one of these authors, highlights the needs of a global network for education based on the experience of the Open University:

Crucial to this new framework is an online environment with associated organisational support designed to foster a sense of community. It requires the development of an ethos of mutual support. It requires tools for checking agreement and mutual understanding. And most important of all, it requires training for students and staff in skills of collaborative learning online. (Alexander, 1997, p.10)

The TC have attempted to include these features. The importance of skills in co-operative learning and the cultivation of mutual trust and respect within learning groups were also highlighted in the conclusions of research from the early stages of this thesis carried out at Exeter University in the Computer Science department (English and Yazdani, 1999).

The two course teams in this case study required a similar mixture of expertise, the difference was that the AC had many changes of membership during development and included external collaboration with filming material as well as external commissioned subject experts contributing to written material. The TC team began with a small membership (of about six people) which grew at the height of discussion before production and then reverted back to the original small 'core' group for most of the meetings. One member observed that the team 'worked effectively because it was quite small' (see Bligh, 2000). Since presentation, a few more additions to the course team have been necessary including a share of roles - in particular a splitting up of the production (course design, method and material) and presentation (tutor and student support) issues that now have leaders or 'chairs' with these responsibilities.

A member of senior management explained that small course teams (of about six academics) have evolved in the Centre for Modern Languages (which began in 1992).

Academics paired up to design content and method, allowing them each more for their own research. Writing 'experts' were bought in to produce the text. This is just one example of how a departmental culture can effect change in the entrenched traditional methods of course development. The 'new' aspect of the Centre and the subject matter have necessitated innovation in both process of development and teaching methodology.

Group operation, roles and relationships

An interviewee who had been working on course teams during the last 20 years at the OU suggested that : '...how effectively they work depends on the mixture of individuals, really, and their backgrounds and how effectively the chair of the team does his bit in pulling everything together'. Though the interviewee had not experienced an unsuccessful team, some had been more efficient than others.

The numerous references to 'the chair' (as presented in the course team data) suggests that this is a particularly active and significant role in the team - unlike the mediating role of a 'chair' at meetings (that can sometimes be quite passive) - a chair needs to display leadership qualities. The significance of leaders in the process of change has been identified (e.g. de Woot, 1996), but this was with particular regard to management of change within an organisation. In a sense the chair of a team is 'managing change' also and in both case studies they have needed to shoulder much of the burdensome tasks of persuasion and diplomacy, both inside the team and outside. It was also suggested by de Woot that leaders need to be 'inspirational' individuals, which would perhaps be less necessary inside a course team if all the members were pulling on the same side, but this was not the case in the AC development. The most recent AC chair (since the beginning of 1999) explained that the role had been an interesting experience - it was notable how much

power the position held, but that it may be easy to make enemies. It was also explained that the lack of attendance at course team meetings meant many decisions were needed to be taken without full membership - a problem mentioned by both of the previous chairs.

Roles are obviously associated with tasks and again the two courses show a contrasting situation. The 'task' in the AC was perceived to be unclear or certainly not equally understood by all the members. Many 'external' people were involved in writing some of the material and creating the multi-media activities which made it extremely difficult to coordinate. Roles changed quite frequently, particularly that of the chair. The TC had a much more tightly defined task even though it was not completely clear how things were to be achieved - what was clear was what was wanted. Many course team members had more than one role, collaborating very tightly on critically reading and contributing to the future shape of the course design. Many of the roles were volunteered, rather than appointed which demonstrates the level of motivation.

During the first few years faculties evolved different course development processes within their teams. Arts and Social Sciences adopted a system of written units produced by individuals which carried the name of the author. Science and Mathematics faculties produced drafts that all members contributed to, so individuals were not named. As a result production of courses in the Arts turned out to be a quicker process than in the Sciences and this affected the level of staffing required as more academics were needed in the latter case. The Deans of faculties normally set the time schedule. The first task of a course team was to agree on a syllabus and then work was divided into portions (units) which were shared between individual members. There has been little change, other than a preliminary validation process that involves proposals and departmental as well as faculty board

meetings. Once the new idea for a course has made it into the faculty 'Five Year Plan', development can continue in earnest - but that stage can take up to a year, followed by a further year (or two or three) of designing and writing.

A sub-dean explained in interview that one of the most important words at the OU is 'but', usually coming after a very complimentary or encouraging statement. New recruits are given advice about the difficulty of reaching a consensus and that shouting is not effective - members should 'insinuate' their views! Teaching methods cannot be separated out of the overall curriculum design - the whole picture must be seen from the beginning of course development. This was one of the Sub-Dean's roles - to push for a comprehensive plan at the start of an idea. The existence of pedagogy integrated with course content is shown in both course teams under study... though the AC ended in a very different form from the first design.

Relationships between course team members are difficult to establish for an outside researcher relying heavily on evidence from interviews. However, there was a significant amount of 'personality' and 'relationship' talk during interviews with the AC team members, indicating the part that these factors played in the team. Terms like 'fractious relationship', 'tension', 'friction-full' and 'strong personal relationships' were used by four course team interviewees. There was no reference made to 'relationships' by the TC team. Although it could be deduced that 'relationships' between members were a problem in the AC, it could not be said that the TC relationships were all good all of the time, but perhaps they were not a problem. Perhaps the key here was the informal way in which the TC team evolved, through people knowing of others with shared interests and the necessary

knowledge and skills, involving subject and method. In this instance both these aspects were, conveniently, linked under the umbrella of 'technology'.

Overall, the interviewing process produced a strong feeling of negativity from the AC team and the opposite was the case with TC team members. One of the latter interviewees remarked - 'this way of working has been successful and will happen again' while one AC interviewee lamented the waste of time the experience had been. The time span of development must also have been a factor which affected the 'energy' of the course team. The first 3 - 4 years of the AC development appeared to drag on in conflict and confusion amidst a reluctance to participate (and encourage) both formal and informal opportunities for dialogue.

Conclusion

This analysis of course development has aimed to take into account personal, social, cultural and political influences, the last in the sense of 'political' as being formal institutional and faculty procedures and policies. As a result of this analysis, personal and social influences within each of the course teams seem to have been uppermost in determining the success or failure of the course team operation in bringing about change. As indicated in the last section, political and cultural influences are stronger within the institutional context for creating the environment in which teams can thrive in the change process.

The nature of the task was also a critical factor in both mini-case studies. The AC development began with a 'rough' plan for a course that was controversial both in method and content. The ideas for both the pedagogy and the content were new to the department

and had been previously 'untried' elsewhere in the OU. In this way the task was originally 'divergent' rather than 'consistent' (with reference to Fullan's change characteristics regarding 'type of change') with the cultural environment of the department who were unenthusiastic (or, at least 'unconvinced') about technology. It was also divergent from the subject/ research interests and expertise of several course team members. The TC team had an opposite scenario. They relied on informal and social networks to achieve their aim and managed to overcome administrative obstacles because the course was seen to be consistent with the politics (or policies) of central management. There was also consistency, in that the content of the course was consistent with the needs of the Technology Faculty as well as the perceived 'market' needs regarding students. The only divergence associated with the course was with regard to the way in which the course team operated (in contrast to the course team procedural 'norm'), but with a cohesive team and support from the faculty and the centre this aspect was not a major obstacle.

In terms of consistency and divergence in the nature of the task from the 'immediate environment', the AC team were in for a more difficult time, as it may have been more ambitious from the start - given the departmental context. However, other factors including the lack of collegial support, subject experts, skilled leadership, mutual vision, trust and respect within the course team all contributed to the laborious, fragmented and tense years associated with the course development. Although the methodology and final shape of the course changed dramatically through the period of this research to one with much less 'integrated technology' and innovative pedagogy, it was extremely valuable in illustrating contrasting features to the TC story. The AC story endorsed, by negative example, similar discoveries of enabling and disabling characteristics of the change process.

CHAPTER 6
FINDINGS III: REGIONAL SUPPORT

Introduction

The decision to include regional roles and issues in this study was prompted by the original intention to arrive at a holistic view of the change process. In previous chapters, the broad context of HE and the position of the OU in relation to governmental policy and global developments have been discussed. This 'pre-initiation' stage of the change process also included organisational and cultural aspects of the OU and its policy towards the inclusion of new ICT in the design of recent courses and its intentions to widen access and increase student numbers (or at least maintain current levels). The course development case studies were designed to enable a more in-depth look at the 'initiation' stage of change in teaching and learning. This phase of the research focusses on the 'implementation' stage and is largely based on evidence collected from the T171 course team and associate lecturers employed as tutors on the course.

Handy (1991) equated 'change' with 'learning':

If change is, as I have argued, only another word for learning, then the theories of learning will also be theories of changing. Those who are always learning are those who can ride the waves of change and who see a changing world as full of opportunities not damages. (p. 44)

He also depicted learning as a wheel, not unlike Kolb's learning cycle, with four elements - Question, Theory, Test and Reflection. The implementation stage could be regarded as the 'testing' element of learning.

The idea that theories of education and theories of change need each other was argued by Fullan (1999). An educational theory involves a pedagogical model or approach which needs to be accompanied by a strategy to guide and support the implementation. The purpose of studying the implementation phase of course presentation is to explore how far

the support strategies employed have been implemented and whether their impact reflected the course team expectations. According to Scott (1999), the implementation phase of a specific change is considered to be the most difficult and crucially important stage in the whole process of change:

It is common to find that too much effort and too many resources are put into the development of learning program innovations and that too little time and effort are put into supporting them once they are underway...[...]...The evidence to date (Fullan,1991; Scott, 1990, 1996) is that the hard part in making a learning program innovation work comes *after* the program team start trying to put it into practice. (p.49)

The way in which this part of the change process has a continuing impact on the process of development and evaluation can be seen particularly in the Technology course case study. This is because of the dramatic and radical nature of the change and the large numbers of students and tutors involved. The third level Arts course had very little impact on the organisation of or nature of regional support due to the final version resembling a standard OU model of distance courses. Therefore, the data analysis and discussion will be based on the concerns and issues raised from staff tutors and associate lecturers employed on the first foundation level internet-based technology course (T171).

This chapter will be presented under the following sub-sections -

- Staff Tutor and Senior Counsellor roles
- Regional concerns regarding the internet-based technology course (T171)
- The Associate Lecturer (tutor-counsellor) role
- Tutor perspectives - data analysis and discussion
- What has been learnt about the process of change?

Staff Tutor and Senior Counsellor roles

The exploration of regional staff roles and the impact of the new courses are based on interviews with senior managers, staff tutors and counsellors and associate lecturers from the Southern region. Interviews were undertaken in May 1999 with the Director of the Southern region and a group of four other senior staff, two Staff Tutors (from the faculties of Arts and Technology) and two Senior Counsellors. Evidence from this meeting will be referred to as the 'Regional Discussion Group' (RDG). Data will also be drawn from interviews with three other staff tutors, one of whom was involved with the AA306 course team, one who was part of the T171 course team and another was heavily involved in the first year of the T171 course presentation. These three later interviews were undertaken on the telephone in May, 2000, during the first year of presentation of both courses. These interviews, together with responses to questions received from 26 T171 ALs as a result of further data gathering in May 2000, have made possible an extended study of the change process in the implementation phase.

Staff tutors have 'the best of both worlds', commented one in the RDG. They are in contact with students and ALs as well as central academics whilst engaged on the 'teaching' task of course teams. In this way their time is split between the regional base and the faculty and also between teaching, research and administration. The faculty sometimes 'buys out' staff tutors to undertake specific tasks or roles in the faculty - ie to be a sub-dean or to chair a course team. In some faculties there are 'Staff Tutor Co-ordinators' who are given an office in the faculty and have a similar role to HoDs, this is the case in the Technology Faculty and it was remarked that this demonstrated the high regard in which staff tutors were held. One staff tutor, who was also a member of the T171 course team, explained that his

responsibilities as a team member varied from in-depth involvement with design and learning support strategy to reading draft content documents and giving feedback.

My experience (as an AL) of staff tutors is one of support and encouragement as well as of 'course experts'. They are allocated certain courses which then link them as the main avenue of personal assistance to a set of ALs. They act as the 'tutor's tutor' in this respect, being available by letter, phone or email at flexible times. Staff tutors and senior counsellors have also led three AL training sessions held during the course of the year. For me, the aspect of personal, friendly contact has made what can be a very isolated job into a task where one feels much more part of a team.

Senior counsellors have inter-faculty posts based in a region. The role of a senior counsellor can be open to interpretation by the individual in post, but the basic task is to support students in their learning, in a generic way which does not involve subject or faculty issues. Advisory material is produced for ALs and training sessions are designed and led by senior counsellors. A specific senior counsellor is also available to tutors for help and advice with student matters which are unrelated to course content - personal and course choice problems in particular. There are fewer senior counsellors than staff tutors, all of whom specialise in different areas. Part of a senior counsellor's role can involve serving on external national examination boards as well as course teams.

Regional concerns regarding the internet-based technology course (T171)

In response to a question about the nature of current teaching and learning issues, the first item raised by the RDG was 'online issues' (other subsequent subject matters included named degrees, summer schools and short courses, discussed earlier). The T171 course

was almost half-way through its pilot presentation and at this stage the following issues had emerged -

1. Increased student access to the OU centre (at Walton Hall) bypassing the regions
 2. Course pedagogy
 3. Student support
 4. Assessment
-
1. Students on T171 were accessing central services at the OU as well as members of the course team without going through the 'normal' channels at the region. The course chair had been spending about an hour a day responding to student queries during the pilot presentation. Basically, there were too many queries to deal with and this was causing some concern in the regions whose main responsibility was to support students (a review of tutor and student support organisation was also a concern of a senior manager, as mentioned earlier).
 2. It is still not widely known or understood what is a good quality learning experience with the use of new technology. The course pedagogy may need further attention.
 3. At this stage of the T171 pilot presentation it was becoming obvious that students needed more support - they were having difficulties online and the 'touch/feely' bit was difficult to provide. The evidence coming from student feedback (from IET surveys in the past) was that they still valued personal contact. It was thought that new styles of supporting students may need to be considered, perhaps using groups of tutors. There were three different ways in which the problem was being tackled: the course chair was going to the 'system', one of the course authors was going to the VC to discuss the

matter and the course manager was going to use his informal network of sporting friends at the university.

4. Assessment was generally in the form of Tutor Marked Assessments (TMAs) and end of course examinations. T171 was being assessed partly by TMAs and partly by an end of course project which was also to be submitted electronically - this was a new method of assessment for a level 1 course (third and fourth level courses had used project-based assessment before). This aspect was going to be closely monitored.

The Associate Lecturer (tutor-counsellor) role

The OU has published the tasks and skills they expect from an AL (who is in the role of a tutor or tutor-counsellor). The role of the tutor is described below, in order to provide a contextual basis for making sense of their perceptions given in response to the mini survey about supporting students online. Amongst the 'generic person' specification (Open University, 1999a) are the following requirements for a tutor :

- the potential for working successfully in a team *and* the potential for working independently;
- good written and oral communication skills;
- an appreciation of how adults learn;
- a commitment to student-centred learning;
- availability and accessibility to students

These are just 5 of the 14 requirements listed and they demonstrate how the OU expects a skillful academic to have a flexible and student-centred ethos regarding adult education.

Duties of the generic tutor (Open University, 1999a) are listed as: -

- to provide correspondence tuition that both assesses students' work according to given marking schemes and gives written feedback to help students in their learning;
- to provide tuition in person and at a distance;
- to help students become effective learners who understand and benefit from the different elements of the University's teaching system;
- to monitor the progress of students and evaluate their needs;

- to contribute to the evaluation of course design and presentation.

The tutor-counsellor role is also described in the 'resource pack' (Open University, 1999b) sent to Associate Lecturers by the T171 course team, indicating how the role has been translated to apply to the internet-based course -

Tutorial activities

In each module there are a number of activities that the tutor needs to set up, run and summarise when finished. The aim is to involve the student in some electronic activity which engages with some key aspect of the course.

Moderation of conferences

The main focal point of the tutor group of students is the tutor group conference (set up using FirstClass) which must be kept active by the tutor - a main priority. Awareness of other regional student and tutor conferences and their content must also be maintained.

Marking and feedback on TMAs (Tutor Marked Assignments)

These assignments are submitted electronically to a web-site by the student (in document or HTML form). The tutor retrieves the work and uses an electronic marking tool to provide comments and marks on the script according to associated marking notes and criteria provided in guides near the deadlines.

Individual support and counselling is a continuous tutor activity

Most of the course tutoring happens in an online environment but there is one important face-to-face meeting between the tutor and the students which is scheduled before the course starts. This introductory tutorial gives an opportunity for students to meet each other and the tutor as well as to discuss students' expectations and fears and give guidance to students with regard to the course preparation activities. One other face-to-face meeting, organised by the tutor, happens half way through the course to discuss future course choices with students wishing to continue with their study. A large part of the tutor's role is to facilitate discussion and group activities online. The size of a tutor group is usually between 15 and 20 students.

The tutor is supported with video, text, online and face-to-face training as well as the provision of a mentor (experienced tutor), staff tutor and senior counsellor who are available for help and advice. Marked assignments are also regularly monitored and feedback is formally and regularly given to the tutor on their teaching quality.

Tutor perspectives

Methodology

The research approach is qualitative and ethnographic and the aim of this research is not to search for an 'objective' truth but, as has been suggested, to advance understanding with 'rigorous subjectivity'. There are 72 tutors in the Southern region of the UK. Tutors' work for the OU is often based at home and conducted in their 'spare' time. Aspects of negotiating access, feeling included, having some understanding and sensitivity were all important elements in carrying out this small study. Initially, a staff tutor gave authorisation for T171 tutors to be contacted for this research. The following questions and an ethics protocol (see Appendix 4) were then sent to the same person with a request for comments:

About tutoring online with T171 -

1. How do you feel about tutoring on this course (at this mid stage - May, 2000)?
2. What are the positive aspects?
3. What are the problems or the difficulties?
4. Has the tutoring task been as you expected?
5. i) Do you think that the tutoring aspect of the student support design could be more effective?
ii) If so how?
6. i) Roughly about how much time do you spend working on this course?
ii) Could you give an idea of about how much of that time is spent interacting with students?
7. Have you tutored DE students in a more traditional manner before? If so, how do you think online tutoring compares?

About the students -

1. How many students are there in your group?
2. How many students have dropped out so far, if any? Can you explain why?
3. Generally, how do you think the students are responding to the course?

And finally - **Any other burning issues about online tutoring with T171?

The following comments (in an email of May 5th, 2000) were received:

'First reaction on your questions is that they look fine, if very open; given the amount of work required to respond to them adequately, I'm not sure how successful you'll be in getting responses, though. You're intimately aware of how overloaded a T171 tutor can be!'

This helpful second opinion, encouraged me to contact tutors , requesting their participation, without first piloting the questions. An offer of a phone call was also made on the email to give the tutor an alternative way in which to respond. The questions and protocol were sent to 62 tutors who were asked to respond within a week.

Data analysis

Responses were received from 26 (of the 62) T171 tutors (42%) - mostly within the week. This number included four telephone interviews based on the email questions. Considering the 'openness' of the questions and the demand on the tutor's time, this is thought to be a good response rate and could reflect a strong interest and motivation of the tutors, and perhaps, my own participation in the tutoring process. This does not mean that the 58% of tutors who did not respond were less motivated or interested as it is likely that the short time period given to reply could have inhibited responses. It is also the case that the OU was undertaking its own course evaluation and tutors were requested to complete a web survey following each of the three modules in the course. Therefore, this study was an additional call on tutors' time that was already in demand.

All the responses to some of the key questions (1, 2, 3 and 5 about online tutoring and 3. - about the students' response as well as the 'burning issues' question at the end), about half the data collected, are included in Appendix 6. The first stage of the response analysis is presented below. It should be noted that categories reflecting the nature of tutor remarks are not exclusive in that some tutor responses contributed to several categories, as there was often more than one reason or experience given in a reply.

Q1. How do you feel about tutoring on this course (at this mid stage - May 2000)?

24 tutors responded to this question. 12 tutors gave a generally positive reaction:

It's been great fun. I'm getting to know the students and feel very pleased as I get the messages telling me they're completing sections of the course. Most of them seem quite at ease with contacting me by e-mail or phone when they have a question or problem. [TU24]

Five of these 12 responses also contained a 'but' half way through the reply regarding some less than positive aspect -

I feel generally positive with the course and my students, but frustrated by the dreadful First Class system and by the lack of preparation from the OU. [TU2]

Eight tutors had mixed feelings about the tutoring:

At this stage I am still interested in the course but I am considering carefully whether or not to continue tutoring on it next year for reasons set out below. [TU5]

Four tutors gave a negative reaction:

It's been a bit of a struggle - hard work. I have found it quite difficult - mediating a conference is quite a skill. [TU1(P)]

In addition to the above overall reactions, five tutors mentioned that the tutoring was taking more time than expected as well as 'too much information' or 'we seem to be hand-holding a great deal', but these aspects are raised again under other questions.

Q2. What are the positive aspects?

The responses fell into four broad areas:

- students
- course and tutor guidance materials
- personal convenience, job satisfaction, own learning
- communication - the online nature of the course design

Students were mentioned by most of the tutors (15 out of the 25 responders). The positive aspects of tutoring mentioned were: being able to help students learn (7):

He knows that he is able to spread his enthusiasm for IT to the students and his substantial knowledge in the subject. Most of the students were quite inexperienced and rather concerned about the course. [TU12(P)]

Student enthusiasm and interest was commented on by four tutors, student feedback by three and type or frequency of interaction with the students by two.

Valuing staff and by that valuing students. I enjoy working with a committed bunch of students. [TU10]

The students are great, I like them all a lot, and they have given a lot back to me in terms of reward, fun and friendship. When things go well for them, they share it with me, and that is a very positive feeling. [TU11]

Course material and/or tutor guidance material were given as positive aspects by nine tutors. The breakdown of comments were as follows: good course material (4); good guidance material (3); good monitoring of TMA marking (1) and an 'innovative' course (1)

I like the focus on study skills and reflection on activity (my students don't). [TU26]

Positive aspects involving *personal satisfaction* were given by nine tutors also. These were split into: convenience of flexible working time (5); the tutor's own learning experience (4) and the pleasure of meeting new colleagues (2)

The format is good for me, and I am learning bits about the history which I should know for my other advising work [TU20]

The ease and speed of the *online communication* element of the course was referred to by six tutors.

First Class is just great. I'm in frequent contact with a good portion of my group and see them engaging in the exercises and assignments. I can easily post extra handouts and guides for them to access and they can get in touch with me privately at any time. [TU24]

The ease of marking electronically was mentioned by one tutor and a good experience of a real-time conference discussion set up for the student group was another tutor's 'best bit'.

Q3. *What are the problems or the difficulties?*

25 tutors responded to this question and a total of 23 problems or difficulties were reported. Most of these problems could be grouped under the following areas:

- technical (software and hardware) difficulties
- course design and tutor guidance
- students
- online communication

Technical difficulties were also connected to the problem of everything taking too much time, which was raised again by six tutors. For some, the electronic marking tool was the main culprit - nine tutors mentioned this difficulty. Other technical hardware and software problems were reported by seven tutors and four tutors complained of insufficient help available or the difficulty of technical support given at a distance:

Surprised how much TIME it has been taking....The marking tool was really hard to use - got so fed up with it! The assignments have been quite complex for people just starting out in academia...Too many skills are trying to be developed at the same time. It's an extremely steep curve for beginners to climb (not to mention the tutors...)...The First Class setting up was very frustrating... some things didn't work (the naming convention) and the Help Desk did not spot this immediately either. It was 'painful!' [TU1(P)]¹

¹ The 'P' next to the tutor code refers to a 'Phone' interview. It is therefore not a verbatim quotation from the interviewee but an extract from my notes.

Course design and tutor guidance was problematic for seven tutors (see Appendix 6 for more information).

Students feature in various problems mentioned by 10 tutors. The difficulty in getting students to participate was mentioned by four tutors and getting students to communicate was a problem for two other tutors. Feeling discouraged by the level of student drop-out was reported by two tutors and two others felt that students had excessive problems to cope with - especially at the start of the course. One tutor felt that students expected them to be continually available online:

It is a bit frustrating to know that two or three in the group have not got started despite my gentle prodding. However, this is just the typical percentage of any group of students--in my years of face-to-face teaching, I experienced much the same breakdown of successful to wayward students. [TU24]

This highlights the differing role of an 'online' tutor as opposed to a DE tutor and is therefore an important issue. Communication problems due to the course being online or the 'First Class' conferencing software were reported by four tutors.

Describing items on the screen within an email or during a phonecall is so much harder than demonstrating the same thing to someone who could watch the same screen with you. I have had to be proactive in contacting students. They seem to delay to let you know of problems. Even when these are perfectly understandable such as having their PC stolen. [TU7]

Q.4 *Has the tutoring task been as you expected?*

Nine of the 25 tutors who answered felt that the course tutoring was mainly as expected.

Three more tutors explained that they expected that the tutoring would take more time than estimated. Six other tutors were not expecting the course to be so demanding on their time:

The tutoring has been far more onerous and time -consuming than I had anticipated. It does have its rewards, but are they sufficient to compensate for the pre - course preparation, which I understand will be even greater next year? [TU5]

Three tutors reported having no expectations. Two tutors were surprised at the low demand for their own academic input and connected to this were two other comments (one from the same tutor) that students were less demanding than expected.

Q.5 i) Do you think that the tutoring aspect of the student support design could be more effective? ii) If so how?

Two of the 25 tutors who responded gave a 'No' reply showing satisfaction with the way things are. Other comments were very spread, with a maximum of four tutors who felt that more face-to-face meetings with students would be better. Three tutors commented on the following two issues -

- The staggered availability of tutor guides (coming through email fortnightly) explaining future student group activities was unhelpful - they would be preferred in one block.
- Tutoring guidance would be better placed all in one place - such as a tutor web-site for this course.

Opposite reactions were common. Two tutors felt that there should be more guidance for tutors but on the other hand two tutors felt that there was too much information for tutors. The need for improved technical support was also mentioned by two tutors and one mentioned the need for a new, improved marking tool. Again, with regard to students, contradictory comments were made: one tutor felt that they had too much 'hand-holding' and lines of help available whereas another tutor felt that they needed more help, particularly at the beginning with an initial 'Hands-on' demonstration to help them set everything up.

Q.6 i) *Roughly about how much time do you spend working on this course?*

ii) *Could you give an idea of about how much of that time is spent interacting with students?*

The OU estimates an average weekly workload on a 30-point course (such as this) to be 3.5 hours (Open University, 1999a). Only five of the 25 tutors who responded to this question reported working for less than 5 hours a week on average. 13 tutors reported working between 5 and 10 hours a week and six of those tutors reported an even heavier time demand during marking periods. One tutor gave an average time estimate of 10 - 12 hours a week. Five tutors could not give a specific length of time.

It fluctuates widely. Some weeks very little beyond checking and answering e-mail others trying to anticipate problems and ringing students and marking and modifying group activities. Marking is very time consuming, some of that is being new and me trying to really understand the requirements.

ii) > interacting with students? As a TMA approaches, I log on each day the check messages and usually answer. If urgent I relog on at the end of the session to transmit answers. A week before the assignment is due it goes terribly quiet. I then go over the marking scheme in detail to work out what is needed [TU10]

Q.7 *Have you tutored DE students in a more traditional manner before? If so, how do you think online tutoring compares?*

It was an error to abbreviate 'Distance Education' as 6 tutors wondered what I had meant.

11 tutors had not tutored DE students before and therefore could not make a comparison.

The traditional 'lecturing' method, including more face to face contact, was preferred by four tutors, one of whom had an interesting angle, suggesting that online communication makes students less self-reliant and academic:

I have been teaching adults for the past 15 years. Online tutoring is fine, but as someone with a psychology background I'm sure that face to face meetings are essential. The OU will not be preparing first level students well enough for later learning if this is not taken into account. Compared with telephone/correspondence the online system allows students to be less self-reliant and therefore less academic.

That's because rather than finding out things for themselves, they just post a question and get it answered. The correspondence/ phone system puts a lot more responsibility on the shoulders of individual students, which is good for their academic development. As for student support, they find it easier and less embarrassing to ask me a question online (I feel) than via the phone. Also it's more convenient. Hence the online support helps and has advantages but should be part of an overall package rather than a substitute for other methods. [TU2]

Six tutors felt that the online method of delivery improved communication between tutor and student and tutors felt that they were able to get to know their students better. The extract below gives a vastly different point of view from the example above:

The only thing I am sure of is (very surprisingly) that I am much closer to the T171 tutor group than I have been to any of the conventional second level and above mathematics groups that I have known over many years. That might be because this is a foundation year course and I am counsellor as well as tutor. Or it might be because this is the first year of a new and experimental course and we share the excitement of that. Or it might be a fluke and next year (if I am retained) I will have a miserable lot. Perhaps the Tutor Group is a way of re-establishing the Oxbridge ideal. [TU3]

Two tutors suggested that a mixture of online, phone and face-to-face interaction would be ideal. One tutor who was tutoring a third level 60-point Arts course simultaneously with T171 gave a useful comparison between the two:

I have tutored for the OU for 12 years. I am currently teaching a new 60 point Arts course at third level (AA305) and I find the amount of time I give to both courses about the same. Attendance at my tutorials on this course is usually 80%+ and the students do value the personal contact. It's difficult to see how this could be of benefit in T171 other than to exchange views, unless dedicated ICT suites could be provided. (Dream!) [TU5]

About the students -

Q1. How many students are there in your group?

Q2. How many students have dropped out so far, if any? Can you explain why?

Tutors had an average group of 20 students at the course start (in February) which dropped to 14 students in May 2000. This means that an average number of 6 students have dropped out from each tutor group. A total of 26 tutors gave the number of students in their

group which amounted to 490 students in total. The total number of students dropping out was 143 which gives a 34% average drop-out rate in this sample. The students that tutors did not provide drop-out explanations for added up to 35, 11 of whom had vanished without contact with the tutor. The reasons given for students dropping out of the course were (in descending order of frequency) -

- time problems - related to changing job commitments (26)
- problems with the course (style or group activities or too demanding) (25)
- never started the course (24)
- personal reasons - family demands, illness etc (16)
- technical problems (6)
- too much time demand due to other courses they were studying (5)
- transferred to another region (3)
- cost of internet access (3)

These explanations are provided by the tutors (reflecting their understanding of the students' difficulties) and some may differ from reasons that might be given by the students themselves. Interestingly, about half of the students (69 or 48%) gave reasons for leaving that were not related to the course (including those that left before the start of the course). Only 17% of students specifically stated problems with the course and only 4% had difficulties with technical problems. It may be surprising that only 2% of students were put off due to the cost of internet access.

Q.3 Generally, how do you think the students are responding to the course?

A total of 26 tutors responded, 10 of whom thought students were doing well on the whole. Mixed feelings were expressed by 13 tutors, two felt that the students were experiencing

more difficulty or reluctance to participate and one made the point that their students appeared to be learning a lot more from each other than from the tutor:

Very well for the most part I think. Most are new students so won't have other OU courses to compare it with. I think they are doing very well since many are novices. The most experienced ones find it much easier technically, but tend not to like the 'academic' content. [TU18]

*And finally - **Any other burning issues about online tutoring with T171?*

Further comments were given by 19 tutors and these highlighted the following areas:

- information - too much and inadequately organised (5²)
- the nature of the course design - web and conferencing needs improvement (3)
- problematic technical aspects need to be sorted (3)
- the course is too demanding of the tutors' time (3)
- tutors are not paid enough for the workload (2)
- tutors need more training (2)
- students need coaxing to participate (2)
- feedback on assignment moderating was late (1)
- more face-to-face meetings would be better (1)
- the cost of web access for students needs special attention (1)

It can be seen that 16 of the 23 comments received were specifically concerned with the task of tutoring rather than the nature of the course or technical aspects. An additional opportunity to collect data for this aspect arose during the planning period for the email survey. A discussion took place at a staff development meeting on May 13th, 2000 with 24 new tutor-councillors present, about their experiences of the course. The following notes, taken at the time, show that similar issues were raised:

² The numbers in brackets represent the number of tutors that commented on that issue.

Staff Development for T171

Tutor feedback

The most frustrating things about this course are:

- constant update of materials - particularly the marking guides
- inconsistent format of providing tutor material (source, destination and style) [*Idea - a tutor web-site could be produced for everything³]
- too many conferences, too much irrelevant material [* Idea - a central filtering process is needed]
- marking guide software is reliably unreliable (people are 'working round' it)
- the amount of hours needed are more than expected (and more than tutors were led to believe when applying for the course)
- tutors have received no feedback following assignment 1 (arising from moderation)
- are students receiving the comments tutors sent... and are tutors receiving what the students sent? Insecurity in this respect. (Personal example of HTML file looking quite different from student's version).
- difficult for students and tutors to plan ahead because of the limited access to web-site material
- this also distances tutors from any feeling of 'control' (or 'having a grip!').
- lots of time spent 'hand-holding' students. Had the course been marketed properly? (Some students shocked at the academic nature of the course).

The email questions were sent to tutors on 15th May. It is possible that some of the tutors at this meeting also contributed to my research study by email (I am aware that five tutors whom were present also responded to my email questionnaire).

Discussion

This research study took place only a few months after the start of the course in February 2000, therefore the data may reflect particular difficulties of unfamiliarity and unreliable systems that are often seen when starting anything. However, it seemed appropriate to explore how far concerns expressed by the course team and senior regional staff matched those expressed by the tutors and to try and understand the nature and extent of the impact of this course during the first presentation year.

³ A few ideas for improving the situation arose in the discussion.

Many of the problems expressed in the data will come as no surprise to members of the course team. One staff tutor, with particular responsibility for aspects of student support explained, during a telephone interview (on May 17th, 2000), that the biggest concerns during development were:

- tutors may not get paid enough (due to the potential heavy work load)
- students who were complete beginners would have a lot to take on board and may have difficulties (technical and pedagogic aspects)
- the inherent limitations of the technology - generally, and
- the specific reliability of the marking tool [RT6]

These issues fit in easily to the categories that have arisen from the 'tutor perspectives' data collected -

- students
- course material and design
- technical issues
- tutor guidance

Students

Students featured in most of the positive comments about the course. They were described as being 'enthusiastic' and 'committed', sharing their difficulties and achievements with their tutor and learning from each other. The increased opportunity for communication in the online environment appears to have given many tutors a closer (than expected) relationship with their students, which has led to some job satisfaction from helping students to learn and overcome their difficulties. Observations regarding students given by respondents to the question regarding comparisons with other forms of tutoring included one about students being less self-reliant in this learning environment. Another tutor felt that this form of personal tutoring emphasised student-centred learning. Six of the 14 tutors responding to this question commented that communication was improved and that

relationships fostered with students were better. This compared to four tutors who suggested that more face-to-face meetings would be beneficial to the tutoring process. Two others thought that more of a mixture of communication methods would be better, which balances the argument to some extent.

It is possible that many students did not feel suited to this online form of communication as six tutors reported that it was difficult to coax some students to participate or communicate. An alternative simple explanation could be that the students were not actually 'logging on' as often as expected. Two tutors felt that students were having an excessive amount of problems to deal with and one tutor complained that their students expected them to be continually available for help with online conferencing. This may have contributed to the greater demand on tutor time. Senior regional staff were already concerned with this problem as the evaluation of the pilot presentation exposed the need for a greater amount of time required for tutor/student communication - believed to be connected to the online nature of the course. Interestingly though, they did not predict that relationships between tutor and student could become closer than experienced in a traditional face-to-face tutorial design (probably a spin off from the amount and informal quality of tutor-student interaction).

Most tutors expressed mixed comments about how their students were responding to the course generally. The course expected to develop both technical and academic aptitude and students were spread across a wide ability range in both these aspects. Some students who are more technically inclined have found the academic element of the course hard work, while other students, often those who have studied with the OU before, found the more technical activities very demanding. The heavy demands of the course on students who

were complete beginners was an issue of concern expressed by the staff tutor/course team member above. Further changes and plans for change by the course team have continued.

One tutor neatly summed up the overall experience:

Like me, the students find the course a mixture of fun, fascination and frustration.
[TU5]

This response has a similar flavour to many other more detailed comments. The course team members and regional staff interviewed did not express any intention or expectation that the course would be 'fun'. Perhaps this description arises from the nature of the communication and the aspect of greater closeness in the relationship between tutor and student. It appears that the nature of the change made in the teaching and learning process has produced an unexpected (but probably welcomed) result. It was certainly an intention that the course encourage a 'fascination' amongst the students - the authors were keen to grab the students' interest in the subject matter which is why the second module (the story of the PC) was designed using the pedagogy of 'narrative'. The element of 'frustration' experienced was obviously not an intention, though students were encouraged from the start of the course to expect problems as part of the 'norm' of working in the computer medium. It is likely that this reaction was due to the many technical problems and the lack of familiarity with the way the course was presented. If this was the case then the 'frustration' experienced by tutors will reduce with experience of supporting students on the course, but many of the inexperienced students starting the course each year could also feel frustrated while grappling with unfamiliar problems.

Course material and design

This research aimed at uncovering how tutors were feeling with regard to their tutoring role on this course, therefore it is not a surprise that very few comments were made regarding the nature of the course content. Only three tutors felt that the web and

conferencing design of the course needed improvement - as a 'burning issue'. However, nine tutors did mention the course material and/or design as a positive aspect of tutoring the course and four suggested that improvements could be made particularly because of an expected steep learning curve for students.

The May staff development meeting highlighted the frustration felt by tutors regarding the way in which the course material was revealed in stages. This was making it difficult for tutors and students to plan ahead. The response given by staff tutors at the meeting highlighted that this particular design feature was needed to 'pace' the students so that group learning was a possibility (they would all be studying the same material at the same time). The limit imposed on the flexibility of the course study time marks a very big difference between this course and the majority of other OU courses and DE courses (with which many of the students and tutors on this course were familiar).

Although course content and design were not often referred to specifically, they do underlie other larger issues that have arisen with regard to tutoring. One of these is online communication. Overall nine tutors, just under a third of those responding, mentioned this area, five of whom contributed to the following positive observations:

- students 'open-up' more in emails
- it is helpful to have continuous interaction with students in the group
- fast responses are made possible
- it is easier to communicate ideas to a large number of people
- it makes the students' progress and engagement with the course more visible

Two tutors commented that online communication/tutoring needs different skills, which is an issue of tutor guidance (see later in the discussion). One tutor felt a sense of isolation (messages going out into the unknown... are they being read?) and another found mediating a conference and maintaining student participation particularly difficult.

The nature of this course demonstrates how the teaching and learning methodology is more intrinsically embedded into the course content and design than in other, more traditional, DE courses. In this sense all the data presented above relates to the nature and design of the course as it does, equally, to the course pedagogy. The latter aspect was referred to by the regional staff discussion group as one of the course concerns because this form of teaching and learning had not yet been fully tried and tested and there were still unknowns.

Technical issues

Over a third of the tutors in this research sample reported problems with the electronic marking tool supplied by the OU. In my experience there were three updated versions of this software application during the first six months of the course. In July, 2000, a letter from the Pro-Vice-Chancellor for Learning Technologies and Teaching was sent to all ALs on the course expressing regret for the inconvenience and hope that marking tool problems were ironed out. By January, 2001, two more updated versions had been issued. Here is a specific example of the process of change never actually reaching a conclusion, particularly where technology is concerned.

Four tutors had difficulties in setting up the 'FirstClass' conferencing software on their own machines - as did some of the students. This technical issue may have involved other administrative systems at the OU as these also established a greater security procedure for accessing the course software than the course team envisaged.

A similar number of tutors reported having difficulties in getting adequate help with their technical problems. This is not surprising as the 'Help' desk personnel in the Academic Computing Service were also coming across newly discovered problems. About six

months after this data collection it had doubled staff numbers. This represents a significant impact of the course on the university services (or 'system').

Tutor guidance

The question of how to train tutors to support the students was a very big concern of the staff tutors on the course team, but it had never been done before, so, as one interviewee described:

How could they think about training the tutors for something that they did not know how it would work... it had not been done before...'It was like walking off the end of a cliff and hoping there would be someone at the bottom to catch us' [RT6]

The Southern Region was particularly concerned about designing ways in which the students could be supported and, in a sense, this system needed attention before the question of tutor guidance could be addressed. In the event, many different forms of tutor help were given and this has encouraged responses from around a third of the tutors in this sample (and most who attended the staff development meeting) who felt that there was too much information given to tutors or that the information was disorganised and appeared in various places with an inconsistent format. Despite this view 3 tutors thought that the guidance material was 'good' and 4 tutors appreciated the opportunity of learning while also helping the students to learn. Two tutors, however, thought that it was a 'burning issue' that tutors should be given more training.

In preparation for the first presentation, tutors had two face-to-face training meetings, a demonstration video, printed guidance materials and online training for the First Class conferencing system and marking tool. One main issue highlighted above with regard to the tutors' comments refers to the organisation of tutor guidance material. Tutor guides were sent to tutors fortnightly partly because it was felt necessary to control the scheduling

of tutor group conferencing activities in parallel with the staggered revealing of the web-site material - as both were integrated. The course team heavily debated this design aspect and it was felt that two good reasons for doing it were: the dynamic nature of the delivery medium and the subject, and the importance of building confidence in students which, from experience, could be helped by ensuring students worked on the same area of the course material at roughly the same time. Indeed, students would not easily be able to participate in group activities unless this was the case. As a benefit to students, the argument made sense, but it was not explained how or why this design aspect was helpful to tutors.

An overview

The most significant issues arising from the data are -

- A heavy workload and greater amount of time than expected is required from tutors to fulfil all aspects of their role of which the nature of the web-based design plays a large part. This raises the question of whether tutors are being paid adequately.
- The amount of tutor guidance material and the way it was organised for tutor access needed greater cohesion and monitoring.
- The unreliability of the tutor marking tool software.
- The online communicative nature of the course creates a different teaching and learning experience for tutors and students. Appropriate skills are required - particularly in the mediation of computer conferencing and encouragement of students to participate and engage in discussion.
- Online tutoring affects the tutor-student relationship. Sometimes it can be unexpectedly 'closer' and more rewarding than the 'norm' and other times a greater isolation can be experienced.

The first three issues were concerns that the course team had during development (see [RT6] under 'Discussion' above), but the last two were less predictable. This highlights the significance of computer-mediated communication in the course pedagogy. It also emphasises how much is still unknown about if, why and how it works or not (as previously expressed by the regional discussion group [RDG]). During the time this course was being developed and implemented, research on these issues had been taking place. This kind of change, integrating ICT into teaching and learning, needed to have a risk-taking element, there were no guarantees and there are unlikely to be in the foreseeable future as change in educational technologies and the ways they are used will continue. Oliver (2000) has listed several advantages of using ICT in teaching systems, two of which reflect characteristics of T171:

- provision of improved access to education (Oliver and Short, 1997) [..]
- the provision of opportunities for active and engaging learning environments where students are able to communicate and collaborate (Freeman, 1997) (p.150)

In addressing all the issues arising from the implementation experience, it was necessary for the team to negotiate with various parts of the OU service and administrative systems, then involved due to the large number of students on the course. This means that detailed control of some design aspects was less possible, though development and changes are still taking place. A web based course on the scale of T171 had inevitably challenged the system. This means that it was not just the students, the tutors and the course team that were having to adapt. The entire organisation was learning and changing to improve its support for teaching and learning.

Two months after gathering and analysing the tutor perspective data for this study further changes to the course were planned, the details of which were revealed at a 'Review'

meeting in July 2000. The first module of T171 was to be taken out of this course and presented as a stand-alone 10-credit course called: *TUI70: Learning Online: Computing with Confidence*. A replacement module was to be added to T171 (becoming module 3) to be called 'Understanding e-business'. This new arrangement will take out the most time-consuming part of tutoring on the T171 course as the complete beginners and some of the 'learning skills' content will be addressed separately, making T171 more cohesive and consistently 'academic' - typical of level 1 degree courses. These changes are described to illustrate the continuous 'ever-changing' nature of the process of change, particularly when it involves the integration of ICT.

Supporting students online is very much a new form of teaching, as learning online is new for students. The pedagogy and implementation strategy on this course have already been through several stages of evolution and are still visibly evolving. 'The most important element in producing effective online learning, in my view, is that of the tutor' (Prendergast, 2000, p. 1) - this is becoming an established understanding. Open University lecturers are also acutely aware of this situation '...both for those involved in the staff development process and tutors themselves, there are a new set of skills to learn and working practices to adopt' (Mason & Weller, 2000, p.11). A member of staff from the OU Business School has just published a book on the subject *E-moderating: the key to teaching and learning online* (Salmon, 2000). In the chapter about training she explains that heavy investment is needed in staff development. The evidence presented in this research gives weight to the already identified need for further attention and investment in the training of online tutors, but it also highlights the importance of course design and the way in which integration of student support is organised.

What has been learnt about the process of change?

The reason for undertaking this stage of the research, making it part of the thesis about change, was to explore key features involved in making such a radical change in teaching and learning, as the T171 online course does, during implementation. In choosing the process of change as a subject to research I have made it impossible to arrive at any natural or obvious place to conclude the study, as even by giving attention to the first year of implementation this is still only the beginning. There never will be an end as this would imply a stable and secure environment which is not a feature of the 21st century, let alone that of 'higher education'. The continuous and complex nature of change has been demonstrated by observation of the wider impact of the T171 course. It has clearly had an effect on the organisational infrastructure of the OU and a large number of staff and students. These three elements have, in turn, also had an impact on the nature of the change itself, causing further evolution.

Having completed the analysis for this phase of the research, I find Fullan's explanation persuasive for the failure of 'rationally constructed reform strategies' to be effective in our rapidly changing current society. He looked at complexity theory (or chaos theory) to explain how organisations can change and adapt in an uncertain environment:

This new science of complexity essentially claims that the link between cause and effect is difficult to trace, that change (planned or otherwise) unfolds in nonlinear ways, that paradoxes and contradictions abound and that creative solutions arise out of interaction under conditions of uncertainty, diversity and instability. (Fullan, 1999, p.4)

This scenario of uncertainty brings to mind the words of the course team member who described the task of designing a student support strategy '...like walking off the end of a cliff...'. It was something that had not been done before and the probability was that whatever was designed would change and keep changing in the future. Handy (1991) lists

'a negative capability' as a 'lubricant' of change, or as a 'necessary condition' for change and it has something to do with uncertainty:

Keats defined 'negative capability' in his letters in 1817, as 'when a man is capable of being in uncertainties, mysteries and doubts'...[...]...Learning and changing are never clear and never sure. Whenever we change we step out a little into the unknown. We will never know enough about the unknown to be certain of the result. (pp.54-55)

In studying this implementation phase, the important effect of the substance of a specific change on the 'process of changing' stands out in shining neon lights! How were the OU administrative systems going to adapt to the hugely increased number of tutors and students teaching and learning online? How were the tutors going to support their students in group computer conferences and interacting personally by email and phone? How were the students going to respond to the learning opportunities given to them - the web-based course material, tasks, problems and assignments as well as the continuous (and specific) aspects of interaction and sharing of knowledge/information with fellow students? These fundamental elements in the new course were all largely 'unknown'.

I have tried to obtain the view of tutors in the Southern Region with a systematic study. However, as I am part of this phase of the process (as a tutor), I am also a witness to ways in which the course team and senior staff tutors are gathering feedback and understanding of the implementation issues from both tutors and students. In addition to staff development and review meetings, a senior staff tutor had 'visited' my tutor group over a period of two weeks to engage in discussion of academic or methodological issues brought up by the students or tutor. This is a strategy (unexpected by me) that has been employed for all the 73 tutor groups in the region. In addition to this specific engagement with management, there are many T171 conferences (course material, technical problems, social café) where tutors and students discuss all aspects of the course and more. However, there

was one particular computer conference which was set up for a two week period in August, 2000 where two course team members were present to respond to tutor and student questions. This was a very active conference with literally hundreds of exchanges. One tutor asked whether the success of this course was due to the medium or the course. The course chair responded:

Actually I think it's a combination. It's the medium used in an effective manner...[...]...Conferences are very fragile, and susceptible to being swung to the personality of the most vocal people. If these are largely negative, then that is the 'personality' the conference takes on. If they are enthusiastic, then it swings this way. This is exciting in that it makes the course much more alive, but also problematic for us educators, since although you can set up certain practices, encourage certain behaviour, etc you can't control the impact students have on others in the way you can plan material. So, you think you've got it sorted only to find the same thing doesn't work next time. (August 9th 2000, T171 Chat session 2000)

This example of group conference variations illustrates the volatile and inconsistent nature of this adopted methodology. It also reveals that this 'uncertain' aspect of the methodology was not unexpected.

It is clear that the course team and senior management in the region were aware of all the issues that have arisen in my research. This is because they have employed numerous strategies and activities to be able to monitor and keep aware of how tutors and students were responding to the new course. They have also exploited the 'online' nature of the course methodology which makes exchanges between people so visible and publicly available. Scott (1999) emphasises the importance of continual monitoring when managing change in 'learning programs':

In fact, as implementation and impact are monitored, it may be found that some unexpected outcomes are so beneficial that the emphasis in the program should be changed to incorporate them. This reinforces a point made earlier, that what is most effective is often determined by *implementing* an innovation, not by discussing it in a planning committee. (p.52)

The changes to the course planned for presentation in 2001 arise from the course team's watchful vigilance of the course progression and impact. In addition to specific course changes, news of the launch of an 'Associate Lecturer' web site was reported in a newsletter (Open University, 2000a). This web-site was to hold administrative (and assignment) information for tutors and their students but 'other information is expected to become available later as the service develops' (p.8). Perhaps this web-site will be utilised for tutor guidance material, as suggested by tutors on T171.

Continuing developments and evolution of the course and 'the system' re-enforce the imagery of a 'living organism' - to represent a community of people. The course chair referred (above) to a virtual group conference as having a personality of its own and of being 'alive'. There have also been references to the 'organic' nature of this kind of course connecting with ideas of continual change and unpredictability. This idea of the necessity for continual evolution has also been suggested by Fullan (1999) who sees organisations as living organisms. However, he highlights constant interaction between the various parts of the organism that leads to the creation of new systems, to emphasise the aspect of a collaborative culture. Fullan extends this notion even further by quoting evolutionary theorists who suggest that co-operative societies flourish whereas selfish ones do not (arising from the behavioural study of animals, insects and humans). Ridley (1996) has hypothesised that it is instinctual behaviour in humans to work for a common good - or to improve our society. Survival of the OU, as an institution as well as the desire to give people access to 'cyberspace' were both mentioned by CT members as reasons for developing the T171 course.

The OU does not take the chance that all their employees will 'instinctually' work for the common good, although it may have a partly 'instinctual' recruitment procedure which

clarifies whether the ideological perspective of the interviewee fits in with its ethos of equality, student-centredness and an appreciation of the personal commitment and motivation needed in distance teaching and learning. This was evident in my own experience during interview for an AL post and these values could be seen in the individual interviews undertaken for this case study as well as some of the emailed responses from tutors. On the other hand, some comments made reflected self-interests (lack of pay, own learning as motivational etc.). The argument that Fullan makes is that part of what separates us from animals are our values, which constitute a culture that works best when it is 'collaborative'.

In summary of the regional support study, the following features have emerged:

- The innovative nature of the change created an environment of uncertainty and complexity for the OU administrative system, the course team, senior support staff, the tutors and the students.
- The online interactive nature of the change (designed in the teaching and learning methodology) added to the uncertainty and lack of predictability in responses from tutors and students but enhanced opportunities for monitoring and evaluation by all levels of staff involved.
- The online interactive nature of the change generally encouraged a greater extent of interaction between students and tutors which, for some, created a 'closer' relationship. This level of interaction and 'equalising' of relationships (online) may have influenced a faster evolution, involving more changes in the overall process.

- The technological nature of the change caused more problems for the administration of the course (assignment marking and guidance information supply and organisation) than it did for the students undertaking the course. This demonstrates the wider impact of the change and although concerns were expressed by a few, the specific problems identified were largely unforeseen.
- The nature of the course methodology also gave rise to an increased workload for tutors, a concern of the course team but a matching increase in funding was not available. The outcome was a reliance on the personal commitment, goodwill and collaborative spirit (working for 'the common good') of the tutors.
- The ways in which tutors have been prepared for their student support role needs further attention - more consistency and cohesion. Perhaps there is also a need for more integrity about the uncertainties that exist.

CHAPTER 7
CONCLUSION

Four years of research in three distinct phases have contributed to my study of the Open University. I have learnt about: the recent history and diversity of higher education; evolving educational theories and new methods employed in teaching and learning; the nature and operation of the Open University; characteristics of groups in teaching and learning; the motivation of individuals to create or resist change and the way in which information and communication technologies can impact on the teaching and learning environment - including the tutors and students.

This conclusion will present -

- a summary of lessons learnt
- a critical evaluation of the research approach and methods
- further connections
- implications for the higher education community

A summary of lessons learnt

The first year of the research involved a small case study in one university and was concerned with observation of co-operative learning in small groups through use of a web-based bulletin board and regular face-to-face interaction. The primary lesson learnt from this observation was the importance of context. The students did not understand the relevance of the task (i.e. to communicate electronically) and did not recognise how it could usefully assist them in their overall project - the creation of a computer software system. Students saw each other daily and, not surprisingly, preferred to talk to each other in person. The problem was not with the students, but with the shortcomings of the project

design which expected students to communicate 'from a distance' when they were in daily contact and engage in an activity that was not explicitly integrated into their overall task.

Other lessons learnt were that : co-operative learning may be more effective when explicit awareness of skills is acquired and intentionally practised; learning groups need encouragement to cultivate mutual trust, understanding, respect and honesty; the course leader (or 'facilitator') has a critical role as motivator, mentor and mediator in a learning group; computer supported learning needs to be seen to provide a solution to an identified problem in an existing learning environment if it is to be effective.

The experience and lessons learnt during this early stage of the research were particularly helpful in the last year, which involved the study of two course teams and their development of new courses. Concepts of group dynamics, roles and balance of power, self-interest versus 'the common good' and the relevance of the task were recognisable features in the stories of course development. Ideas evolving from the observation of computer mediated learning, and experience of how uncertain, sensitive and fragile a group can become when sight and sound are absent were especially helpful in the analysis of tutor perspectives on supporting students in online learning.

The second year provided the opportunity to explore all kinds of teaching and learning 'innovations' in a wide variety of contexts, involving visits to 15 universities. A part of my responsibility in this team effort was to concentrate on aspects of distance learning (in campus-based universities) and the use and impact of information technology. The evidence suggested that the number of DL courses being offered by universities was quite small and that most of those courses were of a traditional 'correspondence' nature.

However, as a result of interviews with 'innovators' who were exploring the use of ICT in teaching and learning it became evident that many of these courses incorporated a design and approach which matched those generally connected with DL. These were features like - modularity, flexibility, resource-based, a student-centred learning and the requirement of limited contact time with the tutor. These courses also reflected a shift in emphasis away from the teacher being seen as the main source of knowledge, also noted by Smith and Kelly (1987). Another interesting point was that courses of this nature were often being developed as 'projects' (due to their funding needs and experimental nature) and also involved a collaboration within or between universities. This research experience gave me a sound grounding and broad understanding of issues related to DL and ICT in higher education, particularly from the perspective of the 'innovator'.

The third year involved a deeper exploration into the institutional context for change in teaching and learning. Four of the universities from the sample in the second year were re-visited and the Open University became a specific focus for more detailed and extended study of the process of change for this thesis.

The role and context of the institution, the course team and the individual have proved to be all essential elements in the process of change. They all need each other. In addition, the relationships and nature of interaction between these elements provide the key to unlock creative and potential energy to change, for the good of the whole. It may be obvious to comment that change happens and is happening in any case, but the exploration has been about how premeditated or intentional change can happen, coming from senior management or lecturers within the OU. However, one specific lesson learnt from this research is the importance of the nature of the change, because when the pressure for

change is coming from global trends, market competition, national policy, funding bodies and a number of individual voices, change is more likely to happen. It would seem that the speed of internet development and the mounting interest, across the world, of both technologists and educationalists to exploit the potential of ICT in education and training meant that the technology itself was a key driver for the change in teaching and learning methods incorporated in the T171 course.

T171 changed teaching and learning methods by being designed and delivered on the web, involving narrative material to cultivate interest and including group learning activities. But most of all it was dynamic: course details were changed by the course team several times during the life of the course. The way in which the technology had been utilised was in agreement with the government's response to the Dearing Report (Department for Education and Employment, 1998). This chosen method reflected the fast-changing world of technology which blurred distinctions between method and subject content. The course also went some way to blurring any distinctions between teacher (or tutor) and learner, as many tutors noted how students were learning equally from each other and that they, themselves, were also learning. The OU is essentially an organisation which exists to teach students and yet it has recently been calling itself a 'learning organisation' because it is continually trying to improve its internal operation and provision of services. These changes in the whole concept of 'education' (it is no longer just about 'teaching' but about teaching *and* 'learning') demonstrate how our culture in society is changing, especially our values and priorities.

A particular benefit of undertaking two mini-case studies, one in Arts and one in Technology, was that some comparisons could be made. Contrasting features have been

useful pointers for highlighting factors in the change process. From studying these two course developments the following key issues, some of which have been previously identified, have been revealed:

- the nature of the subject matter in relation to the proposed methodological change
- the relevance of the form of technology used in the design and future implications (will the technology soon be out-dated?)
- the nature of relationships within the course team and its collective responsibility, cohesiveness and continuity
- the informal operation of a course team
- the immediate and wider cultural environment in which the course team is located
- the style of leadership and management approach of course chairs, middle and senior managers

The subject matter in relation to the proposed methodological change is the most obvious contrast to be found - using ICT to teach ICT sounds sensible and apt, whereas using interactive CD-ROMs to teach performance issues in the study of Shakespeare is not easily imaginable and would need persuasive argument. The way in which the course content was produced in each field was also very different. The technology course material was produced by three authors, all full-time members of staff based in the faculty at Milton Keynes. It was also produced relatively quickly as it was based on work in progress - pre-prepared for the moment when needed. On the other hand, the Arts Course material involved collaboration with the US and Canada and several external commissions and also heavy involvement of part-time or temporary members of staff in addition to authors in the faculty. This may have meant that a greater complexity of organisation and level of

funding was needed to produce the course content. Key questions that need addressing when proposing changes in teaching and learning methodology are:

- Does the method fit with the learning objectives identified within the subject?
- Is there the necessary expertise available to produce the course material?
- Is the proposed design feasible, considering the wider impact on existing tutors and student support systems?

Although it has been the task of the research process to identify and separate the factors that affect the development of a change in teaching and learning, it has been a resulting understanding of this study that all the above elements interact with each other and are equally influential to the whole process. The perceived relevance and match of subject with method did affect the relationships within the course team, which in the Arts course were initially 'tension filled' and confrontational whereas in the Technology course they appeared to be supportive and respectful. Personality and leadership styles were also mentioned as factors in inter-relationship difficulties, especially as experienced in the Arts course.

Relationships between course team members were also key to the cohesiveness and continuity of membership as was the fundamental element of a shared vision and commitment to a 'collective' responsibility. These three factors were evident in the technology course team but were noticeably absent in the Arts course team, which suffered fragmentation of membership and consequent change of chair followed by a change of course design. The way in which the course team operated in each case study emphasised the success of an intensive process with many informal discussions between each other and with key individuals outside the team. This contrasted with the first few years of the Arts

course team where interactions between all members involved were limited to formal meetings which were often unfruitful due to poor attendance or lack of consensus.

The nature of political and power struggles experienced by course teams were affected by formal procedures within the faculty (funding and administrative) as well as the cultural/historical environment and the leadership styles adopted by the course chairs, heads of department, sub-deans and deans involved in the decision-making process. Issues of openness v. secrecy, authoritarianism v. democracy and self-interest v. 'the common good' arose from the course team data. In both cases of course development, the practice of finding a way round the 'system' was seen, especially with regard to funding, but also in other instances. It seems that the difference between the way in which this was done was that the technology course had the advantage of being needed by the university (to attract new students), being supported by middle and senior managers in the faculty and the team who shared an agreed goal and tasks involved. The Arts course, however, received some support from faculty and higher levels in the university but this was not evident closer to home, within the team and the department. In this course 'collaboration' was evident (and seemingly successful) with others outside the university but this was not the case with colleagues in the course team.

With regard to the OU as an institution there seems to be no escape from the 'living organism' imagery (which could be 'human!'). There are many reasons why this image is apt in describing the OU:

- it is fundamentally complex and unpredictable
- it responds to the external environment and tries to adapt to survive
- there is a diversity of body parts and functions

- each part is connected to, interacts with, and is influenced by others
- it needs cohesive values and commitment from all the constituents
- it has a concept of the future and makes plans to meet expected challenges

And, of course, the OU is continually changing as it is living in a changing culture and there is a flow of moving 'bodies' and information between the inside and the outside.

Handy (1976) also used this analogy and suggested that 'the whole is so often much more meaningful than the sum of individual parts'. (p.117) This analogy, however, may smell slightly of the 'romantic ideal' - where all the parts (here, meaning 'people') work towards the common good. But, as one middle manager emphasised when commenting on a draft version of the technology course story:

People need to become more receptive to information given - people's attitudes need to change... Not everyone feels like part of the organisation, they don't feel like they belong, they just want to draw their salaries. There are two attitudes of mind that need to be encouraged - 1) that people are part of an organisation and 2) that everything is changing all the time and will continue to do so. The OU should be seen as an organism and everyone needs to play a role in the way it functions. The culture of the OU is not right yet - it needs to value more people who are 'behind the scenes'....[T3]

This interviewee seemed to instinctively recognise the way in which the OU needs to move as an organisation, but changing people's attitudes is not easily attained. This interviewee had a highly responsible role in the faculty, had experience of chairing course teams but felt undervalued by the OU as he was struggling to obtain promotion (on the basis of teaching and management/administration) having been a lecturer with the OU for 16 years.

There is another image of the OU as an organisation, which has a corporate edge demonstrated by the increasing drive towards 'cost-effectiveness' and survival in the educational market. This is a recent trend for all higher education institutions who are becoming more 'business-like' as a result of cuts in governmental funding. Lack of

sufficient resources for development and implementation of new courses can be a large limiting factor. The T171 course team felt limited by a budget which did not quite cover the amount which they felt tutors should be paid (following research results about a greater number of hours involved) and limited the nature of the training that could be given to tutors. Making changes requires investment and as one senior manager pointed out in interview:

There are cost advantages to doing things in a standard way - the Centre for Modern Languages has had a difficult time including lots of new elements in their assessment procedures - but they got there eventually. [S9]

However, in the same interview he suggested that the new 'market environment' (more of a buyer's market than a seller's market) meant more competition. This environment and the necessity to meet a wider range of student needs had given some impetus to making changes. In addition, he felt that there was 'a steady migration to learning with the web'.

At the end of Chapter 4, I suggested that there was a 'system' at the OU that both managers and academic staff feel separated from - as if it was something 'out there' that was beyond reach or control. Initiatives that were instigated from the top down or bottom up had a habit of 'challenging' or 'being constrained by' or 'bypassing' established university systems. I concluded that it appeared to be 'the unseen' system that made changes happen. The interviewee (T3) quoted above suggested that there needs to be more recognition of those 'behind the scenes' - another reference to a hidden world. This 'underworld' seems to be populated by the commitment and goodwill of individuals across all levels of the institution who are driving change at the OU. The interviewee data has shown that some people are more instrumental in bringing about change at the OU than others - and other people know who those people are. In the pursuit of understanding the process of change

and focusing on the transition stage from idea to development of ideas, personal networks and links outwards and upwards appear to be of fundamental importance.

Although there will always be a necessity for a tight administrative 'system' at the OU to manage the large scale operation of teaching and learning, it would appear that there also needs to be an accepted parallel unofficial, informal 'system' that enables and encourages change to take place that emanates from any level of the institution. Costello (1992) acknowledged that there were informal processes at the OU that allowed interaction and 'agenda building' to take place, but he suggested that:

...as the environment becomes more turbulent existing informal processes are likely to become inadequate...[...] In understanding this complexity an interpretive approach which considers the inter-relationships of individual agents and structural features is vital' (p.45)

Since 1992, the environment has become 'more turbulent' and the informal processes still appear to be the most efficient for enabling change. However, systems design has been a focus for the Learning Technologies and Teaching Board which have recently produced (in 2000) a policy document that aimed at making existing systems more responsive. The plan was to increase the number of middle-managers with a new breed of project/ development managers who would support academic freedom on the one hand (especially in the area of research) but constrain it on the other hand during the process of turning course material into multi-media format. It was hoped that this would help to spread innovation in teaching and learning more widely through the institution and result in a flatter, less hierarchical structure. The danger may be that these new people are regarded by academic staff as the puppets of senior management thereby promoting a culture of 'them and us'. Soft, flexible, friendly and informal structures may be more suitable to allow communication and collaboration between various levels and sub-cultures of the OU. The main reason is that

there is now an unprecedented speed of change in the field of distance learning and technology and this will continue into the future. Any 'system' designed to manage change needs to be prepared for the unexpected which requires openness, flexibility and ease of access (see Burns and Stalker, 1994) for all involved.

In addition to a responsive environment, this research has identified that there is a need for intensive, energetic and cohesive course teams for developing change in teaching and learning - as one technology lecturer pointed out '...although we set out to develop new ways of working we eventually re-invented the course team.'[T4] This is something that everyone involved in making changes needs to understand and accept - as some uncertainties become resolved others will emerge. In the area of technology, course teams are no longer likely to fade away as the development ends and presentation begins, because they will be needed to continue development. However, it is probable that new expertise or task roles will be needed as the course continues to evolve and changes within the course team will become the norm. There is a parallel between the process of change and the strategies which the T171 course team promoted at the beginning of their course. The lesson given is that when working with computers one needs to accept that experiences of uncertainty, unreliability or unpredictability, are the norm. This needs a fairly drastic change of attitudes in most people as since the industrial revolution we have been led to believe that machines are more reliable, more consistent and more predictable than ourselves. If the principle of 'uncertainty' is accepted then one can become quite creative and systematic in finding 'ways around' the problem. It seems that the course team needed to learn this lesson and practise what they were teaching, as it relates equally well to the process of change.

A critical evaluation of the research approach and methods

The overall research objective to try and obtain a holistic view of the change process in teaching and learning could be a cause for concern. It may be argued that there has been inadequate depth and attention to detail in the broad range of aspects that have been included: the external context of higher education; the internal, historical and current context of distance learning provision in one institution; the evolution of educational technologies and associated theories and the way in which they have been employed at the OU; the close study of the development of two new courses; the nature and operation of two course teams; the roles and contributions of individuals and the impact of one new course on the OU 'system' and the roles and relationships involved in supporting students to learn.

It has been a challenging and insecure task - research questions were open and broad and there was no specific hypothesis to test. The assumption behind the research subject matter is that there are identifiable factors that inhibit or encourage the process of change in teaching and learning and that course teams had rich potential for exploration. This has meant that the research has felt like a 'voyage of discovery', launching into the deep blue sea of the unknown, packed with uncertainty and fears that nothing will be found that has not been found before. But every situation, individual and perspective is unique, including my own 'subjective' design which gave shape to this investigation. This research approach however, is not original. It has been done before and persuasively justified by Glaser & Strauss (1967), Woods (1996) and with specific connection to the OU, Costello (1992) - all previously mentioned in the 'Methods' chapter. During the period of writing up this thesis, new insights about brain activities have been reported by Greenfield (2000), a neuroscientist, who has been trying to find the location or secret of consciousness (though

she describes this as a 'problem'). The latest research about what the mind sees of the external world adds weight to the view that 'truth' is entirely subjective, in summing up on a range of experimental research she concludes:

We have seen that we are denied a full view of the world, and of what we do see much is supplied from within, back-projected from higher parts of the brain. We see things with our brains, not our eyes. If reality is indeed not *out there* but inside our heads, then what we see must depend on the unique contents of our personalised brains - our memory. (p.77)

It seems reasonable to expect that this is also the way in which people hear, smell, taste and feel - the external world added to and interpreted by personal experience and knowledge. If this is the case then my primary data source consists of 57 versions of 'the truth' all tainted by my own unique reception and interpretation of what is seen and heard. Presented in this way, it would be difficult to attack this research on the basis of a lack of 'objectivity' because this concept is considered to be mythological (in that it does not exist) with regard to human activities.

Although I initially felt concerned that the 'whole story' had not been achieved as not everyone could be included, it is now clear that enough versions of the story have been gathered and more perspectives could result in a more chaotic and confused overall view.

The accuracy of recording the data could have been improved by the consistent use of tape recording. In the second year, which involved 221 interviews (undertaken by a team of three, including myself), the vast majority of these were recorded on tape. However, in the third year, when my focus on the institutional context of the OU began, after the first few interviews, the decision to stop tape recording was made when it became clear that several of the interviewees were inhibited by this method. The data analysis has, therefore, relied on my own notes taken during interviews. As the first half of interviews were jointly

undertaken, my notes arising from these discussions were 'validated' by my senior colleague.

A considerable strength of the OU case study is, I think, the quality of the interviewees, their skillful articulation and willingness to give frank feelings and explanations in response to questions, partly due to the welcoming nature of the institutional culture and the integrity of the staff in general. It could also have been partly due to the friendly and informal nature of the relationship between the interviewer and the interviewee. Sometimes this happened as a result of several interactions, by phone or email, when fixing times and dates for the interview, but it was also a result of the experienced and pertinent interview techniques used by the interviewer. It should be noted that Professor Silver played a large part in conducting the interviews with senior management and my own interviewing skills were enhanced by his example.

The range of roles and responsibilities (from VC to associate lecturer) held by the research participants were appropriate and adequately met the criteria to gain a spread of perspectives throughout the OU to give an overall balanced view. This primary evidence was supported by a range of documents kindly given to me by interviewees or found from archive searches in the library, the IET and the *Open House* offices. It is possible that some important documentation was missed but it feels more likely that the research has benefited from the readiness to help and openness of some senior staff members.

The research design involved a variety of techniques aimed at enhancing the reliability of the data and achieving some continuity of information gathering over a period of time.

Triangulation was incorporated by feeding back a draft of the story of course development

as understood from the interviews and documentation to 15 interviewees (those involved in the two mini-case study course teams). Ten of those contacted responded with helpful comments, a few of whom had been less forthcoming in the interviews gave much more interesting additional information. The way in which many of the participants were re-visited and updates on developments were gathered contributed to the process of generating theory that is grounded in the data collected.

Extending the study by incorporating a third phase of data collection meant that the research was enhanced by the perspectives of a different community - the regional staff. It also gave some understanding of the initial impact of the new technology course during the stage of implementation. This extra time and observational experience (as an associate lecturer on the course myself) gave some valuable insights into the complex and continual nature of the change process.

Further connections

From the beginning of the research for this thesis, I felt it was important to try and obtain an understanding of the process of change - as a whole, using a 'holistic' approach (trying not to leave anything out) as much as possible. However, just as medical scientists separate parts of the human body in order to expose the connections and relationships between them, it was also necessary to distinguish between parts of the institution and parts of the process to see the links and effects of change. As most of the research relied heavily on the experiences of others and historical perspectives, this method/process has similarities with 'reverse engineering' a term used in the ICT field, which describes pulling apart a computer system in order to learn how it works. In this conclusion, the whole story

of the research, through all its stages (involving broad contexts and detailed instances), is behind the final search for useful features that identify the process of integrating ICT in teaching and learning in HE.

Scientists have traditionally used 'reductionist' techniques in order to simplify the complex natural world in an attempt to make it understandable. In order to do this, 'instances' and 'features' are sought and matched to try and discern some kind of recognisable pattern:

Nearly always, the instances that are considered to be important in some branch of science are derived from a corresponding system of theoretical features. In the terminology of Thomas Kuhn, a system of features is a paradigm, a worldview...[...]...but a system of features is more than just a worldview; the essence of a feature is simplicity. (Cohen and Stewart, 1994, pp 410-411)

However difficult, this has been the overriding task of the thesis, to extract simple concepts from a hugely complex situation. It was a difficult struggle, particularly when one is also trying to look at everything (the 'whole' thing), but as Cohen and Stewart point out, 'features are *designed* for commonsense thinking; they allow us to ignore incomprehensibly intricate details of unimaginably complex processes.' (p.411). There has been an absence of the creation of 'models' in this thesis, precisely because of the danger in over-simplification that may limit other perspectives and interpretations that could be equally as viable, and could be mis-used when applied to other contexts.

The idea of *uncertainty* as a feature of change has been previously mentioned. However, another feature is *paradox*. Elements of contradictory qualities have been found to be helpful when both are present. For instance, the culture of the OU appears to engulf (and promote) 'diversity' and 'consensus'. Fullan (1999) has also referred to these two ideas, in the sense of consensus (and creativity) arising out of diversity:

Time and again we have seen that differences contain the seeds of creativity, but the route to reconciliation is complex and anxiety prone. (p.77)

The concept of paradox has also featured in recent literature regarding universities in relation to society:

It is something of a paradox that university autonomy must be insisted on as a requisite of supporting an intellectual life that can be actively and effectively involved in public affairs. Yet it is the case that intellectual life must be at one and at the same time *apart* from wider interests and closely *engaged* in the wider society through its research, curriculum and many other contributions to public affairs. (Smith and Webster, 1997, p.112)

In this sense, the OU appears to have noticed that in order to evolve and survive it needed to look outwards and collaborate externally as well as look inwards to encourage an internal collaborative culture amongst its own staff and units. Another paradox (open v hidden) at the OU is the apparent existence of a very solid and stable 'system' which has evolved a 'necessarily tortuous' process for approving new courses that takes an inordinate amount of time and incorporates much 'open' debate. Running alongside this is a 'hidden', informal and flexible route that 'goes around and bypasses the system' and achieves the same thing in much less time, but in a 'behind the scenes' kind of way.

The notion of *energy* is another important feature that has emerged in relation to the change process. I have used the idea of energy and structure in relation to the 'culture' and 'system' of an institution. The creative 'energy' of an individual has been seen to be enhanced when it is fused with others in a group, but it can equally be a powerful blocking factor when personal and academic interests collide (as demonstrated by the OU course teams). The energy (positive and negative) within the institutional culture can also be enabling or blocking with regard to change. Fullan (1999) has highlighted the concept of energy in making 'changes' by choosing the phrase 'Forces of Change' under which he

discussed social, political, personal and spiritual forces that effect the process. He has argued that these forces can be channelled and used to the advantage of the institution:

That are orientations and conditions that we can work on that make it likely that positive patterns will frequently emerge. For Stacey (1996, p.179) they include 'the rate of information flow, the degree of diversity, the richness of connectivity, the level of contained anxiety, and the degree of power differentials' (the latter being the balance between directive forms of leadership and bottom-up initiative). (p.79)

Hannan and Silver (2000), in their dissemination of findings arising from the research project that also contributed to this thesis, have indicated how the energy of individuals could be positively exploited in the development of a creative institutional culture from a top-down initiative:

There is of course a strong argument that it is essential to harness the energies of individual innovators for wider, institutional initiatives, given among other reasons the difficulty of individuals disseminating their work. (pp.149-150)

This thesis has drawn on research that has been largely based on individual change initiatives, rather than those being driven from the top-down. It has been argued that the success of initiatives (especially those involving the integration of ICT) has heavily depended on the support of colleagues and the readiness for this kind of change in the immediate environment or sub-culture. It has also depended on the way in which the initiative fitted in to the goals or vision of the institution. In this way the culture and system were both crucial factors in the change process. Cultural energy and systemised structure are entirely reliant on each other - they are symbiotic. However, the structure (or system) of the institution can have an immediate effect on the energy, by blocking or inhibiting its movement, whereas the energy of an institution will only be able to effect change in the structure very slowly and gradually because it is big, complex and solid. There is a fine balance needed between stability and flexibility in the system.

In the last two years of the 20th century, the number of OU students that were connected to the OU online doubled from 40,000 to 80,000¹. Also, the number of courses delivered on the internet doubled from four to eight² (including those at post-graduate level). The increase in networked tutors and students has ended all arguments regarding the danger of 'elitism' or limited access for courses based on the internet. The enthusiasm and richness of exchanges I have witnessed in the T171 computer-mediated conferences have a new cultural flavour of 'academic' mixed with 'social' (socio-academic?) - creating the ground rules for a much larger 'virtual learning community'. But just as soon as this kind of community becomes too large (or even before then), new kinds will emerge:

There's little point in going into the niceties of spelling: soon all communication and transactions will be via speech-operated/recognising/synthesising computers. These technologies will engender greater social change than the advent of printing. (Peter Rowland, London³)

The technology utilised in the T171 course will soon be out of date, which emphasises the point made earlier that not only will change in teaching and learning continue at speed, it will also continue to happen in an environment of uncertainty and continuous movement.

This environment is shared by a variety of universities, colleges, government and corporate bodies, nationally and globally, all competing and/or collaborating to help students learn.

That is one reason why the lessons learnt from this research do have implications for other HE providers.

¹ From the OU, 'Facts and Figures' leaflets of 1996/1997 and 1998/1999, the latter of which was available from the Summer of 2000.

² Ibid.

³ From *The Guardian*, letters page, Saturday September 2nd, 2000

Implications for the Higher Education community

There is an increasing amount of attention given to the emerging profile of higher education in the face of dramatic cultural and economic change driven by rapid development in ICT. This has been happening on a national and global level. In Canada, change in teaching and learning in universities is beginning to be seen as inevitable:

With the increasing influence of new, affordable technologies and the demands for relevant learning outcomes, even in the largest and most conservative universities, traditional presentational teaching practices and structures can no longer dominate. (Garrison and Anderson, 2000, p.33)

Candy (1997), in Australia, has explored implications for academic development resulting from a wide-range of other changes that have been increasingly happening in universities. These include the demand for distance learning, increasing student diversity, need for integration of personal transferable skills into the curriculum and the trend towards strategic alliance beyond the university. Even without the impact of ICT in teaching and learning in universities, he has recognised the need for 'anticipatory' academic development in a future of uncertainty:

...anticipatory academic development involves constantly scanning the horizon and seeking to prepare people for likely futures before they arrive. Such working at the margins between the present and the future has its risks, and sometimes we will get it wrong. This, however, is no excuse for not trying. (p.179)

Another voice urging change in universities, at the beginning of the third millennium is Jegede (2000), a professor at the Open University in Hong Kong, who has highlighted the need for universities to respond to the changing needs of teachers and learners 'fostered by several social and pedagogical changes' (p.48) brought about by the use of ICT.

This research, then, has implications for higher education and may be of use to the institutions, the groups and the individuals who are interested or involved in making changes that integrate ICT in teaching and learning.

Features that are key to the encouragement and support of change in an institutional culture appear to be: diversity and open debate balanced by shared institutional values and vision; internal and external collaboration seen as the 'norm'; recognition, responsibility, encouragement and reward given to energetic individuals with various roles who are involved in the process of change; formal and informal networks for communication, support and collaboration; openness and inclusion in institutional policy making; active, informed and democratic leadership.

There are policies (or strategies) that could be employed to develop the positive features of an institutional culture. Suggestions would include the provision of skills training for leadership roles and group working/ learning. It may be helpful to appoint people who would have responsibility specifically for supporting energetic individuals and groups, within (and around) the system, who are trying to make changes or learn about others. Democracy and openness can be demonstrated by the system in appointing representatives from all parts of the institution, including teachers and students, to serve on policy-making university boards.

Positive features for bringing about change in groups, such as course teams, would include a considerable amount of attention being given to the clarity of the proposal, including definition of roles, tasks, content and intentional outcome. Members of the group show mutual trust and respect as well as open debate in an informal, but safe environment. Leadership appears to be crucial in the sense that the person is seen to be democratic, informed, active and skilled in communication within formal and informal interactions, and securing academic and personal respect from group members.

The lesson for individuals at any level who are motivated to bring about change appears to be one of having the confidence and courage to 'just do it', balanced with the integrity of openness with others. In addition, skills, knowledge and sensitivity are required to obtain agreement and support from others with regard to the relevance and feasibility of the intended change.

It seems that the most significant aspects of the process of change are:

1. Preparation. This refers to the 'pre-initiation' stage of the process involving the institutional culture as well as the individuals. Knowledge of latest developments in the field as well as the encouragement/ creation of informal networks are seen as essential for cultivation of collaboration.
2. Collaboration. On a small or large scale with a formal or informal basis. To enable a flow of energy within the culture, dialogue between people at all levels needs support and encouragement through flexible procedures and the provision of resources.
3. Uncertainty. Change involving ICT integration in teaching and learning will involve unexpected outcomes. It will need continuing regular evaluation and subsequent updates, monthly rather than annually. The unpredictable nature of this kind of change involves greater amounts of risk-taking, frustration, goodwill and trust from those involved.

The speed of change in the development of ICT may be revolutionary, but the integration of ICT in teaching and learning is an evolutionary process.

APPENDICES

APPENDIX 1

Methodologies used and data outcomes - Stage 1 Computer Supported Co-operative Learning

The data collection methods produced data that are largely of a qualitative nature, though measurements of quantity and frequency regarding student perceptions and observed group interactions were calculated. In chronological order, the following methods were employed:

1. Questionnaire.

This requested personal and background details of the students as well as their attitudes to teamwork, reflections on their previous team project, their own problem solving techniques and feelings about the use of email.

Outcome:

Questionnaire data was collected from 47 of the 51 second year students at the start of the project. The most notable points arising were:

- Students experienced more problems than advantages in previous teams.
- The most important perceived teamwork skills were 'communication' and 'organisation', closely followed by 'commitment'.
- The order in which most students sought help with a problem was firstly, to try alone, followed by seeking a friend, then going to a 'more knowledgeable other' before going to ask the tutor - as a last resort.

2. A web-based bulletin board.

Set up at the start of the project to provide teams with their own shared electronic message space and a means by which they could 'opt out' of the research observation process. This system was further enhanced 6 weeks later by the additional facility of emailing from and to the board.

Outcome:

The bulletin board browsing log showed that:

- Within 4 weeks, 4 teams (out of 13) had opted out of the research.
- 2 teams never tried using it.
- 3 teams had posted 1 to 3 messages and stopped use after the 1st week.
- Within 8 weeks, 6 teams had opted out of the research.
- 1 team used it regularly for posting meeting times and minutes
- At 18 weeks there was a total of 79 observable messages (43 from 1 team).

3. Observed and tape-recorded team meetings.

Outcome:

By relying on meeting dates and times posted on the bulletin board, during the period from October '96 to March '97 a total of 9 team meetings were recorded with the cooperation of 2 teams.

4. Informal group interview.

Outcome:

The informal group interview consisted of 5 students representing 5 different teams (9 teams had been asked to participate). The following views were expressed:

- The Bulletin Boards were not useful because there was no reason to use them... they see each other every day at lectures.
- They are too slow and laborious to use and 'too much hassle', compared to email. 'When no-one else is using it, you check in a couple of times.. no messages, so you lose interest.'
- These official team meetings are often not 'real' because, from past experience, they have been visited often by the tutors - who have intervened, and students have, as a result, prepared beforehand for these meetings.
- All the students felt that a Project II list server, would not work because of a competitive feeling between the teams. One student did note that in the past there has been communication between teams (not enough).
- Students agreed that a mail alias for the group would be more useful, though they could not imagine having any email task discussions.
- One student suggested that each student joins a list server of their choice and report back on it. In this way they would get the experience of seeing how helpful these CMC discussions could be.

5. Group email aliases.

These were offered to the teams to encourage communication and widen the choice of medium still further. It was clear that this would be observable.

Outcome: Used rarely by 2 teams

6. Individual email questions.

Outcome: There were only 2 responses (from 30 sent).

7. Personalised email question.

At 12 weeks into the project, 7 students (one from each remaining team) were targeted with a question inviting their views on important skills required in teams. Their previous thoughts on the subject were quoted from the questionnaire.

Outcome: Brief replies were received from 3 students.

8. Individual 'face to face' interviews.

Outcome: At the end of week 18, 7 students were interviewed - representing the two regularly observed teams.

9. Interviews with course tutors.

Outcome: Both course leaders were interviewed.

APPENDIX 2

ETHICS PROTOCOL

The Process of Change in Teaching and Learning at the Open University: *Towards a Virtual Learning Community?*

September 1998

Researcher: Susan English

Research description and methodologies to be employed:

I intend to investigate the process of change in teaching and learning with particular reference to the role and impact of new technologies. I aim to obtain a holistic view of this process by identifying:

- the nature of change currently happening at the Open University
- the reasons why it is happening
- the starting point and mechanisms of development and implementation
- the growth and spread of a specific change
- the consequences of a specific change, particularly the effects on staff and students

This will involve studying the institutional culture, frameworks and strategies as well as personal motivation, experience and influence. I hope to meet people from all layers of the institutional hierarchy by looking from the top down (the senior management view), in all directions from the academics' view and the bottom up (the perspective of students and regional part-time tutors). In Stage 1, institutional aspects will be the focus and in Stage 2 the impact of change on tutors and students will be the main subject of study. In addition to conducting a literature review, I will request and review relevant historical and current documentation. The data will largely arise from semi-structured and informal interviews as well as observational notes from committee meetings and focus groups. I expect to use several methods of communication to conduct interviews and focus group discussion: recorded face-to-face meetings, recorded telephone interviews and email interaction (one to one or one to many).

Informed consent:

Permission from the Vice-Chancellor of the Open University to conduct my research will be sought. All potential interviewees or focus group members will be provided with a brief description of the research as well as an ethics protocol at the time of requesting their participation. I will also state clearly my availability and contact addresses to help with any enquiries.

Openness and honesty:

At the start of every interview or focus group discussion, participants will be asked if they agree to being recorded or not and if there is anything they wish to ask about my research. They will also be informed that they need not answer any question that they might find awkward and that they can withdraw as a participant at any time. If I have the opportunity of observing a meeting, the reason for my presence will be explained to everyone at the meeting.

Confidentiality:

Agreement from the Vice-Chancellor that the Open University is named and public in all research output will be sought. All participants will be assured that any information given will be in confidence. Anonymity of all individuals will be maintained throughout the conduct and reporting of the research. In a context where a staff member in a key position is referenced, their written consent will be obtained. I will be personally responsible for all the data analysis and reporting.

Debriefing:

Near the conclusion of each stage of this research, a draft report will be circulated for discussion within an existing focus group and to individual interviewees. In addition to this, it is hoped that work in progress will be presented on a web site and all participants will be informed of the address and encouraged to give feedback. A senior member of management staff acting as 'gatekeeper' will be sought who could offer advice and liaison regarding the approach and meetings with key personnel as well as receive, approve or negotiate any documentation produced as a result of this research.

APPENDIX 3

3A - Interview Schedule for the OU - 1999 - Senior Managers

Explain reasons for the interview - project + PhD study. Check Ethics Protocol read and understood, assuring anonymity and pointing out gatekeeper's position.

1. Interviewee's title, position and current responsibilities.
2. Interviewee's position/roles in the structure, influence through committee(s)
3. In what ways are the roles and responsibilities of Faculty Deans, Department Heads and Course Chairs distinct from each other or linked regarding T and L?
4. Is there funding available to support T and L initiatives from individuals? If so - are there conditions attached – to fit in with OU policy or plans? Are there other ways in which central policy on T and L affects the design of new courses?
5. To what extent are course teams, designing new courses, flexible and/ or autonomous with regard to T and L method and assessment procedures? What are the pressures? (subject network? QA? Centre?)
6. In what ways do staff tutors or associate lecturers contribute to innovation in T and L at the OU? Is there a framework that enables access of regional staff to senior management?
7. How has the development of new information technology and the knowledge media environment influenced or changed T and L methods at the OU?
8. How would you describe the culture of the OU? Are there any identifiable sub-cultures? Is the 'institutional culture' recognisable in any of the literature regarding these concepts?
9. Where would T and L innovation fit into the above description?
10. In what ways have external initiatives (EHE, TLTP, CTI, FDTL, DfEE) and national policy (HEFCE funding and ILT) influenced changes in T and L at the OU?
11. Are excellence in T and L and innovation rewarded? If so - which and how? (What are the requirements for promotion within the OU?)
12. Would it be possible for you to address a conference on the subject of 'innovation at the OU'? If so, what might your points be? (Would these be consistent with remarks about your own Faculty?)
13. How do you see the future of T and L at the OU (and how do you feel about it)?

Is there anything that we have discussed that we should be particularly careful about? Anything to check back with you before we use it?

3B - Interview Schedule for the OU - 1999/ 2000 - Course Team members/ lecturers

Explain reasons for the interview - project + PhD study. Check Ethics Protocol read and understood, assuring anonymity and pointing out gatekeeper's position.

1. Interviewee's title, position and current responsibilities.
2. How long have you been working for the OU?
3. What is it like working for the OU? Do you feel rewarded?
4. What are the main current issues regarding teaching and learning at the OU?
5. Are you consulted about policy change?
6. How/ Why did you become involved in the course team?
7. How/ Why did the course begin development?
8. How did the course team work? How did course team members relate to each other?
9. What were the roles/ responsibilities of course team members - including self?
10. What were the problems/ obstacles/ challenges faced by the course team?
11. Was funding an issue?
12. How were problems overcome?
13. What helped or encouraged the course development?
14. What was learnt from the course pilot study?
15. What happens to the course team after the course has begun presentation?
16. What do you plan to do next?

Is there anything that we have discussed that we should be particularly careful about?
Anything to check back with you before we use it?

APPENDIX 4

Email participation request and questions sent to tutors in the Southern Region - May 2000

Dear

I am a new tutor-counsellor on T171 this year and I am also studying for my doctorate. This course plays a large part in my research (please see attached ethics protocol for more details) and I would be very grateful if you could spend a few minutes responding to the questions below (or some of them). I would appreciate a response by May the 22nd - or as soon as possible.

Many thanks.

Sue English

PS If you would rather not respond by email but would be willing to have a quick phone conversation - please could you let me know of a suitable date and time. Thanks again.

About tutoring on-line with T171 -

1. How do you feel about tutoring on this course (at this stage - May, 2000)?
2. What are the positive aspects?
3. What are the problems or the difficulties?
4. Has the tutoring task been as you expected?
5. i) Do you think that tutoring aspect of the student support design could be more effective? ii) If so how?
6. i) Roughly about how much time do you spend working on this course? ii) Could you give an idea of about how much of that time is spent interacting with students?
7. Have you tutored DE students in a more traditional manner before? If so, how do you think on-line tutoring compares?

About the students -

1. How many students are there in your group?
2. How many students have dropped out so far, if any? Can you explain why?
3. Generally, how do you think the students are responding to the course?

And finally -

****Any other burning issues about on-line tutoring with T171?**

Thanks a million!

ETHICS PROTOCOL

The Process of Change in Teaching and Learning at the Open University: *Towards a Virtual learning Community?*

May 2000

Researcher: Susan English

I am investigating the process of change in teaching and learning with particular reference to the role and impact of new technologies. I aim to obtain a holistic view of this process by identifying:

- the nature of change currently happening at the Open University
- the reasons why it is happening
- the starting point and mechanisms of development and implementation
- the growth and spread of a specific change
- the consequences of a specific change, particularly the effects on support staff

This involves studying the institutional culture, frameworks and strategies as well as personal motivation, experience and influence. Two developing courses are the focus of attention, both presenting for the first time in 2000. One course is based in the Arts Faculty and the other in Technology. Interviews are sought with staff from all layers of the institutional hierarchy involved with these courses, from senior central management to associate lecturers. The data will consist of relevant documentation and notes taken during semi-structured face-to-face, telephone or email interviews.

Confidentiality:

Agreement from the Vice-Chancellor that the Open University is named and public in all research output has been obtained. All participants are assured that any information given will be in confidence. Anonymity of all individuals will be maintained throughout the conduct and reporting of the research. In a context where a staff member in a key position is referenced, their written consent will be obtained. I will be personally responsible for all the data analysis and reporting. A senior member of the OU staff has agreed to act as 'gatekeeper' and will receive, approve or negotiate with regard to any documentation produced as a result of this research.

Susan English

APPENDIX 5

Letter sent to all course team members on T171 and AA306 who had contributed to the mini-case studies.

9th July, 2000

Dear....

[Regarding my research entitled - 'The process of change in teaching and learning at the Open University: *towards a virtual learning community?*'.]

I am writing to, firstly, express my gratitude to you for being so helpful in allowing me to interview you for my doctoral research and, secondly, to ask another favour of you.

I have recently been analysing and writing the chapter that deals with the data gathered from two case studies investigating the development of new courses. It has been a very difficult task and I would appreciate your feedback on my draft version of the 'course story' which presents the data and incorporates some preliminary analysis. I am now sending the attached document to all those that contributed. Having been impressed by the way in which the course team scrutinise each other's writing, I feel that this process would considerably strengthen my research and assist in my attempts to justify the research methodology by providing triangulation.

I have incorporated several mechanisms to avoid identifying my informants. However, the roles of members in course teams are, I think, very significant in giving meaning to the development story, so these have sometimes been mentioned. Despite the care taken, I am aware that you will recognise more than others will and hope you will bear this in mind.

Please let me know if you think my account is misleading in any way or if I have some inaccurate information. I would also like to know if you have any objection to me using this account in my PhD thesis. I would very much appreciate your comments before the end of July 2000. If I have not heard from you by then I will assume that you have no comments.

Many thanks and best wishes,

Sue English

Faculty of Arts and Education
University of Plymouth
Douglas Avenue,
Exmouth,
Devon
EX8 2AT

APPENDIX 6

'TUTOR PERSPECTIVES' DATA PRESENTATION

About tutoring on-line with T171 -

1. How do you feel about tutoring on this course (at this mid stage - May, 2000)?

It's been a bit of a struggle - hard work. I have found it quite difficult - mediating a conference is quite a skill. [TU1(P)]

I feel generally positive with the course and my students, but frustrated by the dreadful First Class system and by the lack of preparation from the OU. [TU2]

Wish I had never started - feel cheated by the OU regarding time spent on the course. [TU4]

At this stage I am still interested in the course but I am considering carefully whether or not to continue tutoring on it next year for reasons set out below. [TU5]

After feeling completely overwhelmed by the amount of material at the beginning of the course (both course material and bumpf sent by the OU), I think I am now beginning to get on top of things, although being away on holiday for the past two weeks has meant that I have fallen behind slightly with organising activities/answering students' queries. [TU6]

I'm enjoying it, although finding it tiring. [TU7]

Quite positive but it's taking much more time than I thought it would and I'm a bit worried about losing more students as they seem very quiet at the moment, and a couple have pulled out. [TU8]

Having had wide experience (11 years) on T102 , a more traditional course with face to face contact during the year and at summer school, T171 has a different feel about it. There

is a sense of isolation in that messages go out into the unknown, and there is no real way of knowing if you are getting through to students. The student body are also different - they want group work but lack the sense of having achieved it from time to time, to the extent that they are meeting face to face. [TU9]

I feel sad that the people who were around when I started have moved on..[.]... I enjoy working with my students, and I still feel that the OU does value staff. [TU10]

I have found the course difficult to tutor, as the students have needed so much help in these initial stages. I've used email, telephone and face to face meetings to help them, and often it's help on relatively minor problems, but when there's so many of them, it can be draining. I think because I'm unfamiliar with the course, and it's a case of learning as you go along, my lack of confidence makes it more stressful. [TU11]

He feels that this course makes him feel more responsible for what is happening - students were having a lot of problems and the solutions were not possible from the material or other ACS help.... [TU12(P)]

I like it, but it takes up much more of my time then anticipated. The beginning of the course was a bit overwhelming. Too much information coming too fast. It did not help that some of the information was almost identical and one had to spend time wading through it to sort out the differences, which sometimes were negligible. [TU13]

I feel that tutors on this course are far closer to students than on other more conventional courses and end up putting in far more hours. I remember when I did an OU degree, there might be little or no tutor contact from one TMA to the next. On T171 we seem to be hand holding a great deal. [TU14]

OK. Not good not bad. Too much info bombards us, and it is hard to prioritize. I think students should come first so tend to deal with Tess stuff and sometimes neglect admin. [TU15]

I feel honoured to be chosen to be part of such an exciting development in the OU. [TU16]

Very good. (I have been involved in the general technical side of the course for some while). [TU17(P)]

Although It is a little strange I quite enjoy the challenge. I'm still feeling my way around it as it is so different from face-to-face work. One of the difficulties is judging how much or little to do, or get involved with. One suspects that if one weren't there most of the students would get on just fine in any event ! [TU18]

For the May presentation the course is only a week old so it's a little early yet. I feel that the University have given me a lot of help, I'm just frustrated because the students aren't bubbling with lots of contributions. Overall I'm very positive and have just applied to do it again next year. [TU19]

I feel that this course mainly requires conselling, rather than tutoring. It is a bit of a non event, with the exception of marking assignments. I think that because you do not have to prepare for tutorials the course can go on in spite of the tutor. There are not many times I have been asked to teach and guide. [TU20]

I am way behind, but I like to be on innovative courses of this type. [TU21]

Mixed feelings. [TU22]

It's early days yet but I am enjoying helping people to embrace this still relatively new technology. [TU23]

It's been great fun. I'm getting to know the students and feel very pleased as I get the messages telling me they're completing sections of the course. Most of them seem quite at ease with contacting me by e-mail or phone when they have a question or problem. [TU24]

OK so far. [TU25]

You'll have to be specific. [TU26]



2. What are the positive aspects?

The best bit was when I decided to arrange a real-time chat for setting up activity 4 - most of them arrived, I quickly got a volunteer to co-ordinate and since then the conference discussion has been lively. [TU1(P)]

Being able to help students learn [TU2]

Have met great new colleagues, and enjoyed the money! [TU4]

It is an exciting course to be involved with. An innovative mixture of knowledge and skills and the on-line learning materials are good, as is the CMC component. The students have already made good progress, especially those who were more or less beginners. [TU5]

Enthusiasm from students; getting feedback on my marking of their first TMA. [TU6]

Excellence of OU SOL (Supporting Open Learners) materials.
Interesting students with a good sense of humour. [TU7]

seeing the students learning and enjoying the course
- opportunity to talk and get support from other tutors (at training meetings and on-line)
- thanks and good feedback from my students
- interesting course material and presentation techniques
- I'm learning too!! (a lot) [TU8]

Good course material, interesting studies and wide interest to students. [TU9]

Valuing staff and by that valuing students. I enjoy working with a committed bunch of students. [TU10]

The students are great, I like them all a lot, and they have given a lot back to me in terms of reward, fun and friendship. When things go well for them, they share it with me, and that is a very positive feeling. [TU11]

He knows that he is able to spread his enthusiasm for IT to the students and his substantial knowledge in the subject. Most of the students were quite inexperienced and rather concerned about the course. [TU12(P)]

I can do it at any time, even at 2 a.m. in the morning. [TU13]

The overall feeling of helping someone - a bit idealistic. [TU14]

Nice to be able to interact with students throughout their learning by putting messages in the conference. It is not see them once a week, interact and forget them in between [TU15]

The ability to work entirely from home. A fast response to queries is possible using ICT. [TU16]

Guidance materials are good. Like running the on-line tutor activities. [TU17(P)]

Flexibility in terms of time.
Time to respond properly to situations.
Ease of mass communication of ideas. [TU18]

The degree of preparation and support available. The contributions of some students, or even one who is struggling but is cheerful and keen to improve. [TU19]

The format is good for me, and I am learning bits about the history which I should know for my other advising work [TU20]

It is useful to tutor areas where I want also to develop my skills and use them. Travelling is reduced. Marking ETMAs is quite easy, but I spend several times as much time with the computer getting ready for it. [TU21]

No set tutorial dates to work around. [TU22]

It is helping students to realise that, on the one hand, it isn't that difficult to use a PC or the Net but, on the other hand, the interpersonal interactivity it engenders is quite complex. [TU23]

First Class is just great. I'm in frequent contact with a good portion of my group and see them engaging in the exercises and assignments. I can easily post extra handouts and guides for them to access and they can get in touch with me privately at any time. [TU24]

I'm learning a lot myself; students are generally friendly and interesting. [TU25]

I like the focus on study skills and reflection on activity (my students don't). [TU26]

3. What are the problems or the difficulties?

Surprised how much TIME it has been taking...The marking tool was really hard to use - got so fed up with it! The assignments have been quite complex for people just starting out in academia... Too many skills are trying to be developed at the same time. It's an extremely steep curve for beginners to climb (not to mention the tutors...) Some questions have penalised skillful students - ie 'describe how you overcame a particular problem' for some that have known things for ages this can be very hard to answer....

The First Class setting up was very frustrating... some things didn't work (the naming convention) and the Help Desk did not spot this immediately either. It was 'painful'!

[TU1(P)]

The OU's lack of proper information - they over provide information, but of the wrong kind. What I need to know is what I should be doing, what each section of the course is trying to achieve etc. [TU2]

Frustration due to being unable to rely on the early versions of staff notices because they have habitually but spasmodically been altered sometimes several times before their deadline, consequently you can't plan ahead and rely on the information sent earlier on to manage limited time.

The marking takes for ever, consequently requiring more hours than initially expected and the software has been unreliable. [TU4]

The problems fall into 2 main areas; the level of technical support is unsatisfactory, both from the point of view of the students as well as the tutors. In part this is because the guidance materials on completing tasks such as preparing and submitting TMAs is inadequate, especially for students new to the university. For tutors there needs to be more practical training, especially with using the marking tool. Secondly it is not easy to maintain a regular pattern of participation in the conferences which can leave some students feeling isolated from their peers, especially if they perceive, as some do, a wide skills gap between students themselves. Many students who are new to the university or to higher education in general need more support with study skills, examples of the application of clear thinking principles would help.

I only received permissions for the essential T171 PARC (online) conference in late March, which was a fault in the administrative machine. [TU5]

Information overload! There are far too many sources of information - all the stuff that has arrived through the post from the OU, plus a whole range of conferences on First Class. I never know where to start when looking for specific information. Much of this material also seems very disorganised. I'm not sure who I should contact in the first instance if I

can't deal with a student's question/problem myself. I also found marking the first TMA very difficult, mainly because the marking scheme didn't seem to bear much relationship to what the students had been asked to do in the question paper. I have also had problems in getting some students to participate in the groupwork aspects of the course. [TU6]

Technical support from a distance. Describing items on the screen within an email or during a phonecall is so much harder than demonstrating the same thing to someone who could watch the same screen with you. I have had to be proactive in contacting students. They seem to delay to let you know of problems. Even when these are perfectly understandable such as having their PC stolen. [TU7]

the marking tool was a nightmare for TMA 01, I had to mark on paper because it wouldn't work at all (until I bought Word 2000!)
- finding time to read the course material and keep up with the students
- expectations from the students that I will be on-line most days (and trying to catch up with all the messages if I'm not)
- the ambiguity of the TMA questions - I'm concerned that the mark allocation given in the marking guide is not always apparent in the TMA question (e.g. the weighting of the 'clear thinking' analysis versus the summary in TMA 01).
- losing students is discouraging (not to mention the fact that my potential pay for marking TMAs is dropping as am now down to only 11 students!) [TU8]

A very frustrating Marking Tool, keeping the momentum going, time spent on line to maintain progress and keep up. [TU9]

Information sifting. It is a new course and has had teething troubles as you know. The marking tool is unreliable so it needs to be worked around. We tell our students software is not perfect, even when designed by the might of Microsoft, how can we expect the OU to create perfection for several thousand users? [TU10]

Lack of confidence in my own knowledge of the course, coupled with lots of software/hardware problems and the back up from ACS hasn't been that good, probably because they are so busy. On one occasion I waited for 35 minutes in a queue to get some help from them for a student. And I've sent lots of emails, to which only one reply has been received. [TU11]

He feels that if he had not been a staff tutor the impact of the course on his time would have been much more. On this course he has spent twice as much time tutoring than on a 60-point technology course he tutored last year (and this is a 30-point course - which means 4 times as much time needed!). So too time-consuming! The time involved is not so much dealing with the course material as dealing with students' problems... technical and personal.

The technology for tutors is also problematic - he has a degree in computing but he frequently gets stumped by problems arising from the course software.

There are also all sorts of problems involved with the variety of different equipment and software - browsers, WP packages etc...which means that tutors don't always see exactly what the student sends (on web pages) and the other way around.

Marking is a nightmare! [TU12(P)]

Takes up almost all of my spare time, evenings, weekends, all of it. The 2-week turnaround for TMAs are too tight as I can only concentrate on marking at weekends. It takes me about 2 weekends of 14 hours a day to do them. [TU13]

Confused support from the OU. They don't seem to have thought through the issues of tutor support [TU14]

Getting to grips with a new institutions admin by remote processes. It is like being a part timer in an organisation; it takes much longer to learn the ropes [TU15]

The commitment to maintain a working PC. E.g. my modem was zapped during a recent thunder storm. I had to buy a replacement PDQ. It would have been expensive if the whole PC had been damaged. [TU16]

First Class 'Personal' was difficult to set up. The **time** we are paid for is not enough to carry out what needs doing - especially during the marking periods. I have adapted a hands-off strategy for conferencing. [TU17(P)]

Uncertainty about my role and about the extent to which I need get involved. Dealing with students who don't participate. [TU18]

- The lack of take up by some students.

- The slowness of my modem ("only" 33.6 K/bit).
- Getting organised with paper and electric files and messages to keep track of. There has been a lot of chat amongst the tutors about wanting a suggested method for this but nothing has been forthcoming. [TU19]

Students not wishing to use the phone, because it is an online course and I guess this is perpetuated by me trying to manage them via First Class. I find First Class a very artificial environment. If the messages popped up in my usual mail box I would feel much more connected. I find it difficult to routinise the access to FC and subsequently don't go there as often as I ought. [TU20]

Running into software bugs. Working out the ways to download linked sites etc to work off line. I have used favourites and customised to take a level of links and read off line. [TU21]

Tec Tec Tec Aspects [TU22]

Most of the difficulties students (and, reading the help conferences, many tutors) seem to have encountered is having to get to grips with some quite esoteric software applications (like FirstClass) right out of the blocks! [TU23]

It is a bit frustrating to know that two or three in the group have not got started despite my gentle prodding. However, this is just the typical percentage of any group of students--in my years of face-to-face teaching, I experienced much the same breakdown of successful to wayward students. As they say, you can lead a horse to water but you can't make him drink... [TU24]

ok so far - mainly worrying about marking the TMAs. [TU25]

student drop out - most seemed to think it would be more skills oriented and less academic. [TU26]

- 5. i) Do you think that the tutoring aspect of the student support design could be more effective?
ii) If so how?**

The tutor guides only being available in dribs and drabs is very unhelpful...all very unclear where you go etc... The students seemed to benefit from a real-time meeting at the start of an activity. It was a mistake to split the students into smaller groups for the first few activities...they need to gel more first. [TU1(P)]

The counselling support seems excellent and focused. The course support seems sporadic, unfocused, confused and unplanned. I think this is due to the core concept of sending material out in dribs and drabs. The course material for tutors (at least) needs to be provided in a complete block so we can plan our support. Not knowing what I am supposed to be teaching/supporting until just a few days in advance is not helpful. My impression is the course team is still writing the material. It is certainly not a good advert for the OU which has a reputation of being well planned and organised.

In addition I do not think the TMAs should go via Milton Keynes. This smacks of big brother. What's wrong with them being emailed direct to tutors? After all, the TMAs that get posted are not sent via Milton Keynes. Hence the design of this course and the TMA system is discriminating against T171 students.

The counselling team seems much more organised and thoughtful. Though they are not helped by the multiplicity of information sources. [TU2]

I am not happy that some students are not allocated to a personal counsellor but instead to regional office which does not do the personal touch thing like I do. I feel that I am doing this bit unpaid, and that some students may be lost if not personally supported. [TU4]

Although to some extent the students are being encouraged to participate in a range of conferences they do find the help scattered in a bewildering variety of places so some streamlining is indicated. Some further video material would be of benefit - from what students (and tutors) should see on their desktops to what they need to do to submit a TMA. [TU5]

I think we should help more with the initial setup of student's machines. They have a huge mountain to climb in terms of getting their machines configured for network access and to install 'First Class'. For example, I believe at the introductory meeting it would have helped to have a data projector and machines with 'First Class' installed. Students could then have used the software in an environment where the tutor is on hand to demonstrate features and help overcome problems. These facilities would be available at the Study Centre where I gave my introductory session. The OU could request to use them. [TU7]

I'm not sure quite what you mean here??? [TU8]

If anything there is too much material coming at us from all directions.
TeSS [tutor guidance] and course team notes are good, but I feel bombarded by them !
Student support comes from many sources = there are perhaps also too many conferences
in this respect, since students get support from all over the place and not in a way focussed
through the tutor or tutor group. [TU9]

Sources of tutoring information could be via a web site. ie a single place to log on and
collect all of our requirements including the links to supporting materials such as better use
of English which should be available somewhere, I would like such things to come to
hand. [TU10]

I think the university has provided us with excellent support in terms of the materials,
toolkits etc. The failing has really been with the computer support, and this is really where
I have needed help on behalf of the students. [TU11]

Yes, by the addition of more F2F meetings - new students in particular seem to need it.
The course is designed like this, he thinks, because of the belief held by the team that F2F
just is not needed. [TU12(P)]

Probably.

ii) If so how?

More face-to-face meetings would be helpful. Not every week, but perhaps once a month.
At the first meeting the students did not get to know each other much, so self help groups
did not form. As the course proceeded, they felt the need for face-to-face meetings more
and more, but without a "formal" structure, the notion of meeting up petered out. They
could not agree a time or a place amongst themselves. I think these meetings would make
the group gel a lot better. It is difficult to form any kind of relationship, just through
conferencing and e-mails. [TU13]

i) yes ii) Provide information in a consistent form (say a browsable website) and provide it
on time. It would also be useful if the electronic marking tool worked. It seems to have

been conceived as a tool for marking single scripts which appear in a single file - the implications of T171 assignments with many files have not been thought through. [TU14]

Yes; ALs should be given the "big picture". I know we can try to discern it by working thru all last year's material but I have not got the time. Next year I am sure it will be clearer, but I can't answer the students when they say "where is this leading?" [TU15]

Not within the constraints of the present system.

> ii) If so how? I think that traditional university face-to-face tutorials are not possible under the OU system but, my experience as a former student of a conventional university was that they were not as effective as they could have been, mainly because the "tutors" were not committed to teaching students. [TU16]

It's hard to say...

A lot more guidance should be given to tutors in terms of how they should be working effectively - expectations and costs....quite a few tutors have claimed for high expenses for on-line costs. Guidance is needed to reduce costs. The marking tool is constantly evolving. [TU17(P)]

I would like more hints and tips about monitoring students in general, esp. those who fade away then maybe leave without ever contacting me. [TU18]

Frankly too early to say as we have not yet built up to "cruising speed". [TU19]

I don't really understand this question - Is it PhD speak? [TU20]

Some personal contact could help. [TU21]

i)Yes ii) tec aspects [TU22]

If you mean do I feel the need for more face to face contact I'd say no. If anything, I sometimes wonder if we don't over do the hand holding, making it too easy for the student

to ask the question before really trying to find the answer for themselves, they ask just because its quicker to ask than to search through the great quantity of paper, web-pages, conference messages etc. However, where there is genuine need for a student to ask a question we then often cause confusion by offering routes to too many different helpers. There has to be a happy medium. [TU23]

I understand why OU produces so many regulations and procedures, but the sheer amount of bureaucracy and redtape is staggering. If it's offputting to new lecturers, I can imagine what the comparable load would do for prospective students. I would highly recommend streamlining the paperwork and providing an easy place to access information, but not to overwhelm everyone with huge packs of folders and books. This would also cut way down on costs. [TU24]

don't know yet. [TU25]

I assume you mean could the tutor role have provided more support ?
I believe students need more proactive support before their problems become a drop out issue. Activity 3 leading into TMA02 needed a f2f really to guide them. [TU26]

About the students, Q. 3

Generally, how do you think the students are responding to the course?

There was initial resistance to group work...very time consuming to coax them into contributing. One student needs much more help than the others... [TU1(P)]

Mostly positive, but all are frustrated by First Class and the way the course is organised and run [TU2]

students who I think are learning more from each other than they are from me! But they are very respectful! [TU3]

I think there have been some who didn't know what they were taking on, out of the ones who have stayed. There has been some anger that the rules have changed since they took on this course and it is no longer compulsory for other courses. They participate fairly well - as well as other groups I think - and I believe are enjoying it. [TU4]

Like me, the students find the course a mixture of fun, fascination and frustration. [TU5]

Most seemed to enjoy working on the second TMA, and about half were very enthusiastic contributors to the group working conferences. I got the impression that they found the first TMA dull (I invited them to discuss it on the conference and got no response). A few seem to be overwhelmed by the amount of material and by the expertise of certain of their fellow students. [TU6]

I'm quite pleased. [TU7]

There's a broad spread of reaction from very positive to somewhat apathetic. Some of them don't say very much so I think they are just trying to get through to the end and pass with the minimum of effort.

- All of them had at least some computing experience so I don't think they are having too much difficulty with the technical side of things.
- Most of them are very pressed for time and several have to travel a lot for work and/or are doing other OU courses as well. I think these students would like to be able to get on

with activities and work when they can, often before the material's available, to fit in with their absences and other courses. This makes planning group work quite difficult.
- The "clear thinking" material had a mixed reaction; the marks on TMA 01 were low because most students ignored it, and they were a bit shocked by their low marks - especially for those students who were getting 90+ in their other computing courses! Some students are now "converted" but I think it's been a bit of a turn-off for others. [TU8]

Those left vary - real enthusiasts to the plodders that hang in and do the minimum. The group tends to be driven by the keen, though there have been no real tensions as yet. [TU9]

I am getting favourable feed back in most instances. Complaints I suspect will be sent to Oxford. [TU10]

Either very positively (about 60 per cent) or struggling and clinging for dear life! Although as the course goes on, they are gaining in confidence and less things are going wrong. [TU11]

Quite well. However, he had been conducting his tutorial duties differently to most. Having interpreted the 'one more tutorial' (in addition to the introductory session) very loosely in the sense that he thought that he could arrange it anytime. So he did it near the beginning of the course and in the two hours available covered aspects of group learning, netiquette and expectations of on-line working. So they had a chance to get to know each other a bit better than other groups which he thought was very positive. They had the chance to find out more about each other - who was who and what was their contexts etc...the 'tremendous group atmosphere' has continued. [TU12(P)]

Fairly well. [TU13]

I think that they are enjoying the course, but the are being subverted by the fun of setting up web pages and are missing the points about clear thinking. [TU14]

fairly normally, those that love it, those that are there for strategic purposes and those who do it because it is there. [TU15]

Most are extremely enthusiastic although those who have already studied at 2nd and 3rd level seem to be very defensive about "losing" marks, not realising that they only have to pass this course to gain credit. [TU16]

A mixed response. Some had problems with groupwork participation...because of difficulty in getting it together at an early stage. There was a 'spat' between 2 students - communication problems! [TU17(P)]

Very well for the most part I think. Most are new students so won't have other OU courses to compare it with. I think they are doing very well since many are novices. The most experienced ones find it much easier technically, but tend not to like the 'academic' content. [TU18]

I have 12 who have put something onto the conference as at the end of the first week. One or two are being active, but thankfully not too active, I'll ring around next weekend as its the end of the first exercise to see who is really not playing and who is just lurking. [TU19]

Most that are left are really enthusiastic and waiting for the materials to become available on the web [TU20]

Most love it. [TU21]

5 out of 7 participating. Seem to be generally becoming less enthusiastic. Up to now it has either been too hard or too easy. [TU22]

Most seem to be enjoying the challenge. [TU23]

Very well, if the first TGA is any indication. Most of the group have been active and are up to date on the course time-line. They seem to be enjoying the material and the media. [TU24]

About half are keen and enthusiastic - they have started the first module and participated in the tutor group conference. They seem to be finding the work ok. The others hadn't shown up in the conference by 13th May, so I've e-mailed them - will chase up again next weekend. [TU25]

A general comment from the drop-outs and those continuing is that the course is taking much more time than expected. I am working hard on those students remaining to keep them interested and am holding a f2f this week to discuss problems. Next year I will do it much earlier [TU26]

And finally - **Any other burning issues about on-line tutoring with T171?

information overload - obscure TESS materials...dotted about all over the place and not giving us enough time to plan... this was the worst thing! [TU1(P)]

Yes - First Class is dreadful. It falls dramatically short of the commercial systems that my students are using. They therefore feel the OU is teaching them 'second best'. Because First Class is bad and the way the course is set up on the web is bad (too many subsections etc) I spend more time dealing with technical rather than academic questions. [TU2]

Burning issues! We should get paid far more for this, even though my main motive for teaching it has never been pecuniary. [TU5]

Technical difficulties: many of my students had great difficulty in getting up and running with First Class. The ETMA [electronic TMA submission] system also leaves a lot to be desired: it took me almost an hour to get the system to accept my last batch of TMAs. The marking tool also seems to have been designed to make life difficult: I consider myself to be an expert computer user, but I find the marking tool both frustrating and unstable. I'm sure that marking would take half the time using the traditional method. [TU6]

I am not sure that the payments from the OU cover my phone bill fully. Also I suspect that we are being underpaid as more hours may be required than the 7 we are paid for. [TU7]

We need to sort out the information flows:
Too many conferences that distract or overwhelm students.
Too much diverse information flow to tutors - focus on a single communication route.
[TU9]

It's certainly different, and it's good experience. Whether I'll be here next year remains uncertain! [TU11]

Now with his staff tutor hat on...
He can see what other tutors are doing in their tutor groups and there is a huge variation in the support that students are getting. The factors include - personality, background

experience and knowledge, time devoted to the group - activities on time etc... Some tutors are there almost all the time and others are doing substantially less time. Interpretations of what is required vary considerably. Although there are lots of 'guidelines' - perhaps they need to be more prescriptive.

The kind of complaints that students make are due to late activities...some people shooting ahead and making the others feel pressurised... or wanting to drop out.

What are the Issues at the top of the list - in his Staff Tutor role?

The on-line tutoring needs re-evaluating -

There is a certain level of knowledge that all tutors need. It is very transparent if they are not up to speed. Knowledge of the material is not sufficient Knowledge of how to keep students going is also needed. Tutors should be given a realistic estimate of what they are expected to do (not what they are paid to do necessarily)

The time that tutors put in needs to be recognised some how. [TU12(P)]

Takes up a lot more time than perhaps a traditional course (I suppose, though I never tutored one) as it is every day and on-going all the time.

Sometimes it is difficult to coax people into doing the work, especially if it is not assessed. Difficult to cater for both novices and more experienced people. The former is overwhelmed, the latter slightly bored. I think some people do it as it is compulsory for the named degree (though I understand that changed now). [TU13]

The OU must face up to the fact that on-line working puts the tutor much closer to the student and that this increases the workload. [TU14]

I think the ETMA system means that comments are a chore, so you make less of them, and don't tend to put as many interactive marks in the text. I think the web site is poor. It is nearly all text and menu driven to make it really difficult to use the material in a straight forward "serial" manner. Hypertext supports multimedia, so if all you are going to do is write a "book" why not write a book. I suspect it is devolving the printing costs to the users, us and the students.

A course map with the big picture, hypertext links and a downloadable pdf file of the text would be far better than the current layout. People could work on the bit they chose from the map, rather than being forced down a serial route, using a layout that defies traditional serial use. [TU15]

The large number of conferences can lead to information overload. I have suggested (at our recent training session) using internet technology to provide tutor support i.e. hyperlinked web pages to give tutors help and guidance in a structured fashion without having to scour every sub-conference for the same information.

Best of luck with your PhD! I believe that internet delivery makes an important contribution to the presentation of a course that can constantly change. I have tried to encourage the use of FC to support some Arts courses and still moderate some OUSA conferences for this. T171 is a brave venture on the part of the OU and I am happy to be able to contribute to help making it work. [TU16]

Obvious technical glitches with First Class, the Marking Tool, etc. Communication from OU - lots of Paper and First Class messages, Tess material, etc. that seem to appear all over the place. [TU18]

Some kind of software trick that told us who had logged on as well as who had put in messages!! [TU19]

Feedback on the assignments moderation is unhelpfully late [TU20]

Other issues.

- This course has become a multi media course ie e-mail, phone, post (the ETMA system does not work for me)..plus the students are having meetings too.
 - discuss the web channels etc!
 - Marking TMAs in the trad. way is far more effective.
 - The Tec aspects need to be sorted out NOW and there has to be EFFECTIVE HELP for all of us. Most of my time is spent on Tec issues rather than being a tutor. [TU21]
-

Ask me in 6 months time, I'm too busy to think of any at the moment. [TU23]

I think it's ideal, but I would like to have at least one more face-to-face meeting with my group (I'm going to plan a social get-together for next month). Only 9 or so came to the induction meeting, and I think we're all conscious about not having faces to put to names for everyone. [TU24]

I hate the way dates keep moving e.g. TMA training - I already walk a tightrope with job and family commitments and need to plan my OU work carefully. [TU25]

the usual -

- online costs for students - web is not really suitable unless there is 'free' telephone access
- newbies need a lot of handholding
- some students make conferencing work for them - others seem reluctant [TU26]

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PUBLICATIONS

PUBLICATIONS

Publications and conference papers arising from this research

REFEREED JOURNAL ARTICLES:

Journal of Computer Assisted Learning

Susan English and Masoud Yazdani, , 'Computer-Supported Cooperative Learning in a Virtual University', 1999, Volume 15, 2 - 13 (see copy below)

Studies in Higher Education,

Andrew Hannan, Susan English and Harold Silver, 'Why Innovate? Some Preliminary Findings from a Research Project on Innovations in Teaching and Learning in Higher Education', 1999, Volume 24, No. 3, 279 - 289 (see copy below)

BOOK CHAPTER:

Differing visions of a Learning Society, 2000, F. Coffield (ed), The Policy Press, Bristol
Andrew Hannan, Harold Silver and Susan English, 'Teaching and learning in Higher Education: issues of innovation', 143 - 170 (see copy below)

CONFERENCE PAPERS

International Conference on Technology and Education (ICTE)

English, Susan and Yazdani Masoud (English presented)
'Computer Supported Cooperative Learning in a Virtual University'
August 10 - 13th, 1997, Oslo, Norway

Romanian Internet Learning Workshop (RILW 1998)

English, Susan
'Innovations in Teaching and Learning in Higher Education - Aspects of Distance Learning and the Use and Impact of Information Technology'
July 16-22nd, 1998, Illieni, Romania (see copy below)

Managing Learning Innovation

English, Susan and Hannan, Andy (dual presentation)
'Why Innovate? Some Preliminary Findings from a Research Project on Innovations in Teaching and Learning in Higher Education'
September 1st and 2nd, 1998, Lincoln, UK (organised by SRHE and the University of Lincolnshire and Humberside)
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Romanian Internet Learning Workshop (RILW 1999)

English, Susan

'Change in Teaching and Learning at the Open University: an exploration of the role of the course team'

August 16th - 22nd, 1999, Cluj-Napoca, Romania

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Romanian Internet Learning Workshop (RILW 2000)

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'Supporting Students in Learning On-line: The Tutor's Perspective'

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(see copy below)

Computer-supported cooperative learning in a Virtual University

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Abstract There is computer-supported learning and cooperative learning at universities. There are also a few 'virtual universities'. This paper links these three features in a way that reflects a vision of a future scenario for learners. The conclusions are based on the observation of the cooperative learning already taking place at Exeter University's Computer Science Department.

Keywords: Computer-mediated communication; Cooperative learning; Higher Education; Team skills; Virtual classroom

Introduction

Computer Assisted Learning (CAL) has a long tradition going back to 1950s with 'linear programs' and 1960s with 'branching programs'. The popularity of Internet and World Wide Web has injected a new lease of life into uses of computers to support learning although many of the old limitations remain.

Many universities are recycling existing teaching materials by putting them on the Web and claiming to be delivering learning through a virtual university. The educational material offered on the Web mostly follows a branching structure made out of multimedia elements. There is a good chance that the lessons of the last two decades with CAL are being relearned through new experiments with virtual universities.

The purpose of this paper is provide a new perspective on cooperative learning which incorporates peer tutoring and peer assessment. Standard communication technologies of Internet and the Web are used and benefit has been gained from the developments in CAL and Artificial Intelligence. However, the aim is to re-engineer education by identifying teaching or learning problems and by looking at the technology for a possible solution.

Why virtual universities?

There is a massive and rising tidal wave of progress in the field of media, communications and information technology. This is changing the landscape and cannot be ignored. Again, this is not to say that changes need to occur because the technology is there, but because our culture and

Invited paper

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lifestyles are changing for a myriad of reasons. The demand for distance learning is on the increase as the Open University in the U.K has seen. People are now aware that they are no longer excluded from studying, either for pleasure or furthering their career, because of the need to earn a living or bring up a family — this is a valuable achievement.

The nature of employment and leisure has changed — there is wide evidence to show that, generally, there is less of the former and more of the latter. Virtual universities could help to fill that gap and new communities of students will benefit from fruitful and fulfilling communication and learning without the need for mobility and loans. There are also perceived benefits to existing higher education establishments, the depleting resources can be channelled into the most popular courses, with the more specialised subjects, which have limited demand, being taught virtually. Finally, the links that are being made with others across the globe is exciting and extremely positive for everyone involved in education at any level.

Why cooperative learning?

The research and implementation of this strategy in teaching became popular when respect increased for the works of Vygotsky (1987). His explanations endorsed the experience of many that 'meaning mediates thought in its path to verbal expression'. It is now widely accepted that talking about something can consolidate individual knowledge and even lead to discovery of a solution. A cooperative learning environment enables this process to take place and can also increase self-confidence which not only increases active participation (Bennet & Dunne, 1992), but also leads to a greater potential for independent learning.

Vygotsky also explained that through communication other specific things are learnt besides the subject of the communication — these are about the nature and context of the interaction — including human, social and cultural aspects. This point is re-iterated by Jacques (1984): "The title 'Learning in Groups' is meant to suggest that groups are not merely a valuable vehicle for learning about the skills and concepts of a subject discipline, but are also a way of learning about groups, both as a means of enhancing academic learning and in the development of abilities in cooperative work for later life". Jacques also supports experience and research (English, 1996) that "Cooperation doesn't just happen. We learn to cooperate through practice and this requires a clear and coordinated strategy for learning about working together and improving skills in cooperation."

Interestingly, it is industry that is already convinced of the individual benefits and effective outcome of teamwork. Exeter University has been selected, as one of several by British Petroleum (BP), to receive funding and help with training tutors and students in the development of team skills. New graduates are expected to have acquired these transferable skills which are essential in the modern working place. Courses have been undertaken in the past year and a report describing unanimous endorsement by the students has been submitted to the National Committee of Inquiry into Higher Education this year. This report (Prince & Dunne, 1997)

concentrated on a short programme introduced into the first year of a Law degree and stated how "The learning experience itself seemed to have a more powerful impact than anything we had previously included in the first year induction programme, and the comments of the students reflect this, as well as demonstrating how effectively they saw the links between the Programme and their own future learning and education".

Cooperative learning neatly engulfs peer tutoring and peer assessment, if this is designed in the course. Although sharing information and skills with others in a team could happen naturally, as well as review, feedback and evaluation — this cannot be assumed and it needs to be included in the overall course design. The structure of the course, however, is secondary to the social climate of the group in which learning is intended as an outcome. One of the greatest blocks within a learning group is the absence of mutual trust and respect. Cahn notes "Missing in such learning groups is the capacity of students to posit their position, to announce to the others, 'You owe me a part of your energy and attention!'" Missing is the ground work that provides the group with the capacity to appreciate the wisdom of the remark, and the capacity to respond to it (Cahn, 1986). This is an area in which the students need guidance and encouragement — reviewing and giving feedback during and following tasks.

Why computer-supported learning?

During the 1997 'Computer Assisted Learning' conference at Exeter (CAL97), papers presented could be sorted into three different ways of looking at how computers can assist in learning:

- supporting and enhancing the teaching and learning already there;
- a technology-led system applied to one aspect of teaching and learning;
- providing a unique way of solving a teaching and learning problem.

The third approach was, by far, the most popular. Draper (1998) argued that what distinguished successful CAL applications was not replacing teachers and was not the 'neat' use of technology. Examples given of successful applications included: a simulation showing size, shape, motion and interaction of molecules which addressed a conceptual gap in the formal domains of Chemistry; an interactive Portuguese language program which enabled a huge increase in conversation practice leading to a rise in fluency and on the subject of music, email mediated seminars encouraging discussion between students from various years and faculties. The success of this last project was dependent on the presence of a skilled facilitator who awarded marks in strict proportion to contributions made.

Addressing the problem of engaging students in reflection and critical thinking was the focus of a project at Glasgow Caledonian University. The project involved an IT design which gave students the opportunity to observe work produced by peers (posted on the Web anonymously) and contribute to dialogue about this work.

This conference offered an overview of the range of work currently being done in this field. In the U.S, however, research has also been on-going during the past 20 years. Harasim *et al.* (1995) are among those researchers:

"The traditional face to face classroom learning situation is generally assumed to be the best to support learning, with other learning modes perhaps perceived as less effective. There is no evidence to support this assumption. In fact, quite the opposite is true: on-line environments facilitate learning outcomes that are equal or superior to those generated in the face to face situation."

In research on on-line graduate courses in education, students identified the following benefits in learning:

- increased interaction, quantity and intensity;
- better access to group knowledge and support;
- more democratic environment;
- convenience of access;
- increased motivation.

Clearly there are many benefits in computer-supported learning, though context and purpose are key issues relating to successful outcomes.

Project outline

The aim of this first year of research was to observe the cooperative learning already taking place at Exeter University. The Computer Science degree course had been using project-based teamwork for several years in order to develop personal transferable skills and increase employability of the students. Project 1 takes place in the first year, consisting of a short 4 week group project. In the second year Project 2 is a more serious affair and includes the design and implementation of a moderate-size software system.

Project 2, is undertaken by 2nd year students in teams of four, stretches over a period of 22 weeks and was, therefore, an ideal starting place for study. The purpose of observing team meetings was to identify the nature and type of communication skills in use and, in particular, to try and define consultative and advisory techniques employed by students. The overall plan is that the resulting information will contribute to the design and development of the new 'Media Computing' degree programme which includes cooperative learning, peer mentoring and peer assessment in its conception. It is hoped that this research will continue for a further two years to explore in greater depth the effects on student learning of this approach and to develop computer-mediated systems to enhance team and mentoring skills with the support of a facilitator. In this respect, it will be useful in the context of a virtual university.

Context

During the period between January 1994 and March 1995, Dunne included the Computer Science Department in a research project which surveyed, analysed and reported on current practice at Exeter University concerning project work, self-directed study and the development of Personal Transferable Skills (PTS). It addressed the changing conceptions of the role of higher education emanating from a recent government White Paper, the Careers Advisory Service and the increasing voiced expectations of employers who required graduates with good 'personal skills'. Using obser-

vation and interview methods, students from this department were seen to have personal skills, but were often unable to articulate on this subject when asked. It has been recommended that the University generates an ethos whereby innovation in teaching and learning environment is valued as highly as originality in research and that degree courses should make explicit reference to the development of PTS and assessment of these skills.

Approach and methodology

The paradigm adopted has elements of both the 'interpretive' and 'action research', as the aim is to change and improve on existing practices. The data collection methods have produced data that are largely of a qualitative nature, though measurements of quantity and frequency regarding student perceptions and observed group interactions are available. In chronological order, the following methods have been employed.

Questionnaires The first questionnaire requested personal and background details of the students as well as attitudes to teamwork, reflections on Project 1, their own problem solving techniques and feelings about the use of email. The follow-up questions at the end of Project 2 requested thoughts and feelings about their own role and specific skills experienced in the team as well as the use of computer-mediated communication.

A Web-based Bulletin Board. Set up at the start of the project to provide teams with their own shared electronic message space and a means by which they can 'opt out' of the research observation process. This system was further enhanced six weeks later by the additional facility of emailing from and to the Board.

Observed and tape-recorded team meetings. By relying on meeting dates and times posted on the bulletin board, during the period from October 1996 to March 1997 a total of nine team meetings were recorded with the cooperation of two teams.

Informal group interview. In week 6 students were invited to send a representative of their team in order to discuss their views and use of the bulletin board.

Group email aliases. These were offered to the teams to encourage communication and widen the choice of medium still further. It was clear that this would be observable.

Individual email questions. At the half-way point of the project, the 30 students still remaining were sent an email containing a few questions about the organisation and communication within their team.

Personalised email questions. Fourteen weeks into the project, seven students (one from each remaining team) were targeted with a question inviting their views on important skills required in teams. Their previous thoughts on the subject were quoted from the questionnaire.

Individual face-to-face interviews. At the end of week 18, seven students were interviewed — representing the two regularly observed teams.

Interview with course tutor. An informal interview was sought with the course tutor at the end of the project to discuss the outcomes of the project tasks, and plans for any changes in the following year.

Data outcomes

Initial Questionnaire data was collected from 47 of the 51 Project 2 students. The most notable points arising were:

- students experienced more problems than advantages in Project 1 teams;
- the most important perceived teamwork skills were 'communication' and 'organisation', closely followed by 'commitment';
- the order in which most students sought help with a problem was firstly, to try alone, followed by seeking a friend, then going to a 'more knowledgeable other' before going to ask the tutor — as a last resort.

The final questionnaire was completed by 11 of the 51 students. The most notable points arising were:

- nine students felt that they had played a key active role in the team;
- there were mixed feelings but more negative comments expressed about the difficulty and timescales of the task;
- it was noted that aspects of teamwork needing improvement were organisation, communication and commitment of team members;
- four students had used the Bulletin Board and subsequently stopped due to reasons that it was 'not needed' or 'too much effort';
- seven students had used their own computers for Project 2 work.

The *Bulletin Board browsing log* shows that:

- within four weeks, four teams (out of the 13) had opted out of the research;
- two teams never tried using it;
- three teams had posted one to three messages and stopped use after the 1st week;
- within eight weeks, six teams had opted out of the research;
- one team used it regularly for posting meeting times and minutes;
- at 18 weeks there were 79 observable messages (43 from one team).

Observed and recorded meetings. There have been nine recorded meetings, five with one team and four with another. With the exception of a small amount of reviewing, most of the discussion involved decision making for one of three broadly defined purposes:

- identifying the task — seeking clarification for what is required;
- managing the group & task — allocation of roles, subtasks & timing;
- doing the task — finding a solution and plan of approach.

It is relevant that only two teams were able to be observed in meetings due to a lack of communication between other teams who had not opted out of the research and the researcher who was not informed of dates and times.

Also, several meetings which were arranged often did not take place due to lack of attendance.

The informal group interview. This consisted of five students representing five different teams (nine teams had been asked to participate) and took place during Week 8 of the project. The following views were expressed:

- the Bulletin Boards were not useful because there was no reason to use them . . . they see each other every day at lectures;
- they are too slow and laborious to use and 'too much hassle' compared to email;
- 'when no-one else is using it, you check in a couple of times . . . no messages, so you lose interest.';
- these official team meetings are often not 'real' because, from past experience, they have been visited often by the tutors — who have intervened, and students have, as a result, prepared beforehand for these meetings;
- all the students felt that a Project 2 list server, would not work because of a competitive feeling between the teams. One student did note that in the past there had been communication between teams (though not enough);
- students agreed that an email alias for the group would be more useful, though they could not imagine having any email task discussions;
- one student suggested that each student joins a list server of their choice and reports back on it; in this way they would get the experience of seeing how helpful these CMC discussions could be.

Group email aliases. These were used infrequently and by just three teams. Messages observed were brief, formal and organisational (with the exception of one which was also slightly scolding).

The email question. This invited comments on team organisation and communication was posted to 30 students one week before the end of term (half-way point). They were asked to reply within a week. There were three replies (from three different teams).

Two students felt that the organisation and communication had been quite 'successful' in their teams, one cited email as quite useful in this respect — though one had no evidence of this! One student felt that communication had been 'quite poor'. Some lengthy reasons were given including personalities and an inability to appreciate the need for everyone to have responsibility and be involved with the work. It was also suggested that the task size was relatively small — making it possible for one person to do all the work. At the beginning of the New Year an attempt was made to encourage more responses to the question in the form of a humorous poem. There was no response.

Personalised email questions. Four students out of the seven targeted replied to the question regarding team skills. Replies gave scanty information, but it was generally stated that this team project experience was quite different from that of Project 1 and therefore priorities for what skills were necessary

did not rate as high. One student requested a face-to-face meeting in which to elaborate. This was achieved six weeks later.

Individual 'face-to-face' interviews. There was a distinct contrast between the two teams. Generally, all members from one team gave positive comments about the team and their work, whereas members from the other team expressed mainly negative feelings. However, five students from both teams said that they thought the task was confusing and unclear and four felt disappointed with their marks so far, but were happy with their own contribution to the task.

In one team there was a strong conflict between two members that steadily deteriorated throughout the project. Interestingly, they independently mentioned feeling the same way about several matters:

- there was a 'generation gap';
- they felt frustrated;
- they felt trapped and unable to improve the situation;
- it would have been better with other team members;
- communication was the biggest problem.

Three out of the four members in this team said 'it was a difficult team'. Also, one member of this team said he thought that 'communication was good' which was surprising as this person communicated very little in the observed meetings. One member from this team suggested that there was 'not enough listening' and 'no feedback'.

Interview with course tutor (not recorded). It was felt that, on the whole, Project 2 went well. The overall level of success achieved by the students was quite good. However, most students found the project difficult and time-consuming. The amount of contact and guidance needed was of an expected level. Two teams had misconstrued the method and needed more help of a conceptual nature. The outcome was that one team recovered well, whereas the other was less successful.

The tutor felt that linking how well the team worked together with their overall achievement was difficult to assess. The most important aspect of the project and the criteria used in assessment — as emphasised to the students, was the process involved in reaching the final result and not the quality or accuracy of the final product. This included both the technical methodology utilised in the task solution as well as the organisation and contribution of the team members. Both individual and team marks were awarded with some consideration given to the student's own evaluation of themselves and their team members.

It is anticipated that next year, the structure of the task will be re-designed and attention will be given to give students specific guidance ensuring that the two 'reflection' weeks are properly used - which was not the case this year.

Other outcomes

The observations reported here were made in a wider context within the Department and outside the University.

3rd year 3D Virtual Reality Project

An invitation was received from course tutors to monitor how the group of eight students on their individual projects worked in respect of sharing information with each other and use of the post-graduate student mentor assigned to them.

It was felt that it would be advantageous to set up a Bulletin Board to encourage contact and information sharing between the students. However, the Board was never used and communication between students was very minimal. Towards the end of the project, conversation with technical support staff revealed that in one instance a useful Web-site was found by a student who rejected the idea of sharing the information with the others due to a feeling of competition with regards to assessment.

This anxiety of grades and competition was also expressed by several students in the Project 2 research. How can a cooperative learning environment ('the community of scholars') be fostered unless the assessment procedure clearly reflects that approach and the students have discarded the ingrained perceptions of a 'relative' grading system?

Team skills

A Team Skills Development course was designed following a training course for tutors held in February by BP. The course received funding by the Staff Development Unit and was run with 1st year students during their four-week team based Project 1. In general, the students responded favourably and felt that the course had been effective and worthwhile.

The virtual classroom (VC)

Running alongside this project as from this year, another case-study has become the subject of M.Phil. research in the area of cooperative learning and computer-mediated communication. By the kind permission of Johannes Cronje, observations were made at a virtual classroom run by the University of Pretoria (1997) for the study of an MEd. module on computer-assisted education.

Discussion

The research so far with Project 2 has identified several unexpected outcomes. Firstly, it has been an uphill struggle to make contact and establish communication with the students. Despite assurances given at the start, that all information collected would be in complete confidence and would not affect grades, there has been quite a strong reluctance to cooperate as shown by six teams opting out and five out of the remaining seven not sharing information of meeting times on a regular basis.

Secondly, the Bulletin Board was unpopular. Several possible reasons have already been listed, but there seemed to have been a snowball effect — there were some keen students introducing themselves in the first week but, when little response was made, interest was soon lost. Students also said that they had daily contact with each other and there was no need to use electronic communication. This observation supports those of McAteer (*et al.*, 1997):

"For instance, their communications will be affected by their knowledge of the other individuals (or lack of it), and whether or not they had prior training or contact (direct or indirect) with this form of communication, and therefore what they expect to happen then they and others use it."

In this Exeter research project, some of the students knew other members of their team but gave knowing and not-knowing as reasons not to use communications technology. Most students did have training in the use of the technology with practical sessions in the use of the bulletin boards along with an explanation of the goals of the research. However, this was insufficient in gaining the cooperation of the majority of them, some of whom expressed a lack of understanding in the need for electronic conferencing support and resulted in low usage. McAteer also made this point:

"... whether or not they use it at all may be influenced by their perception of whether the activity of CMC usage is a legitimate part of their 'contract'."

Email was also an unsatisfactory way of communicating with the students. This was highlighted by so many ignored emails sent by the researcher and very little response to research questions. Several modes of interaction were explored and the most success was achieved when a question referred to something the student had expressed in the questionnaire (four out of seven replies!). Only a few students used the email aliases that were set up for them six weeks into the Project. It was surprising that even simple organisational use of email, such as arranging a meeting, was still difficult due to a slow response or none at all.

The nature of the team meetings which were observed showed that they was not favourable to achieve the original purpose of the observations — to define consultative and advisory techniques used by the students. It was evident that students possessed a variety of skills and expertise which were known and accepted by the other team members, but little information was either sought or shared between them. This was particularly noticeable in those students who were confident and skilled programmers and were allocated the role of 'chief programmer' for a specific part of the task. Students' comments showed that some were frustrated due to an unreasonably heavy workload, while others were frustrated because they wished they knew more about what was going on. These were comments made in conversation with the researcher, rather than within the team meetings.

It would seem that, in this context, student learning was implicit during the decision-making discussions. One student would make a suggestion for the way forward, supported by an explanation of a known process or an anticipated future scenario or problem. Occasionally, explanations were requested and given, but this was not common.

Team skills were shown, particularly in the areas of management of information and management of task. The areas where less skill was

observed (and commented on by the students) were regarding group and personal needs. Very little time was spent on reviewing work done or giving feedback whether it was constructive comment or praise and value for individual team members. In one team there was a strong personality conflict which affected the whole team and was never resolved. This demonstrates the need for some training and experience in the development of cooperative learning skills.

A complete contrast to the experience with Project 2 research was apparent from the early days of observing the Virtual Classroom. In computer-supported learning in Project 2, computer-mediated communication (CMC) — be it Bulletin Board or Email — was not used by the majority of students; the key issues of context and purpose were illustrated by:

- students' consideration that it was an unnecessary facility due to regular daily contact;
- motivation was lacking in the expression of any foreseen advantages being outweighed by the effort required to communicate in this way;
- it was a peripheral and novel aspect of the Project — designed entirely for the purposes of the research relating to future course design;
- there was no specific integration with the Project task requirements.

In the Virtual Classroom the Email listserver and Web site were very thoroughly and successfully used by the majority of students. The key issues of context and purpose were illustrated by:

- the fact that this was a distance learning module and this was the only medium by which the students were able to communicate;
- the nature and subject of the course content were completely relevant to the use of this medium (computer-assisted learning);
- CMC was entirely appropriate for the approach and design of the course which incorporated the need for cooperation, exploration and construction.

Concerning cooperative learning in Project 2, the previous experience of the students differed greatly from those in the virtual classroom in the following key areas:

- they had received no intensive training in cooperative learning skills;
- most students did not know others in their teams;
- there had been no opportunity of getting to know each other or building a relationship of trust.

Asynchronous, electronic communication will naturally suit some people more than others. For many, having time to reflect in a conversation has many benefits including sharper clarification and intentions, whereas for others writing things down may be more of a struggle. The last year's research and experience provides more than a hunch that the quality and nature of input from a course leader or tutor is of key significance in making the learning experience valuable for all the students by achieving a balanced atmosphere of support and respect. In addition, the common view held, that trust, respect and warmth can only be achieved in face-to-face interactions has not been substantiated.

It is apparently quite rare that a group working in cooperation achieves the euphoric success of all being on the same wavelength, with the energy,

commitment and mutual vision that is required. The ground work for such a team involves structure, design, effort and awareness of the skills needed. If this is the case then electronic cooperative learning has equally as much chance of success as the physical equivalent. What is more exciting, is that because this is an innovative time in the history of education, it actually has more chance of being effective. A new situation, a new environment, a new way of thinking unshackled by the entrenched tradition is challenging.

Conclusions

These are based on observations of the cooperative learning taking place at Exeter University's Computer Science Department. It is apparent that:

- cooperative learning may be more effective when explicit awareness of 'personal transferable skills' is demanded and intentionally practised;
- learning groups need to be cultivated in their growth of mutual trust, understanding, respect for others and honesty;
- the facilitator (tutor or course leader) has an important role to strike the desired balance of motivator, mentor & mediator which can affect the success or failure of a learning group;
- computer-supported learning is most effective when it provides a solution to an identified problem in an existing (campus or distance) learning environment.

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Why Innovate? Some Preliminary Findings from a Research Project on 'Innovations in Teaching and Learning in Higher Education'

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ABSTRACT *This article presents information gathered from the first phase of a research project involving interviews with 221 staff at 15 UK universities during 1997–98, which focused on the experiences of those who have introduced innovations in teaching and learning in higher education. In particular it examines the reasons why some staff become involved in innovation and begins an analysis of the institutional contexts within which innovation takes place. It suggests that the reasons which motivated these largely individual innovators may not be sufficient to involve other staff in the process of change, given shifts in the nature of innovation (from 'individual' to 'guided' to 'directed'), the risks involved and the lack of incentives.*

Introduction

Why do people in higher education get involved in innovation? As MacDonald (1974) wrote with reference to schools, 'Innovation is often described as a bandwagon. Its potentialities as a hearse have been neglected'. Yet, he argued, innovations can have 'punitive effects' as they may 'severely increase work loads', 'initially undermine confidence and competence', and 'often make teachers unpopular with colleagues, who may suspect their motivations, resent their usually favourable allocation of resources, and feel threatened by their ideas'. MacDonald also emphasised that such involvement can be a 'career risk' for teachers, particularly when the innovation:

- (i) departs from the specialised subject structure on which promotion is based;
- (ii) embodies values which are sufficiently innovatory to threaten the establishment; and
- (iii) involves the teacher extensively with pupils of limited ability.

The question he posed was, 'What makes innovation functional for the individual, and what kind of rewards do or would compensate for such effects?' (pp. 6–8).

This was one of the issues addressed by a 2-year research project on innovations in teaching and learning in higher education which began in September 1997 at the University of Plymouth [1]. The main purpose of the first year was defined in the remit for the project as 'to identify the characteristics of successful innovations in teaching, learning and assessment practices in higher education ...'. The project was to indicate 'which factors ... stimulate and those which inhibit innovation'. The first-year work was to explore the experiences of

innovators, and the second year would examine 'institutional climates'. The focus was to be on undergraduate programmes. This article is drawn from the data collected in the first phase [2].

Innovation

The literature concerned with innovation in higher education is sparse, and the literature addressing innovation in industry, commerce or technology, even when expressed in terms of 'social innovation', is not easily applicable to even the increasingly commercial contours of higher education (for a full review and relevant annotated bibliographies see Silver, 1998a, 1998b, 1998c). In recent decades much of the discussion of innovation has focused on the use of 'audio-visual aids', 'educational technology' and 'communication and information technology', and underlying most of the discussion in general are unquestioned assumptions about what constitutes innovation.

Innovation may be something new to a person, course, department, institution or higher education as a whole. An innovation in one situation may be something established elsewhere, but the implication of these assumptions is that it is a departure from what has been done before. It is not always obvious whether an innovation is an act of creation or of adaptation (or of imitation), and innovation may not in fact be 'new'. What is adopted and modified may be an idea or a practice, and implementation may be a single episode (for example, the reorganisation of a seminar procedure) or a continual process of renewal. A new way forward in one place, of course, may have been abandoned in another place for a more promising alternative. It is difficult in a complex social situation like a university to determine what is 'new' or 'original'.

For the purposes of the research project itself, we decided not to be too demanding in our definition of 'innovator'. We were not just looking for mould-breakers who had made global breakthroughs. We were interested in those who had introduced methods of teaching and learning new to their own situation, their own course, department or institution. These were planned rather than accidental changes, designed, but not guaranteed, to improve teaching and learning. We were interested here in the small as well as the large scale, in one-module innovations as well as those introduced across an institution or even on a national level, in the unfunded individual initiative as well as nationally funded projects. We were particularly interested in the learning/teaching interface, in the *methods* of teaching and learning, in 'pedagogy'. Obviously wider structural changes such as semesterisation and modularisation were part of this, but our focus was on the mode of delivery used by tutors and the methods of discovery used by students, the ways of teaching and of learning. Although we were concerned with curriculum changes and the impact they had on pedagogy, we were careful not to be diverted from our primary focus on attempts to introduce new methods of teaching and learning, even though the distinction was not always an easy one to make.

The Project

The initial task was to decide at which higher education institutions there were clusters of likely people, i.e. those who were involved in introducing new methods of teaching and learning in undergraduate programmes. We chose the institutions to be visited on the basis of the frequency of their appearance in various indices of innovation such as lists of Partnership Trust Award winners, Enterprise in Higher Education (EHE) and Teaching and Learning Technology Programme (TLTP) directories, books and conferences on innovation.

TABLE I. Types of innovation

1. Making use of computers (Web, Internet, Intranet, Computer-aided learning, Computer-based learning, Computer-mediated communication)	77
2. Skills (personal, transferable, key, core, employability, communication and problem-solving)	45
3. Team projects, group learning (cooperation and collaboration)	40
4. Student presentations (individual or group)	16
5. Interactive seminars or lectures	16
6. Work-based learning	16
7. Problem-based learning	16
8. Resource-based learning (packages, booklets, etc.)	14
9. Distance learning or Open learning	12
10. Peer-tutoring, -mentoring or -assessment	9
11. Others (e.g. student-directed learning, learning journals/portfolios, profiling, reflective practice)	18

We also endeavoured to include a wide geographic spread and a rough balance of representation from old and new universities (full details of the sampling are given in Appendix A of Silver *et al.*, 1998). As a result of this process interviews were conducted at 15 institutions. Six of these were 'new' universities (former polytechnics which achieved university status in 1992) and nine were 'old' universities. Two of the latter were a former College of Advanced Technology and a former Scottish Central Institution which became universities in the 1960s, and one was a 1960s 'green fields university'. Two of the 'old' universities were institutions of the University of Wales, two were in Scotland and one in Northern Ireland.

We asked universities to arrange interviews for us with those people we had identified from various publications as 'innovators' and we asked them to suggest to us the names of others who were involved in significant innovation and those in the institution who had particular or general responsibility for such matters. At this stage we were therefore also dealing with the staff of various educational development units (or similar) who might be thought of as having an insight into such matters across institutions.

We conducted 221 interviews. These were taped and notes were made. The tapes were intended as a back-up, and the notes were typed and subsequently analysed (using HyperQual) alongside supporting documentation relating to the work of individual innovators and to institutional policies concerning teaching and learning. An initial analysis of the information collected was discussed on a return visit to the institution where we had conducted our pilot study and at a mini-conference with representatives from each of the universities we had visited (Silver *et al.*, 1998). The general content of our findings was confirmed by these meetings, which also provided guidance for the second phase of the project.

The Innovations

A wide variety of types of innovation was identified by those we interviewed, as indicated in Table I (the numbers indicating frequency).

However, it was not always possible to fit projects neatly under a specific heading, hence

TABLE II. Subject identity of those interviewed

Subject Category	Frequency
Clinical & Pre-clinical	4
Professions allied to medicine	8
Science	39
Engineering and technology	19
Built environment	8
Mathematical sciences, information technology & computing	19
Business and management	13
Social sciences	15
Humanities	17
Art, design & performing arts	3
Education	9
Central management	20
Support services	47

the use of the category 'Others'. It is also apparent that these categories overlap, that some innovations might be included in more than one and that several staff were involved in a range of innovative projects of different types. Nonetheless, Table I gives a reliable overall impression of the range of innovations that we encountered (for more detail see Silver *et al.*, 1998).

The Innovators

Innovations took place across most subjects in very many different sorts of programme, as indicated by Table II, which shows the curriculum areas from which we drew our sample of 'innovators'. It is worthy of note here that 67 of the 221 staff interviewed were not associated with a specific academic subject, 20 of these being members of 'central management', such as vice-chancellors, assistant vice-chancellors and pro-vice-chancellors. Several of these senior managers were directly involved in introducing institutional initiatives which encouraged innovation in teaching and learning, but for others their responsibility was more distant. However, the 47 staff interviewed from 'support services' were invariably people charged with carrying out institutional strategies on teaching and learning by encouraging teaching staff to adopt new methods and supporting them in this (see Gosling, 1996). Their units, given titles like Educational Development Service, Learning Support Services and Teaching Enhancement Office, often originated in EHE programmes which had involved them in the administration of funds intended to promote innovation. These programmes were frequently run on a bidding basis, which invited individuals or teams of staff to seek support for projects intended to improve methods of teaching and learning through the introduction of new methods. Many of the academic staff we interviewed had obtained such funding or had in other ways been helped by the unit which was established in their institution. However, some of these units were struggling with the consequences of a switch in emphasis from the promotion of individual innovators, whose innovations took a great variety of forms, to the implementation of institutional strategies where the nature and scope of innovation was centrally defined. We return to these points later.

Very few of the staff interviewed saw themselves as inherently 'innovative people', though some might describe themselves in such terms as being 'at home with change' or willing to take risks. All those selected for interview as identified innovators were, however, comfortable with being interviewed on that basis. More important than *being* that kind of

person was a common awareness of how and when they *became* involved in a process of innovation.

Reasons for Innovation

We asked 103 people in our survey what had motivated them to introduce new methods of teaching and learning ('Why innovate?'). Their responses were then analysed in terms of the reasons given, the categories being generated inductively. Many of those interviewed referred to more than one motivation or described their reasons in terms which could be classified under several headings. Any indications of frequency, therefore, must be taken as indicative rather than definitive. Nonetheless, responses to this open-ended question do give an interesting indication of the relative scale of impact of different factors.

Thirty-four of the 103 interviewees explained that their involvement in innovation was motivated by what they saw as the need to improve student learning, 31 by the need to respond to changes in student intake, 21 by the need to address the demands of external agencies and 11 by the need to adapt their methods of teaching and learning to cope with curriculum change or internal reorganisation. Each of these categories is illustrated by quotations taken from our interview notes (those in *italic* are verbatim from the interviewee). Respondents are identified by category of university (N for 'new university', O for 'old university') followed by their institutional and individual number.

The Need to Improve Student Learning

This category includes reference to reasons such as to 'motivate students' (10 mentions), a 'better way of doing it' (9), the 'previous method did not work' (8), 'prepare the students better for when they leave' (4), needing to help 'students having difficulty' (3), the desire to 'give students more responsibility for their own learning' (3). For example:

Intrinsic—through pedagogy itself, urge to get them to see. (O4.8)

Drivers?

Difficult to teach programming, lecturing is not effective. Need more efficient ways of teaching—very high student: staff ratios. (N6.10)

Primary motivation is not to cope with extra numbers but because this method is more productive and gets better results and student feedback is very positive, '*they get a lot out of it*'. (N6.13)

[He] reckoned that one of the driving forces behind innovations of this kind was that students showed a great deal of interest, he thought that a higher proportion of students have a fascination with computers and that that is something that could be exploited for learning purposes. (O12.1)

Worked with colleague ... in team of 8–9, disillusioned with standard textbooks, looked at different methods. Felt that students were not turned on by standard managerial textbooks, so got them to read novels instead. Novels are about complexity of relationships, which is what management is about. This succeeded in turning students on ... (N5.11)

Students have been short-changed by being denied the creativity of maths and being fettered by the drudgery of slavish repetition of standard questions—they deserve better and we as a society and as academics need better. (O2.10)

Changes in Student Intake

The reasons given included 'student numbers large or increasing' (19 references), increasing 'diversity of student intake' (9), 'students lacking skills' (4), the need to be 'more efficient' in order to cope with larger numbers (4), and, even, a 'fall in student numbers' (3). For example:

Student numbers have more than doubled. From 25–26 she now has 61, and this has '*major impacts on the way I teach*'. (O13.11)

You can't do small group teaching with 150 students, so she had to confront the question—how? (O13.4)

Innovations started before Teaching Quality Assessment (TQA) with change around in staff and huge increase in student numbers. Was intake of 45, now over 100. Difficult to cope with numbers in practical classes ... the real driving force was increase in student numbers. (O4.7)

Got wider variety of students, different backgrounds, some not ideal but entitled to do the course. Had to be more aware of background and be able to respond ... Crisis in that students were turning away to other courses and because of their lack of prior preparation with two Sciences at GCSE [General Certificate of Secondary Education], poor A level results, etc. Was inspired by ... notion of 'the one minute lecture' (given by students). (N6.4)

Demands of External Agencies

Here mentions were particularly made of the 'demands of employers' (9 references) and the TQA process (5). For example:

The oral presentation idea came out of a TQA visit, which 'shook people up'. (O13.1)

Rationale: there has been radical change in health care. There is a faster turnover on the wards and there are problems regarding the length of time the assessor can spend with the student. This is one reason why the student has been given more control and responsibility. (O4.14)

Industrial pressures—future employers want graduates with wider range of subject knowledge, broader education and transferable skills. Have had good feedback from employers. Students said to be articulate, capable of expressing themselves—seen as outcome of project work. (O3.11)

Curriculum Change or Internal Reorganisation

Six of these mentioned the effects of 'modularisation' and three the need to change teaching and learning methods to deliver a new curriculum. For example:

Entirely pragmatic ... performance director saw problems following modularisation, '*modularisation the big driver*'. Needed to formalise performance as modules for credit—needed help. (O4.9)

Tried to teach in the old way, but found couldn't do so because of increased

numbers and modularisation. Huge numbers—1200 in a year on one module, 300 in a final year option. Over a 40% fail rate. (N6.11)

Much of what they were involved with was curriculum change and student learning was affected indirectly. For example, one of the main features was project-based teamwork with a knock-on effect of students helping each other. (O12.22)

Underlying all of these reasons for innovation was a sense that 'the water was getting hotter' and something had to be done. Employers were complaining that graduates did not have a broad enough education or did not have the communication and other skills they needed. The traditional methods were not working. Students were said to be too passive. Some means of involving them more had for a variety of reasons become necessary. All staff interviewed could adduce such reasons for making changes in teaching and learning procedures, without necessarily accepting the label of 'innovator' for themselves.

An important feature of the situation faced by these innovators is their understanding of their difficult position at the point where internal and external pressures meet. This meant that they were aware, first, of factors beyond their control, 'externalities', which included institutional budgets, staffing and resources; policy regarding student numbers; structural changes such as semesterisation, modularisation and other curricular changes; and technological change. Secondly, they were aware of 'internalities' that included not only such features as teacher–learner interaction, personal satisfaction and dissatisfaction, but all those external factors which have become translated with increasing intensity into the teaching situation. Innovators were often caught between, on the one hand, their own established teaching style and understanding of the purposes of higher education, and on the other hand the changes associated with greater student access. They saw themselves as the point at which traditional notions of 'lecturing' and student learning were in tension with the need to satisfy new student needs in the dramatically changing conditions of higher education and the employment market. Interviewees emphasised that innovation was also increasingly seen as in sharp competition with research, with policy definitions of 'teaching excellence', and with departmental and institutional needs for accountability in their ever widening frameworks.

Sources of Inspiration and Encouragement

Whilst explaining their involvement in innovation and in answer to the 'Why innovate?' question, 73 of the 103 interviewees referred to various sources of inspiration and encouragement (many identifying more than one). Of these, 20 mentioned previous experience (having taught in a previous institution using the 'new' method, having experienced something similar in industrial employment or through school teaching), 19 cited support from within the institution (an innovative department, the influence of colleagues, a supportive institution), 16 referred to various forms of staff development (conferences, staff development and staff training), 13 explained that their involvement in innovation was driven by their own strongly-held beliefs, 12 referred to being inspired by examples from other institutions, 8 said they were motivated by a concern to make their own job more interesting and 7 claimed that their attempts to improve their teaching derived from aspects of their own research. One category of staff includes those whose innovation, and perhaps whose motivation, was in some way bound up with support. This could have consisted, for instance, of the moral support of a head of department or dean, funding, or the imprimatur of a national disciplinary network. A parallel category includes those whose innovations may or may not have had financial or other support, but who were committed to their innovations regardless of whether support was forthcoming and in spite of negative or hostile attitudes. Many of those

we interviewed fitted into the latter category and they were often very grateful to talk to people who were seen in some way to be recognising their achievements by discussing their experiences as innovators.

We are conscious that factors such as gender, status and age may affect involvement in innovation. On the basis of these interviews we have little evidence that gender is a significant factor in the likelihood of staff to innovate. However, it seems that obtaining promotion or seniority may make it easier for staff to introduce new methods. We know that at one institution becoming head of department made it more possible for one male member of staff to innovate, as it did for a female member of staff at another university when she became module leader. In terms of *when* lecturers were most likely to begin to innovate, a complex picture emerges of the relationship of their innovation baptism to all the motives for innovating discussed earlier. It relates, for example, to previous involvement in school-based or industrial innovation, the opportunities offered by EHE in those universities which received government funding for the programme, other institutional or nationally available funding, the rate of increase of student numbers, and their roles and status on and after appointment. A rough categorisation is as follows.

- (a) Young staff who 'settle in', and wait to become established and 'secure' before considering taking innovative initiatives. This is the case notably for staff entering their first appointment in some of the old universities, where teaching remission is often given in the first years to enable young staff to establish their career (and assist the university's research rating) by focusing on research as much as possible.
- (b) Staff of all ages and backgrounds who, on appointment, inherit teaching situations which are 'not working' for various possible reasons, and who feel (and in some cases are encouraged to feel) that immediate change is necessary for recruitment, student satisfaction or performance.
- (c) Staff appointed with important skills that they (and others) might consider need to be applied rapidly to the teaching of a particular course or range of modules. This applies to staff with computer and other technological skills at a time of staff shortages and a search for new solutions.
- (d) Staff who are impatient to innovate when appointed because of their previous experience and commitment.

The information we have collected awaits further exploration in terms of these and other categories.

Conclusion

From these findings it is apparent how important tutors' personal commitment to teaching and to their students was to their individual efforts to innovate. The most popular reason given for involvement in innovation was to improve student learning (34 of the 103 interviewees citing this motivation). However, there were many who were obliged to change their methods due to circumstances beyond their control, particularly an increase in student numbers or a shift in student intake (31 interviewees referring to this as a reason for innovation). The answer to the question posed by MacDonald (1974) is a complex one, but it seems that innovators will take on extra work, learn new skills, court unpopularity with other staff and take risks with their own careers so long as they feel that by doing so they can improve the quality of their teaching, and/or if they feel that circumstances are such that they have no choice but to depart from their old methods to cope with new demands.

It is interesting to note the limited role that financial incentives played in all this. The

possibility of funding was mentioned very rarely, its availability being more of a facilitating than a motivating factor. Perhaps surprisingly, the prospect of promotion or other conspicuous rewards was not mentioned in this context (although it was raised in answer to other questions which were included in the interview). This is partly a product of the fact that only a minority of the institutions we visited gave special prominence to involvement in innovations or excellence in teaching in the promotion process, and even in those that did there was a great deal of scepticism about its impact. The reality was that the great majority of the innovators we interviewed believed that involvement in innovation was unlikely to result in promotion and thus they had not been motivated by that aim when first setting out to introduce new methods into their teaching. It is important to emphasise that focusing on initiatives in teaching and learning, rather than giving priority to research, was widely, almost universally, perceived as a career hazard by staff interviewed in all types of university—in spite of policy moves to give greater recognition to teaching.

However, having chosen to innovate, it is obviously crucial for the innovator to obtain support, to have the space and facilities to introduce new methods, to receive encouragement and, even, reward, particularly if the innovation is to go beyond the narrow confines of the initiator, or if involvement in innovation is to become more general. One of the most significant findings in our research is that the nature of the institution and its subunits (faculties, schools, departments, etc.) were very important factors in the innovation process, influencing the incidence of innovation, its success and the likelihood of its becoming embedded. Innovations which succeeded in some institutions failed in others. (It is our task in the second stage of the project to investigate further the institutional factors which make this difference.)

In general, change in higher education is driven by a number of forces, including the demands of employers, government policy initiatives and attempts by 'teachers' in universities to meet the changing needs of students and to reflect the changing nature of their subject matter. But inertia, or resistance to change, is also heavily supported by a range of factors. For certain institutions the nature of their intake has remained more or less constant, the demands of employers fairly distant and the temptations of government-advocated reforms generally resistible, despite the necessity of some token effort. The higher education sector is, of course, highly differentiated, with the obvious divide between 'new' and 'old' universities (pre- and post-1992) well illustrated by the league table of Research Assessment Exercise performance, with a fairly neat division between them in terms of quality ratings at about the halfway point. However, there are also divisions within institutions and even within departments. Even in the most research-oriented of old universities there are lecturers who see themselves primarily as having a teaching role and in the most progressive of new universities, aiming at becoming student-centred learning centres, there are those who strongly aspire to international levels of research excellence. For many 'academics', a term which they would much prefer to 'teachers', their subject remains paramount and their expertise is measured by their research output rather than the quality of learning experienced by their students.

Yet, in our traditional higher education system there has always been some room for individuals to innovate in what they teach and how they teach it. On occasion both 'academics' and 'teachers' have experimented with new modes of delivery or more interactive methods of learning. Individual innovation has sometimes benefited from a lack of institutional attention to such matters, but any gains from this have been haphazard and isolated. Even when sources of funding for innovation such as EHE have encouraged such innovators to come out into the open, their exposure has often been short-lived, with good ideas not being taken up elsewhere in the institution and often their own schemes being shelved once other priorities reassert themselves when the external funding has come to an end.

On the other hand, major institutionally driven initiatives, such as semesterisation and modularisation, have made an impact in most, but not all, universities. However, the drive towards segmented curricula has been to some extent tempered by the new enthusiasm for generic skills, or 'key graduate attributes', which supposedly transcend subject boundaries. What Bernstein (1971) would call a 'collection code' with strong boundaries between contents has occasionally coincided with weak 'frames' where the relationship between teacher and taught, learner and subject matter is more fluid, as in work-based projects, group presentations and collaborative learning of various kinds. It is noteworthy that the tendency towards the standardisation of outcomes in some institutions has led to centralised core skills provision along with the proliferation of module choice.

Amidst all this, 'individual' innovation has been encouraged by some institutions, discouraged or ignored by others. The 'guided' innovation of the kind sponsored by EHE, with increasingly strong indications of suitable directions for research and development, was often reinvented in its application by innovators who had different sorts of agendas from those who set up the programmes. Increasingly, though, it seems that we are moving towards 'directed' innovation (see Silver, 1999), where institutions are driven by the need to maximise the returns from their investment in information and communications technology, to compete with other providers for an increasingly discerning customer aware of the individual costs of tuition, with a tendency towards a more standardised curriculum and the possibility of a more individualised pedagogy (if the advocates of information and communications technology and computer mediated communication are to be believed).

However, one of the biggest challenges confronting universities at the moment is to convince their other teaching staff, those that have not so far been tempted to jump on the innovation 'bandwagon', of the desirability of the new methods now advocated by senior managers. The mix of motivations which drove the individual innovators (or 'lone rangers' in the terminology of Taylor [1998]), who were in the minority in their own institutions, is unlikely to be so effective with the majority who are all too persuaded that MacDonald (1974) was right in his description of innovation as a 'hearse'. For the latter, innovation will not be adopted without considerable struggle unless they can be convinced that the improvements in student learning are real and the risks outlined by MacDonald can be avoided or, failing that, they need to be persuaded that change is the best means of advancement or the only means of survival.

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NOTES

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- [2] An earlier version of this paper was given at the conference on *Managing Learning Innovation: the challenges of the changing curriculum* held at the University of Lincolnshire & Humberside, September 1998.

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Teaching and learning in higher education: issues of innovation

Andrew Hannan, Harold Silver and Susan English

Aims and origins

The ethics protocol for phase one of the *Innovations in Teaching and Learning in Higher Education* project¹, launched in September 1997, began with the following statement:

The past decade has seen increased attention to methods of teaching and learning, and the 1997 Dearing Report, *Higher Education in the Learning Society*, has further emphasised the need for innovative responses to the challenges facing higher education. The agenda for these changes has included increased student numbers and diversity, the promotion of lifelong learning and a learning society, and satisfying the requirements of employment and citizenship. The project aims to examine and interpret the innovative responses of higher education in the recent period to these pressures and opportunities. It will seek to analyse the sources, nature and implementation of recent and current innovations, the obstacles and life histories. It will explore the meanings attached to innovation as process and product. It will therefore attempt to identify:

- the motives, sources of ideas, successes and failures of innovators in a range of subjects in a variety of institutions, and implications for staff satisfaction and rewards;
- the characteristics of innovations generated by individuals, institutions, internally and externally available funding, external scrutiny, national policies and programmes, international models and research;

- the factors (inter-personal, institutional and structural) which do or do not stimulate and support innovation;
- the contribution of new developments in communication and information technologies to innovations in teaching and learning;
- innovation as creation, adaptation, transfer, development, dissemination;
- the contexts of innovation, including those of finance and institutional scale and structure.

Although curriculum change, modularisation, assessment methods, access and emphases on skills and learning outcomes, for example, relate to teaching and learning, these will be contingent rather than central features of the project. The focus will be on those innovations that seek to shape the learning interface of students with teachers, one another, the technologies and materials. These include such processes as problem based learning, open learning, independent learning, distance learning and computer based or supported learning.

This first phase of the project was thus focused mainly on 'the experiences of innovators' with respect to a wide range of innovations, and was carried out largely by means of an interview survey. As such, it had grown from a much narrower proposal that had initially set out to investigate the impact of the Partnership Trust Awards and the experiences of those who had been rewarded by the scheme². The project as finally launched still differed significantly from the other 13 in *The Learning Society Programme* because of the degree to which its aims were predetermined (as specified in the original brief provided by the sponsors), the manner in which it was divided into two 12 month phases and the fact that other agencies in addition to the Economic and Social Research Council (ESRC) provided the funding. In practice, the two-stage structure allowed for considerable flexibility, with the aims for the second phase being developed during the first. Funding from other agencies in addition to the ESRC (the Higher Education Quality Council in phase one and the Higher Education Funding Council for England and the Department for Education and Employment in phase two) also allowed for inputs from 'users and beneficiaries' that were of considerable value to the project. Nevertheless, the uncertainties introduced into the funding and the negotiations required with such a range of funding bodies introduced delays and other problems of a kind not experienced by other projects in *The Learning Society Programme*.

In the second phase, which began in October 1998, the case study investigations focused on selected aspects of institutions which work on the first phase had suggested could be of especial interest to questions of climate, framework and culture. The concept of 'organisational culture' and its associated range of literature were of particular interest, including that which addressed the various sub-cultures found in organisations and institutions. The research involved an examination of the theory and practice of sub-units such as departments, schools and faculties and the work of the middle managers who had responsibility for them. An attempt was made to gauge the impact of such factors in terms of the promotion or inhibition of innovation in teaching and learning.

The stated objectives for phase two included: to explore institutional climates/frameworks in higher education that support or inhibit innovation in teaching and learning, and to continue the exploration of 'new patterns of teaching and learning' begun in the first phase and needing further understanding. It was important to examine how institutions embed, or fail to embed, innovations in teaching and learning, and the operation of institutional sub-structures that are intended to affect, or that impinge on, institutional or individual efforts to innovate in teaching and learning. The latter meant considering educational development units or their equivalent, staff development units, teaching and learning committees, and the work of senior management responsible for teaching and learning, as well as the impact of national policies on institutional approaches to the support of innovations in teaching and learning.

Methodology

Phase one

The main purpose of the first year was defined in the remit for the project as "to identify the characteristics of successful innovations in teaching, learning and assessment practices in higher education...". The project was to indicate "which factors ... stimulate and those which inhibit innovation". The first-year work was to explore the experiences of innovators, and the second year would examine 'institutional climates'. The focus was to be on undergraduate programmes. Although it proved impossible entirely to separate the first and second-year emphases, the

project did focus in its first year overwhelmingly on innovators and innovations.

It was important at the outset to explore previous discussions and interpretations of 'innovation' that would be relevant to a project focusing on teaching and learning. There were boundaries to be established with curricular and management or administrative innovation, which might be influential for teaching and learning. A substantial annotated bibliography was therefore produced, together with the working paper entitled *The languages of innovation: Listening to the higher education literature* (Silver, 1997). The relevant literature on higher education itself was sparse. In recent decades much of the discussion of innovation has focused on the use of 'audio-visual aids', 'educational technology' and 'communication and information technology', and underlying most of the discussion in general are unquestioned assumptions about what constitutes innovation. The literature seemed to leave open, for example, questions about the relevance of past experience of innovation to one of the key developments of recent years – the widespread adoption by innovators and institutions of new technologies. It was equally clear from the literature that it was important to understand at what levels and under what pressures and incentives innovation took place and survived, or failed to survive.

A second working paper, *'Innovation': Questions of boundary* (Silver et al, 1997) paid particular attention to the question of 'levels' and innovation as a response to institutional and societal changes. These changes – structural, cultural, economic and technological – seemed to influence not only the nature and life histories of innovations, but also how they might be perceived by all the actors and witnesses concerned. Although the focus of the first year of the project was 'the experiences of innovators', and the study of institutional frameworks was to be a focus of the second year, a consideration of how innovation occurred and was 'managed' at different levels within institutions could not be avoided. What was, in fact, an 'innovation' had to be approached within the changing academic, social and political environments of an institution, as well as within the policy frameworks of national government, quasi-governmental agencies and influential organisations of employers, educational pressure groups and others.

Since the focus of the first year of the project was to be on innovators and innovations in teaching and learning at the undergraduate level, the initial task was to decide at which higher education institutions there were clusters of likely people. Institutions to visit were chosen on the basis of the frequency of their appearance in various indices of innovations

such as Enterprise in Higher Education projects, lists of Partnership Trust Award winners and the Teaching and Learning Technology Programme (TLTP) directories, books and conferences. Efforts were made to include a wide geographic spread and a rough balance of representation from old and new universities. As a result of this process interviews were conducted at the following institutions, 15 in all:

University of East London
University of Glasgow
Heriot-Watt University
University of Leeds
University of Lincolnshire and Humberside
Middlesex University
University of Nottingham
Oxford Brookes University
University of Plymouth
University of Portsmouth
Queen's University of Belfast
University of Salford
University of Wales, Cardiff
University of Wales College of Medicine
University of York

(Full details of the sampling process are given in Appendix A of Silver et al, 1997.)

Universities were asked to arrange interviews for the researchers with those people identified from various publications as 'innovators' and to suggest the names of others who were involved in significant innovation (those introducing new methods of teaching and learning in undergraduate programmes) and those in the institution who had particular or general responsibility for such matters. In terms of subject identity the interviewees can be categorised as follows (see Table 1).

Obviously crucial to all this is what is meant by 'innovation'. It was decided not to be too demanding about this. It was not just a matter of looking for mould-breakers who had made global breakthroughs. The project team were interested in those who had introduced methods of teaching and learning new to their own situation, their own course, department or institution. These were planned rather than accidental changes, designed, but not guaranteed, to improve teaching and learning. The project was interested in the small as well as the large scale, in one-

Table 1: Phase one interviewees: subject identities

Category	Frequency
Clinical and pre-clinical	4
Science	39
Professions allied to medicine	8
Engineering and technology	19
Built environment	8
Mathematical sciences, IT and computing	19
Business and management	13
Social sciences	15
Humanities	17
Art, design and performing arts	3
Education	9
Central management	20
Support services	47
Total	221

module innovations as well as those introduced across an institution or even on a national level, in the unfunded individual initiative as well as nationally funded projects. There was a particular focus on the learning/teaching interface, in the *methods* of teaching and learning, in 'pedagogy'. Obviously wider structural changes such as semesterisation and modularisation were part of this, but the focus was on the mode of delivery and the methods of discovery, the learning support structures, the ways of teaching and of learning. Although curriculum changes and the impact they had on pedagogy were also relevant, an attempt was made not to be diverted from the primary focus on efforts to introduce new methods of teaching and learning, even though the distinction was not always an easy one to make.

A total of 221 interviews were conducted and taped and notes were made. The tapes were intended as a back up, and the notes were typed and subsequently analysed (using HyperQual) alongside supporting documentation relating to the work of individual innovators and to institutional policies concerning teaching and learning. An initial analysis of the information collected was discussed on a return visit to the institution where the pilot study had been conducted and at a mini-conference with representatives from each of the universities we had visited. The general content of the findings was confirmed by these meetings, which also provided guidance for the second phase of the project.

Phase two

A number of the second phase research questions posed in the early specification and then revisited had necessarily arisen to varying extents in the first phase, including “the criteria by which success or failure are to be assessed”, identifying “new patterns of teaching, learning and assessment”, models of good practice and dissemination processes. The priority focus for the second phase was clearly to be on how/whether innovations become embedded in institutions, the institutional structures and cultures that supported or inhibited innovation in teaching and learning, and lessons from the impact of national and institutional policies.

It was proposed that a highly focused, intensive study be conducted of a relatively small number of institutions. Messages from the first phase research on 15 institutions of all types across the UK would be important, but it was now proposed that five institutions be selected, four from the first phase list and one other. The exception was the Open University (OU), which, because of its dispersed character, it had not been practicable to include in the first phase, but which could be very important for the second phase. The OU was significant because of new developments in its use of distance learning and partly because of its particular organisation and methods of operation. Of the remaining four institutions, it was proposed that three be in England and one in Scotland. The English universities would include one of the ‘older’ universities (Nottingham was chosen), one ‘1960s’ university (Salford) and one ‘new’ university (Middlesex). The Scottish university would be Glasgow. The selection of four first-phase institutions would enable impressions and insights from the first phase visits to be tested more systematically on the second. The vice-chancellors (the ‘principal’ in the case of Glasgow) of all five universities readily agreed to their university being named in the outcomes of the research. As in the first phase, an ethics protocol protected the universities in such matters as confidentiality and an undertaking was given not to name individuals or enable them to be identified (unless with their prior consent).

The design of the study was to incorporate ‘top-down’ and ‘bottom-up’ approaches. The former would involve an examination of relevant policy making; responsiveness to external policies and programmes; the directions in which teaching, learning and assessment were driven, the reasons for doing so and the mechanisms chosen; the control of funding and support processes; the machinery of implementation. The focus of these ‘framework’ investigations would therefore be the operation of the

relevant committees in these universities, the roles of specific, responsible individuals, the roles of faculty committees and deans, and departments. The essential questions would relate to how policy and practice were shaped at these various levels, and the interview pattern (and possibly attendance at committee or other meetings) would therefore be determined in each case by the particular structure and distribution of authority.

The 'bottom-up' approach would focus on ways in which proposals for innovation were fed into the system by members or groups of staff. It would cover their perception of the processes involved, time-scales, obstacles and outcomes, and reasons for innovations becoming, or failing to become, embedded at the appropriate (course, departmental or other) level. Questions addressed included the impact of the Research Assessment Exercise (RAE) and other pressures on the willingness and ability of staff to innovate in teaching and learning. This type of interview would build on the experience of interviewing such individuals in the first phase (and some re-interviewing could be helpful). The intention for 'bottom-up' interviews, however, was to base them on random sampling of teaching staff, not on identified innovators as in the first phase. The concept of focus groups was adopted for this purpose.

As a result of this approach a total of 117 individual interviews took place (34 at Glasgow, 17 at Nottingham, 21 at Middlesex, 22 at Salford and 23 at the Open University), with a rough balance of top-down and bottom-up interviews at each institution. A decision had been made to choose one discipline found in all five institutions, thus controlling to some extent for differences determined by subject-specific factors. 'English' or a cognate area was chosen in each institution, and a second subject area was intended to be in some way unique or prominent in the university visited. At Glasgow this was Medicine, at Nottingham Biological Sciences, at Middlesex Business Studies, at Salford Electrical and Electronic Engineering, and at the Open University Technology. The focus groups at each university were based on this selection, and staff were invited on a random basis within the departments selected to such a group discussion. Depending on the availability of staff and other factors, two such groups took place at Nottingham and at Middlesex, and one each at Glasgow, Salford and the OU, with a total of 30 randomly selected teachers of undergraduates involved. In a small number of cases members of the research team were present at meetings of relevant committees or other groups.

As in the first phase, full handwritten notes were made during each interview and discussion, and most of the individual interviews were also

tape recorded. The discussion groups, however, were not taped after the first such meeting, when we were asked to turn off the machine in order not to inhibit the participants. Also as in the first phase the notes were typed up and entered for analysis on HyperQual stacks. Analysis was based on data collected in this way, but also from documents and reflection after each visit. An extensive case study report was written on each institution and the parts relevant to individual departments were submitted to departmental 'gatekeepers'. Once these were cleared the full report for each institution was submitted to an institutional 'gatekeeper' (the vice-chancellor or nominee) before being corrected and sent to every member of staff who had been interviewed or who had taken part in a discussion group, with an invitation to comment in answer to the following questions:

- Is our description of your university accurate?
- Have we included all the important issues and, if not, what have we left out?
- Of the issues we have identified, which do you consider to be the most important?

An intention to return for a round-table discussion of the final case study report at each institution proved to be possible only for the first institution visited (Middlesex) because of long delays in the gatekeeping process. Our account of each institution has been very largely accepted as accurate by staff at different levels of seniority.

An additional thread to the methodology for the second phase was a continued analysis of the literature. The theoretical underpinning identified in the first phase continued to be an active element in the work of phase two, but additionally an extensive, annotated bibliography was produced on *Organisational culture and innovation in higher education*, addressing the literature on both organisational culture and related concepts of importance in investigating the place of innovation in higher education institutions (Silver, 1998). Although much of this literature was American, and originated in studies of industrial and other companies, it pointed to relevant and helpful work on, for example, cultures and sub-cultures (Allaire and Firsirotu, 1984; van Maanen and Barley, 1985; Louis, 1985, 1990; Schein, 1985, 1996; Meek, 1988), and aspects of leadership and management (Kimberly, 1981; Handy, 1985). A small but vitally important literature addressed some of these areas in relation to the management, leadership and culture of higher education institutions (Cohen and March, 1974;

Clark, 1984, 1987; Becher, 1984, 1989; Chaffee and Tierney, 1988; Schuller, 1992; Middlehurst, 1993; McNay, 1995; Sporn, 1996).

Findings

Innovations and innovators

Innovation, while something new to a person, course, department, institution or higher education generally, could also be something already established elsewhere. The implication for the project, however, was that an innovation was a departure from what had been done before in that situation. It is not always obvious whether an innovation is an act of creation, adaptation or imitation. What is adopted and modified may be an idea or a practice, and implementation may be a single episode (for example, the reorganisation of a seminar procedure) or a continual process of renewal. A new way forward in one place may have been abandoned in another for a more promising alternative. "Innovation in teaching and learning" is itself a difficult vocabulary. An innovation in the former may not result in any change in the latter. There is no necessary relationship between the two. An innovation in students' learning procedures may be independent of any 'teaching' in its traditional sense, and may be mediated by the use of technology.

A wide variety of types of innovation was identified by those we interviewed, across most subjects in very many different sorts of programme. Table 2 indicates the innovations with which those we interviewed were involved (the numbers indicating frequency).

However, there were other projects that do not neatly fit under any of these headings. It is also apparent that these categories overlap, that some innovations might be included in more than one and that several staff were involved in a range of innovative projects of different types.

The analysis of the first phase, with regard to the innovators and their innovations, led to the following conclusions:

- Innovators rarely saw themselves as 'innovative people' but were driven to innovate by their background (eg further education or industry), picking up ideas (including on courses and training), student numbers and diversity, curriculum change (including modularisation), student boredom, funding opportunities, Teaching Quality Assessment (TQA) and other external stimuli.

Table 2: Phase one: types of innovation

Types of innovation		
1	Making use of computers (web, Internet, Intranet, computer-aided learning, computer-based learning, computer-mediated communication)	77
2	Skills (personal, transferable, key, core, employability, communication and problem solving)	45
3	Team projects, group learning (cooperation and collaboration)	40
4	Student presentations (individual or group)	16
5	Interactive seminars or lectures	16
6	Work-based learning	16
7	Problem-based learning	16
8	Resource-based learning (packages, booklets, etc)	14
9	Distance learning or open learning	12
10	Peer-tutoring, mentoring or assessment	9
11	Others (eg student-directed learning, learning journals/ portfolios, profiling, reflective practice)	18

- Young staff (especially in old universities) waited to feel secure before innovating; some staff wanted to use prior experience to improve 'inherited' situations in higher education. In general they felt under external pressures, facing difficult teaching challenges.
- The main categories of innovation, as Table 2 suggests, were: group/team work; live projects; simulations; student (often group) presentations of many kinds; skills development affecting the teaching/learning relationship; experiments with interactive lectures and seminars; self, peer and group assessment on various bases; other types of innovation involving departmental, faculty or institutional policy or endorsement (eg work-based learning, problem-based learning, resource-based learning). Independent learning and greater student responsibility for their learning were subsumed in most of these.
- Innovators were often a minority, not necessarily successful, and although their innovations were not always original, they were seen as new or radical *in their circumstances*. They invariably began with the aim of

improving student learning and/or overcoming some of their own teaching difficulties in new situations and/or taking advantage of new opportunities (including financial opportunities).

- There were widely varied colleagues' and students' perceptions of the nature and value of an innovation, often difficulty in winning over colleagues, who sometimes came round when they saw that it 'works', but would stay aloof because of research pressures.
- There was widespread emphasis on the importance of support/sympathy from senior colleagues – not always forthcoming.
- Some colleagues saw innovators as eccentric or even dangerous, depending on a variety of factors, but including the kind of innovation (eg computer-aided learning or work-based learning) and how threatening it was to conventional teaching.
- There was often greater interest (notably when an innovation was subject-specific) and take-up in other institutions, some invitations to speak within the institution, but more likely elsewhere.
- Differences between research cultures (mainly, but not only, old/new universities) and departmental/faculty/institutional politics, as well as in their support structures for teaching and learning, were important.
- There was much staff criticism of centralised policy and decision making. Some innovations were, however, generated by institutional policy (notably on information technology). Institutions were commonly producing policy documents on teaching and learning, but staff were suspicious of their seriousness.
- There were mixed, but mainly supportive, views of the involvement of educational development services or learning support units in teaching and learning innovation.
- Strong emphasis was placed on the importance of seed corn funding, and widespread approval of the impact of Enterprise in Higher Education as a catalyst.
- There were mixed views about the value of TQA, but there were many expressions of approval of its 'shaking up' effect.
- Use of information technology in innovations was extensive, aimed at replacing or supporting conventional teaching. It often needed sustained institutional support, or involvement with a national strategy such as the Teaching and Learning Technology Programme. There was therefore a strong link between individual and institutional (and wider) initiatives.
- The use of distance learning was accelerating, most strongly at postgraduate level, and for both postgraduate and undergraduate courses for on-campus and off-campus students.

- Tensions were clear between research and teaching and learning activity. Efforts to conduct research on teaching and learning resulted in some cases in inclusion in an RAE education unit of assessment, and elsewhere incorporation into other subject units of assessment (and in some cases active discouragement).
- Recent moves to raise the profile of teaching (either innovation or excellence) for promotion and other forms of recognition (including prizes) were widely discussed, but there was much staff cynicism or 'wait and see' attitudes.
- Partnership Trust Awards (1989-95) had in some cases helped to legitimate teaching and learning innovation, in other cases nothing had happened as a result of an award. Awards by professional and other bodies were sometimes seen as important.
- There was an obvious welcome on the part of large numbers of people interviewed for the opportunity to discuss their work with the project team, reflecting in many cases the lack of interest within their institutions.

Given the widespread and growing interest in distance learning in higher education, the position as seen in phase one of the project is worth summarising. Nine of the 15 universities visited offered some distance education (DE) courses, including pre- and post-degree courses, but only four included some undergraduate courses at a distance (or modules within courses). Some had invested in new DE designs, offering a different learning experience from the traditional Open University text-based model. Although the number of undergraduate courses being offered was small, the idea of developing DE was currently under investigation or being encouraged by some universities, often with the appointment of a director, coordinator or adviser with a brief including DE. Five such people were interviewed in different institutions, and it was apparent that open and distance learning methodologies were beginning to be employed with campus-based students. Generally the methods being used in the 21 DE examples encountered (projects, courses or modules) were at an experimental stage.

The institutions

The limits of the sample in the second phase of the project (although we were able to draw also on the first phase of the study) have to be borne in mind. The same applies to an important implication of investigating at

the level of departments or other basic units, including the random sampling of teachers of undergraduates. This meant that the focus of discussion was not only directly on innovation as in the first phase, but also on the practices and perceptions of teaching and learning in general, and of aspects of the functioning of institutional structures in relation to teaching and learning. The following were the main direct findings from the case studies:

- In the past half century there seem to have been, mainly but not only in teaching and learning, three interlocking themes, which have to some extent been overlapping phases in the history of innovation within institutions of higher education. These have been marked by 'individual innovation' (drawing on the ideas of enthusiasts), 'guided innovation' (often supported by institutional funds derived from national programmes and somewhat loosely connected to guiding notions about improving teaching and learning) and 'directed innovation' (driven by institutional imperatives often aimed at maximising returns on investment in new technologies or promoting more student-centred learning partly for reasons of efficiency).
- Innovations in teaching and learning were taking place within a context of often quite radical changes in institutional structures, changes that served as important frameworks for the perceptions of interviewees at all levels.
- Middle managers (heads of departments/schools and deans of faculties/schools) were crucial if the implementation of institutional policies on teaching and learning was to be achieved. Considerable differences among departments, schools or faculties were apparent, and successful practice in teaching and learning and relevant policy implementation often depended on reliable institutional monitoring procedures. The characteristics of these basic and intermediate units were significant elements in the responses of interviewees within them.
- The extent and nature of institutional commitment to teaching and learning cannot be categorised solely on the basis of 'post-1992' and 'pre-1992' universities. In the other *Learning Society Programme* project with an HE focus, Dunne et al (2000) similarly found that contrasts between 'new' and 'old' universities had been exaggerated, finding little difference between them in practice despite the tendency for 'new' universities to make more commitments to innovation in teaching and learning in policy statements and strategic plans.

- At institutional, faculty or departmental levels, major obstacles to the general development of teaching and learning strategies could arise. They included: a strong emphasis on research and the RAE; staff attitudes based on tradition and unquestioned assumptions; and student resistance to change, as a result of pre-entry expectations and pressures, for example, from part-time employment which placed limits on the time available.
- Institutional cultures are immensely difficult to analyse, given that they are the result of often widely different attitudes and approaches by different levels of staff and by students, competing interpretations of policy, and competing commitments (to the institution and to the discipline, to research, to teaching and administration, to short-term needs and to those of promotion and career). The result is often a complex picture of tensions and consensus. There are important differences affecting teaching and learning between those institutions which had defined themselves and settled into their definition and those which are in the process of achieving this. Adequate consultation about institutional policies may not lead to innovative changes in teaching and learning, but these are less likely without it.
- It was possible to detect a 'culture of teaching and learning' or a 'culture of research', or a mixture of the two. It was not possible to detect a 'culture of innovation', since the intentions and outcomes of institutional policy and individual initiatives depend on substantially different factors and these may (but do not necessarily) point in different directions. In relation to the difficulties of determining such a culture of teaching, competing and conflicting pressures and attitudes were particularly apparent.
- Innovation in teaching and learning is more likely if the institutional policies on such matters are understood and trusted, and if there is adequate central support for their implementation through both structures and means of delivery. Promised recognition of and rewards for innovation and/or excellence in teaching and learning have to be credible.

Before we turn to some other general considerations that emerge from this investigation, we can highlight some policy implications that emerge from the above analysis.

Implications for the funding councils, the Department for Education and Employment and the Institute for Learning and Teaching (ILT)

- We found institutions that were independently developing their own policies for recognising developments in teaching and learning, and were aware of directions in which national policies and pressures were moving. It was clear that these could benefit from targeted national funding that could usefully experiment with different ways of supporting the enhancement of teaching and learning and directly rewarding (for example, through sabbaticals or the equivalent of readerships and chairs) those who successfully introduce innovations.
- The pursuit of excellence in teaching and learning could benefit from greater attention to the role of innovation, a study of which could usefully be incorporated within the training of all academic staff. All partners in higher education need to have a broad understanding of the origins and purposes of innovation of different kinds and at different levels – individual, team, institutional, national, disciplinary and technological.
- The future of innovation in teaching and learning has to be seen in national, institutional and, crucially, individual terms, particularly taking account of the needs of those at the point of contact with students.
- Successful innovation in teaching and learning is possible where a balance with research is maintained. It was possible in the project to find evidence of a strong commitment to research alongside an equally strong commitment to improving teaching and ensuring effective student learning, sometimes in practice as well as in principle. However, a commitment to research was not necessarily associated with a commitment to its use for the enhancement of teaching. Research which enhances teaching and learning in higher education needs to be recognised, promoted and rewarded. Any future RAE should incorporate mechanisms to encourage this.

Implications for higher education institutions

In attempting to promote innovation in teaching and learning, account should be taken of the following aspects of institutional culture.

Innovation in teaching and learning is most likely to take place when:

- the innovator has encouragement or support from the head of department, dean or other person in authority;
- the institution has a policy establishing parity between research and teaching and learning, including for purposes of promotion, and the policy is reflected in practice;
- colleagues and people in authority show an interest in disseminating the outcomes of innovation;
- resources are available either through the department or an innovations or similar fund or an education development unit.

Innovation is most likely to be obstructed by:

- low esteem of teaching and learning, compared with research;
- lack of recognition and interest by colleagues and people in authority;
- institutional or other policies and action plans laying down firm directions that preclude individual, alternative initiatives;
- excessively bureaucratic procedures for approval, support and resources;
- quality assessment procedures that inhibit risk taking.

Institutions of higher education, in reviewing their structures and support systems, need also to have in mind the possible longer-term implications of teaching and learning styles for employment, participation in lifelong learning and contribution to a learning society of the policies and practices they promote.

Themes and challenges³

UK higher education institutions (HEIs) are expanding their number and range of students, aiming to meet new requirements in terms of the eventual employability of their graduates and to provide 'lifelong learning' for a 'learning society'. Alongside these newer demands, more traditional aims for higher education – the development of 'critical thinking' – persist. All of this needs to be accompanied by the maintenance if not the raising of 'quality' in both teaching and research, with little hope of extra public funding and with a requirement for continuing 'efficiency gains'. Chief among the various means by which these demands are to be met is the hope that methods of learning and teaching can be developed and adopted

that will meet the needs of more, and more diverse, students, within resource constraints. Innovations in pedagogy are looked for that will both enhance the quality of the student learning experience and reduce its demands on staff time, with information and communications technology (ICT) being widely seen as the means of achieving this. HEIs have had to develop learning and teaching strategies and have adopted, or are adopting, relevant management and development structures. An understanding of the nature of pedagogy in HE is of particular importance and has far-reaching implications. Any study of this topic needs to give special prominence to the processes of change, the challenges being made to conventional approaches to teacher–learner interaction and the claims being made for new pedagogies (student-centred, ICT-based or ICT-mediated, etc).

Central to such understanding has to be an emphasis on the dynamics of higher education. The focus of this project has therefore been on changes in institutions, for the managers and academics who work in them and the students who study in them, and on changes in the conditions for learning. The former raises a wide variety of issues about the features of institutions that enable them to be or become ‘learning communities’, or hinder or prevent them from doing so. The latter raises issues about how these contexts influence teacher–learner interaction, including how they impact on teachers’ perceptions of their professional roles and the possibility and desirability of changing them. In both cases there are profound issues of intention and potential, definition and redefinition, and the bases on which continuing processes of change can be conceived and tested. The project has touched on these interrelated institutional and pedagogical issues, which operate at a number of levels:

Macro level – the external world of national policies that impact on higher education teaching and learning, for example quality assurance, the Institute for Learning and Teaching (ILT) and funding arrangements that drive the development of strategies to improve teaching.

Meso level – HEI policies and the organisational and operational strategies to implement such policies.

Micro level – classroom (including, for example, laboratory and ICT) practitioners and their location in particular disciplinary cultures.

Central to this typology are binding forces (or tensions) such as those of academic professionalism and strategies for understanding and shaping 'high quality' teaching, influenced by national initiatives as well as the structures and cultures of basic units and the skills and motivations of individual teachers.

Of vital importance to the project was the analysis based on three trends that have emerged in the recent history of British higher education – 'individual', 'guided' and 'directed' innovation – which were concepts employed to make sense of some of the shifts in the nature of innovation that reflected developments in the interplay between such forces (Silver, 1999).

Thus, in the changing picture of higher education from the 1950s, the 'stand-up lecture' became a focus of debate. The new 'green fields' universities, the Open University and the Council for National Academic Awards and the polytechnics then came into existence. Innovation within universities and colleges was largely the product of individuals, focusing on small group teaching or educational technology. From the late 1970s in particular, overlapping this 'individual innovation' was 'guided innovation', under the impact of structural changes which were themselves a response to change in the wider system of higher education and government policy. Innovation was becoming institutionalised, and new maps were being drawn in response to the use of computers and new technologies (and 'guided innovation' often meant 'guided new technology development'). Governments were increasingly investing in such change and in Britain the Enterprise in Higher Education (EHE) initiative was at the frontier of development, a cascading model of change that did, however, meet with strong counter-reactions, producing a range of innovations that originated with individuals or the teaching-oriented units of institutions, often promoting student-centred initiatives. The importance of EHE in this period of 'guided innovation' was considerable, and its messages have still not been properly heard.

Later national programmes to promote the use of information and communications technology were more prescriptive as to projects and outcomes. EHE paradoxically offered opportunities, but also profoundly influenced the trend towards policy-driven frameworks for innovation, which were to close off or discourage individually determined directions. 'Guided innovation' was being rapidly merged into forms of 'directed innovation', with incentives to innovate increasingly located, in the 1990s, within national government policy and funding frameworks, and hemmed in by research priorities. The need to innovate at any level, in new

circumstances, emerged from a configuration of factors: the old forms of lecture and seminar were seen by many staff not to be working; student numbers and diversity challenged the efficacy of old forms of assessment; modular and semesterised courses were influencing learning styles as well as curricular structures; higher education outcomes were coming under various kinds of critique. There were good reasons, of course interpreted differently at different levels, to recognise the importance not only of good teaching, but also of changes in teaching to match student needs. Subsequent measures adopted by many institutions and by the national decisions of the funding councils and the ILT may point to the emergence of a fourth, 'post-directed' phase of development, or at least one with more open opportunities.

If we focus on the possibility of individuals continuing to take initiatives to promote improvements in teaching and learning, we are faced with a number of challenges:

- There are obvious problems regarding choice of the sort of innovation and perceptions of its purposes, and what someone sees as an innovation to improve student learning may be seen by someone else as ideological or budget-cutting or a waste of time. The challenge here is what *can* be done, possibly because the old way is simply not working, or there has been a radical change in student background and diversity.
- How do we know if an innovation will be beneficial for students, particularly given changing student circumstances, constituencies and expectations? The difficulty is that judgement and rapid decision cannot be made on the basis of market research and only rarely on the basis of any other research. Is it possible to translate into action a hunch or a hope or a conviction that students will benefit, even though there may be resistance from some students to non-traditional methods?
- Institutional cultures, statuses and priorities are profoundly different, depending on their histories, the ways in which they have responded to the pressures and requirements of recent years, and to their place in 'the market'. In some institutions traditional methods do remain dominant and relatively unchallenged. The difficulty is in judging the position of teaching and learning and of innovation within the institution as it has been or is becoming in rapidly changing circumstances.
- There is a serious issue to be faced, therefore, in terms of the priorities and plans of the institution, the faculty or the department. Does the innovation fit within the relevant rolling plans and the directions defined

for supporting finance? Can it therefore be done? Even if innovation involves or may result in research on teaching and learning, this is still problematic since such 'non-discipline' research is still rarely seen as respectable or rewarding.

- What kind of support, if any, may be needed, what obstacles may need to be overcome? Is support available and likely to be forthcoming?
- There is a challenge to know whether to be tempted by the available funding, which may determine the direction in which to go. Since the early days of EHE this has become an increasing dilemma, as institutions have themselves become more directive or prescriptive, and the problem lies in weighing one sort of innovation that is not funded against another that may attract resources. What one wishes to do, which may raise all kinds of difficulties, may come into conflict with what can more easily be done.
- There are personal issues to do with recognition, including promotion. Not only innovation in teaching and learning, but an interest in teaching and learning as such, may reduce promotion prospects. The increasing emphasis nationally and within institutions on equal recognition of teaching and research raises a major concern – that of judging how real such policies are in practice.
- Finally, the question 'Why bother?' has to be answered. Potential or experienced innovators are likely to argue as follows:
 - “The RAE lies ahead and I still have 3¾ articles to write.”
 - “Everyone in authority wants me to do something else.”
 - “I have too much administration and no time.”
 - “Innovation generally means an up-front investment of time, and though there may be sabbaticals for research, I won't get one for teaching and learning.”
 - “People think I am eccentric.”

These are salient issues for innovators or would-be innovators, and we have found them in one form or combination or another in all the institutions we have visited. Of course, some of these issues may not be challenges at all. For example, what an institution or faculty wants may be what an individual also wants, and may have been consulted about. It may be possible to persuade colleagues or a department to adopt the teaching and learning initiatives proposed by individuals. On the whole, however, we have found innovators and innovation projects relating to teaching and learning to be often isolated, low status and treated with suspicion, echoing the findings of Dunne et al (2000) who also discovered

that innovators were often not supported by their colleagues and that there was little evidence of planning for future change at the departmental level.

This is particularly true of research-driven universities, although we have found important exceptions, and universities that in many respects look similar may have very different approaches to the extent of support they wish to give (and are willing to be seen to give) to the enhancement of teaching and learning.

That there have been profound changes affecting innovation over the past decade is beyond doubt, given the changes in funding and accountability and quality machineries, the greater centralisation of decision making, a new managerialism, the loss of community and collegiality – all of which and related vocabularies have been regularly used by those we have interviewed. It is important to note that critical comments of this kind are sometimes accompanied by recognition that the real problem lies with policies and pressures coming from outside the institution. But the question is whether we have now reached a plateau, or whether there are real prospects of further change. Teaching and learning *are* being talked about and made the subject of national and institutional policies, and the Dearing Report (NCIHE, 1997), and responses to it, have played a part. Structures to support teaching and learning are in place in most of the institutions we visited. These include the appointment of pro-vice chancellors responsible for teaching and learning, committees for teaching and learning at institutional or faculty or other level, and so on, and although structures do not necessarily tell us a great deal, they do indicate changes of emphases in the recent past. People who do the teaching, however, often see these as without relevance or impact.

The Higher Education Funding Council for England (HEFCE) has seen the need to put more, albeit still relatively modest, funds into subject support for teaching and learning (modest by comparison with the funding of research). The Institute for Learning and Teaching is in existence, and in 1999 the ESRC launched the first phase of its £11½ million Teaching and Learning Research Programme. The latter was not targeted specifically on higher education, and there is much that is positive in that fact – given the opportunities the programme offered for linking teaching and learning in higher education and in the remainder of the formal education system, as well as in all the other locations of the ‘learning society’. It is not clear whether all of this means a real shift in the environment for innovation in teaching and learning, or whether it is just a temporary

recoil from the excesses of the RAE and the growth of research cultures. The different kinds of innovation and levels of decision making for innovation will continue to raise the question of *whose* innovation is concerned. All of these recent and current moves could end up with more *institutional* or *system-wide* innovation, not necessarily with any greater opportunity for individual initiatives. There is, of course, an argument for harnessing the energies of individual innovators for wider, possibly institutional initiatives, given the difficulty of individuals disseminating their work. The main challenge, however, is to know whether the individual innovator and the individual initiative at the level of student-teacher encounter will nevertheless be able to survive.

The reasons for addressing these issues go beyond the immediate processes of teaching and learning. Fundamental is the frequent realisation that, for one reason or many, in very many contexts the old ways are not working, and that what are needed are new ways to sustain motivated learners who are more autonomous and more able to take responsibility for their own continued learning. Old models of what it means to be a student, and therefore what it means to be a teacher, are changing. The vocabularies of innovation are extensive and relate not only to improved learning, but also to *improved access* to learning, to changing the format and rhythm of learning in order to cater for mature and part-time students, to make it possible for students to interrupt and resume their studies and to make choices that mesh with their experience and aspirations.

A focus on the learning experience of students points to immediate outcomes in terms of knowledge, skills and understanding and success in the forms of assessment that lead to degrees. But it also points beyond the degree, to the students' own lifelong learning, and to their ability to support others for lifelong learning in the workplace and in society. Innovations that point students in that direction are also situating higher education institutions more securely in a learning society. All levels of innovation have a part to play in the preparation of students for creative roles in a learning society. These are issues that go unrecognised in most policy making for the development of Higher Education. The HEFCE, even while launching its imaginative learning and teaching strategy under its Teaching Quality Enhancement Fund, and emphasising the need "to continue to support the development of innovative learning and teaching methods", justified the latter as necessary "to maintain a leading edge in higher education worldwide" (HEFCE, 1999, p 5). It did not take account of the role of innovation at the higher education level in helping to prolong creative learning into life beyond the degree, and into the

influential roles graduates play in the world of work. The government's 1998 policy document for *The Learning Age* pointed to the larger part higher education could play in terms of skills, more places, a wide range of courses, high standards, improved participation, and collaboration with others to contribute further to the economy (DfEE, 1998, pp 49-50). It showed no interest, however, in *how* people learn, and the implications of their passive or active learning for their future roles in society. The assumption here, as in much policy literature, has been that education and its benefits are to be 'delivered'. Fortunately those with a more creative approach to teaching and learning still have a voice, and the hope is that it will increasingly be heard.

Notes

¹When the project was launched, 'teaching and learning' was still the most familiar vocabulary, changing to 'learning and teaching' mainly following the Dearing Committee on *Higher Education in the learning society* (NCIHE, 1997).

²The Partnership Trust had for seven years (1989-95) conducted annual programmes of awards to successful innovators in higher education. Each award was sponsored by a major employer of graduates or some other body concerned with the quality of undergraduate education, in a subject area in which it had a particular interest. The winners of these cash awards were in a wide variety of disciplines and institutions, and ranged in seniority from department head to young lecturer. In 1996 the Trust agreed with the Economic and Social Research Council (ESRC) and its *Learning Society Programme*, and also the then Higher Education Quality Council, a research specification for a project on teaching and learning in higher education, and bids to run the project were invited to be made to the ESRC.

The specification set out the main purposes of the proposed project, which was conceived in two parts – a first phase (or year) to be concerned with the experiences of some successful innovators, and the second phase with 'institutional climates which further or inhibit innovation'. The focus was on undergraduates. At that stage of project planning the aim was to address the experience of innovators who had won Partnership Trust awards. The Trust, which had discontinued its awards programme, was to be involved in funding the first phase, but withdrew its funding before the project was launched. The Department for Education and Employment and the Higher Education Funding Council for England later joined the ESRC in funding the second phase. A research team based at the University

of Plymouth submitted the winning bid for the first phase, and was later confirmed as the team to carry out the second phase.

The aims of the project have therefore to be considered in two parts, each one of which was based on research directions and questions formulated by the ESRC's *Learning Society Programme*, into which the new project was integrated. At the outset and in practice these were addressed and interpreted by the research team, also within the context of an advisory group, chaired by the Director of *The Learning Society Programme*.

³The analysis presented here draws partly on a recent research proposal co-written with Melanie Walker, George Lueddeke and John Brennan.

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The project website (at <http://www.fae.plym.ac.uk/itlhe.html>) contains the following:

- *The experiences of innovators: A report of the first year* for a 'mini-conference' held on 24 June 1998. Also published on the Internet in *EducatiON-LINE* (see <http://www.leeds.ac.uk/educol>)
- *The languages of innovation: Listening to the higher education literature*, Working Paper 1, also published in *EducatiON-LINE*
- 'Innovation': *Questions of boundary*, Working Paper 2, also published in *EducatiON-LINE*
- *Innovations in teaching and learning in higher education; An annotated bibliography*, also published in *EducatiON-LINE*
- *Organisational culture and innovation in higher education: An annotated bibliography of organisational culture and related concepts of importance to investigating the place of innovation in higher education institutions*, also published in *EducatiON-LINE*
- *Aspects of distance learning and the use and impact of information technology*, a paper given at The Romanian Internet Learning Workshop, 2nd Annual Conference, 17-22 July 1998
- *Re-inventing innovation*, a keynote address given at the conference on 'Managing Learning Innovation: The Challenges of the Changing Curriculum', held at Lincoln University Campus, University of Lincolnshire and Humberside, 1-2 September 1998
- *Mechanisms for change: Thoughts from 'Innovations in teaching and learning in higher education'*, extracts from a short talk given to the Higher Education Quality and Employability Division (DfEE) conference on 'Educational Change within Higher Education', London, 2 December 1998
- *The challenges of innovation*, a talk given to 'The history 2000 conference (FDTL)', Bath Spa University College, 15 April 1999.

Innovations in Teaching and Learning in Higher Education

- Aspects of Distance Learning and the Use and Impact of Information Technology

Paper for: The Romanian Internet Learning Workshop, 2nd Annual Conference, 17 - 22 July 1998 in Kida, Ilieni, Romania
<http://oc1.itim-cj.ro/rilw/>

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The first phase of our 'Innovations' project involved visiting universities that primarily provide undergraduate courses to students based on the campus. In this context, it was considered that 'Distance Education' (DE) was the provision of courses that are designed to allow a student to study 'at a distance' from the institution. These courses were not common for undergraduate study (which was the main focus of our project), most universities concentrated their distance provision on post-graduate courses. The main philosophy behind DE, as illustrated by the Open University over the last 30 years, is to open access to higher education so that everyone has the opportunity to study, no matter what their age or personal circumstances. It soon became apparent that in most of the institutions we visited, which included these types of courses, the term more frequently used was 'Distance Learning' (DL) and this was often linked to 'Open Learning' (OL). DL seems to refer specifically to the teaching and learning element of DE rather than the context or curriculum, but this is not universal and is often used in a way that blurs the distinction. Having the word 'learning' completing the phrase infers design, approach and method. This links DL to other, now familiar phrases, that end with 'learning' including: flexible; open; student-centred; resource-based; independent; active and work-based. Definitions coincide and overlap, but here is an attempt at naming some general features that are associated with DL:

- Modular courses
- Privately funded by students or sponsored by an employer
- Part-time/flexible study
- Flexibility of entry requirements and levels of entry
- Diversity of subject range inside degree courses (student-choice)
- 'Independent', but not necessarily 'student-centred'
- Resource-based
- Limited face to face contact with tutor

Recently some (or all) of these elements have been entering the realms of mainstream higher education. Among the many possible reasons for this are that the student population in the U.K has doubled during the last ten years and changed with regard to student 'type' :

'Universities and higher education colleges educated 2.8 million students in 1996-97. Less than a quarter of these were from the group which used to be the mainstay of the old universities - young people studying full-time for a qualification. Of those pursuing a qualification, 64 per cent were mature students and 37 per cent were part-timers.' (DfEE, 1998, para 4.26)

This phenomenon of 'convergence' between DL and mainstream methods was noted by Kaye (1989, p.9) in reference to Smith & Kelly (1987) :

'It is suggested that, in general, methods of teaching in DE & mainstream on-campus education are beginning to converge, and that traditional teaching methods are in some instances being abandoned or modified in favour of a resource-based approach which no longer emphasises the teacher as the main source of knowledge'.

Apart from a change in the nature and quantity of students, there are many other reasons why this may be happening. Here are three suggestions which could be significant factors as to why mainstream university education appears to be incorporating some methodologies previously considered to be linked to DL methods:

- A shift in 'learning theory', particularly relating to adults which emphasises the role of the learner's experience, motivation and need to know (Knowles, 1990). 'Student-Centred' approaches are heavily linked with concepts of Open and Flexible Learning which stress notions of equal opportunity and choice.
- 'The coming together of telecommunications, television and computing is producing a media environment for distance education that is more than the sum of its component elements.' (Brown and Daguid, 1995, p.55). Advances in information technology are widening options and causing universities and lecturers to assess their teaching and think of other methods that address problem areas incorporating its use. Preparing students for industry is an additional necessity.
- Since the change of status in the early '90s from college or polytechnic to university, amalgamations have evolved resulting in split-site campuses for many universities. Therefore, geographical convenience and economic efficiency are prime considerations in this situation.

Our definition of 'innovation' (for the criteria of our Project), has meant that we have been investigating changes in teaching and learning which were designed with the intention of improvement on previous methods (expanded in Silver, Hannan & English, 1997). During our research, 'innovative' teaching practices did not, generally, fit neatly or consistently into definitions associated with the regularly used 'learning' expressions (mentioned above), including those related to DL. The point being that 'innovation' relevant to DL was not always found on a course designed for DE.

The Project

The research involved visiting and interviewing people (who are regarded as 'innovators') in 15 universities across the United Kingdom. The sample represented a geographic spread and an even mix of 'old' and 'new' universities. However, the most important aspect in choosing which institutions to visit was the identification of 'innovative' people who had some public recognition (in the form of funding or awards) regarding methods of teaching and learning. Interviewees included lecturers, professors, support service personnel (Teaching and Learning Advisers and Directors of DL or OL programmes) and departmental as well as institutional managers (Heads of Department, Programme Area Directors, Pro VCs) and researchers. A wide range of HE subject areas was covered. Some of these people were identified by recommendations from others (especially in response to an enquiry regarding DL), but also from recent papers and conferences.

The design of our research methodology involved gathering data of a qualitative nature based on face to face interviews, generally with individuals but sometimes involving two or three people as participants in an interview. There were also several telephone interviews recorded when this proved to be more convenient for our interviewees. Data included many relevant documents about courses, strategies or policies as well as papers written by participants that were given to us.

The 'Distance Learning' Evidence

Of the 15 institutions visited, data regarding DL was obtained from 9, this represented those which offered some DE, including pre- and post- degree courses, only 4 included some undergraduate courses at a distance (or modules within those courses). Just a few universities had invested in new designs of DE courses, which offered a different learning experience to the traditional text-based model. Despite the limited number of undergraduate courses being offered, it was notable that the concept of developing DE was currently under investigation or being encouraged by some universities. This was shown by the existence of a director, co-ordinator or adviser, often attached to an 'Educational Development' (or 'Teaching Support') Unit, whose title and brief included DL. Five of these people from different institutions

were interviewed and provided valuable information regarding attitudes and experience of staff as well as central management strategies.

It was particularly by talking to people who are involved in developing the use of learning technologies that it became apparent how OL and DL methodologies were beginning to be employed with campus-based students. Generally, these methods were still at an experimental stage of use and were being adjusted from year to year. In some of these cases the potential of the methodology for use in distance courses was being considered. From a total of 21 DL examples (projects, courses or modules), here are a few that illustrate different ways in which learning technologies are being used for DL, two of these involving students based on-site but learning at a distance:-

1. 'Open to Europe' - A Collaborative Erasmus Project.
2. 'Structure Based Drug Design' in a Virtual School of Molecular Science.
3. MANTCHI (Metropolitan Area Network Tutoring in Computer-Human Interaction)

1. 'Open to Europe'.

The project involved collaboration between 17 European universities, and included 11 sub-projects lasting one academic year. Second year undergraduate students from 50 departments took part and the assessment contributed to their degree. Students were arranged in teams of 4 and a pair of teams (from different universities) collaborated to decide on a project - relevant to their subject, and the way in which they were going to work together. Communication was primarily by using email but IRC (Internet Relay Chat) was also used. This was also the case with the organisation, although there were a couple of 'crucial' face to face meetings. The Web was used to present finished work.

Why?

It grew from a European Strategy of the University which already had links with 500 universities internationally. It was also as a result of the enthusiasm and dedication of the Project Manager who had committed support from the Director and managed to secure European funding as well as co-ordinating everyone. The aims included giving students a broad cultural experience and developing their self-confidence to learn as well as incorporating language and IT skills into their existing degree courses.

Reaction?

Perceptions are that students experienced frustration - due to lack of responses, different timescales and deadlines as well as cultural aspects affecting a reluctance to share work. But, because of all the problems, the outcome was of greater confidence and self-reliance - many of the students becoming more critical and questioning in lectures. Formal evaluation is not yet complete. Tutors had mixed feelings, some experienced 'political' problems, some became distracted with their own research, others were 'champions' and it was these projects that were the most successful.

2. 'Structure Based Drug Design' in a Virtual School of Molecular Science.

A course called 'Structure Based Drug Design', funded, designed and run in collaboration with 4 major pharmaceutical companies. It is run entirely on the Internet where the aim is to create an 'interactive learning community' which involves asynchronous communication, web-based software and simulation of lectures and molecular structure. The students are all post-graduate and in employment (it is hoped to add 'academically-based' students at a later date). Experts from the 4 collaborating companies contribute to the course in return for student places. The course consists of a modular design which students can complete over 1 or 2 years.

Why?

The 'innovator' is committed to developing ways in which the web can be used as an environment for collaboration and for promoting a new generation of tools. His background was in the pharmaceutical industry and the university welcomed this expertise and provided a position and support specifically to build in this area. The subject matter was in demand and funding was available from industry who became involved as collaborators.

Reaction?

This is a prototype. There are currently 21 students each working independently. Each student also has a mentor in their organisation. Conducting discussion between the students has been the least satisfying element of the design, it is not part of the assessment. The course was still at an early stage and outcomes were not yet available.

3. MANTCHI (Metropolitan Area Network Tutoring in Computer-Human Interaction)

This was a collaborative project involving 4 universities funded by SHEFC (Scottish Higher Education Funding Council). It is now at the end of the 2 year duration. It involved students and lecturers based at the universities which are part of the framework of high bandwidth telecommunication connections across all Scottish Institutions (known as MAN). The project has involved reciprocal and collaborative authoring of tutorial units which are exchanged via the internet. Each tutorial had a typical size of one week's work for the student (about 8 hours). This may consist of an exercise or a video-conference tutorial or give feedback on submitted student work. Sometimes students and teachers from different courses interacted. Students used the Internet to submit their work to the remote tutor.

Why?

The framework for such a collaboration was in place and needed to be explored. The investigators share an educational approach, influenced by the work of Laurillard (1993), envisaging a learning community in which the teacher supports the development of the student. They also believed that this design may allow the possibility of giving adequate personal feedback to large numbers of students. The project gives an opportunity of measuring the educational effectiveness of this type of tutorial delivery.

Reaction?

Evaluation is currently taking place. All the collaborators have written tutorials for each other and used those produced by others for their students. This has added to the interest in relation to how it has been for the tutors to use the material of others. It has also been suggested that teachers have the opportunity to learn from the expertise of their colleagues, so that this kind of collaborative teaching could be viewed as professional development. Student reaction is currently under investigation.

Why use the Internet and other IT solutions for teaching?

Interviewees involved in the three examples given above gave the following reasons:

- it changes the traditional student/teacher role putting responsibility on students to help themselves
- it improves the availability of specialist subjects to be studied
- it easily enables the contribution and use of 'experts'
- various sources of funding are available (internally and externally)
- students enjoy it
- it extends world views and allows cultural and language development
- students have opportunities to enable others
- world centres can be involved allowing the very latest scientific data to be shared
- it enhances collaborative opportunities
- it allows the use of a new generation of tools (eg. the virtual telescope)
- computer techniques help 'reflective' learning (rather than 'spontaneous' learning)

It can be argued that many of the comments made above can relate to other forms of teaching and learning that do not include new technology at all, but this has been the reaction of those that have experienced using it.

Reasons against using IT

From those that have tried using methods incorporating new learning technology:

- There are unequal levels of availability and skill regarding its use
- With reference to collaboration, there are different rules and regulations regarding student use of computers depending on university and country
- CMC (Computer-mediated Communication) does not work when students see each other regularly

From others:

- students have a lack of access to computers
- there is a lot of staff resistance

At this time, there is huge diversity regarding access and provision of 'networked' computers for both staff and students. This has obviously affected levels of skill and confidence in IT for those with limited experience. So, although the reasons against using learning technology for DL (or campus-based) students are few, they are very big!

The Institutional Aspect

The Enterprise in Higher Education programme, implemented in 1988 and extending over the following seven years acted as a catalyst for an increase in teaching and learning innovation. The funding and administration of this process affected the creation of 'Educational Development Units' (EDUs) which have been staffed by people with a brief to support and develop teaching and learning initiatives. Gosling (1998, p3), suggests that 'The growth of EDU's may however be a more direct response to the external pressures of the 'quality industry' which is requiring universities to demonstrate more explicitly than ever before that they are taking measures to improve the quality of teaching that students receive'. There is some variation in the functions of these units, but they often seem to operate as a 'go-between' liaising with both lecturers and central management, sometimes meeting with resistance on either side. EDU staff regarded their role as rather more than one of 'service', they often saw themselves as 'strategic' in their institution. The provision of funding for 'innovative' teaching projects has sometimes rested within these units and included funding for new DL courses. Information regarding new methodologies or university policy are also disseminated throughout the university from this point. People we have seen that are based in these units have contributed to our understanding of an institutional focus.

Regarding DL courses, generally, priority is being given to offering courses at Masters level (the popularity of the distance MBA is a good example) and also to pre-degree, vocational, diplomas and short courses. This is because there is strong demand for these types of courses and universities need to increase their student numbers and compete in the market place by trying to raise their own revenue. On this theme, some universities are looking at ways to develop a 'niche-market' (offering courses on specialist subjects that others do not offer) as a way of building a reputation for the university based on its subject strengths. It has also been suggested by some senior managers, that OL methodologies incorporated on-site might ease the burden of increased student numbers on staff releasing them for more small group or individual tutorials as well as their own research. This has been regarded as quite optimistic, especially at the beginning of a change in approach. Although many individual lecturers have put forward arguments regarding increased educational benefits to the students with OL (as well as increased potential employability), central management see a need for flexible provision as a way of responding to competition in local, national and global markets of students. The VC of De Montfort University recently interviewed by BBC2 for a documentary (BBC2, 1998) stated very clearly that flexible, twenty-four hour provision, must be made available soon to compete, in particular, with the U.S.A who are expanding their educational provision rapidly.

Distance Learning - the Future

During our research most reasons given in favour of offering courses involving DL would fit in with the need for 'flexible' provision and opening of access to non-traditional learners. One comment was made that DL could safeguard jobs of university staff (others feel threatened) - hinting that a shift towards DL in the future is possibly inevitable. On the contrary, a reason why DL should not be offered by universities is that it is often claimed - 'it probably wouldn't work with undergraduate students'. The experience of the OU experimenting with 18 - 21 year olds would endorse that remark. However, these types of students are now in the minority in HE in the U.K. Therefore, the argument for the development of DL opportunities is greater. In the recent government Green Paper (DfEE,(1998)), a commitment to the expansion of HE and the inclusion of more types of students by opening access is made. By the end of 1999 a new university will be launched called 'The University for Industry'(Ufi) which looks as if it will operate in very similar ways to The Open University:

'The Ufl will tell you what learning is available and offer advice if you need it, and provide you with a course that meets your needs, whether full-time, part-time, or through study at home, at work or at a local learning centre. For example, it could deliver a learning package on a CD-ROM to your home or send it by email, or contract with a college for an evening class, or broadcast an interactive TV programme, or provide a course over the radio or on the internet. Students will not need to be tied to one particular location'. (p. 18-19)

This confirms that there is some political pressure on universities to provide 'open' and 'flexible' courses.

New Information and Communication Technologies (NICT) (which are rapidly being replaced with even newer technologies as I write) are now affecting all educational establishments just as the introduction of other media throughout the century has changed the way things have been done. The difference between technologies in the past (books, T.V, tapes, videos etc.) and the ICT more recently available is the potential for interaction in two directions - interaction between people and between people and the technology. In 1989, at a conference entitled 'The Information Society - a challenge for educational policies?' (Eraut, 1991), 27 states endorsed the following aims in the development of NICT:

'to enhance the quality of teaching and learning within existing educational establishments; and
to make learning opportunities available to those who find difficulty on gaining access to normal provision through poverty, handicap or distance'. (p. 36)

It looks as if attempts are being made among universities in the UK to achieve these aims, subject, of course, to other priorities and the availability of finance.

To conclude, then, it is significant that a common way of using ICT is in collaborative educational enterprises; all three examples given earlier illustrate this in different ways. Speed and ease of interaction over vast distances may increase the potential of collaboration: between institutions and other 'external' agencies; between staff within and across disciplines and between students learning in groups. This process appears to be fraught with problems, but the possible breadth of educational benefits is exciting. It is this process that will be the subject of DL investigation next year.

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Change in Teaching and Learning at the UK Open University: *An exploration of the role of the Course Team*

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Abstract

This paper presents some preliminary findings of on-going research that is investigating the process of change in teaching and learning at the Open University in the UK (OU). The research study has a dual purpose, outcomes are contributing to a doctoral thesis and an ESRC funded project - 'Innovations in Teaching and Learning in Higher Education', which is currently examining institutional contexts for innovation at five universities including the OU.

The OU marked a cultural and political change in UK higher education when it was born thirty years ago. Its aim of widening access to less traditional students reflected a growing political will in favour of egalitarianism in education and it also acknowledged recent and rapid advances in broadcasting technology. It was recognised that the task of teaching needed to address the problems of a dispersed student population who would be learning at a distance. The aim was also to meet the needs of students who were studying for reasons of career advancement or personal enhancement in addition to those interested in subject scholarship. Recently, these needs have again been a major focus of attention in terms of 'lifelong learning'.

The main focus of the paper is about changes in teaching method - why and how they came about, were supported or inhibited and what the current status is. The study involves an in-depth look at two course teams, both in the final stages of course development. They provide specific examples in the discussion based on individual perspectives of the role of course teams, their influence and their relationship with other levels in the institution regarding teaching and learning. In discussing these interim findings, I will highlight ways in which course teams at the OU have met the challenge of technological change in distance education and identify aspects that other institutions, facing a similar challenge, would find of value.

Background

During the lifetime of the OU many developments have taken place externally and within the institution. There are now 100 more universities in the U.K than there were 30 years ago when the OU began and many now have modular courses, credit accumulation and part-time and mature students, as well as offering a greater diversity of course subject and type including some being delivered at a distance. The OU has become a mega-university (with over 160,000 students) and now has increasing competition globally and nationally. In order to remain competitive and sustain its reputation as an innovative institution at the forefront of adult educational provision, the OU has been actively and openly pursuing a strategy to develop technological academic advantage. To this end, planning and resources have been focused on utilising new information and communications technology and exploiting the knowledge media environment.

Alongside this strategy has been a drive from the centre to become more 'open' to more people. The administrative framework is faced with the prospect of implementing new course structures that are shorter and possibly at pre-degree level which will involve greater flexibility and additional complexity. The massive regional support network is also to be reviewed in the light of different student

needs arising from on-line courses. Management organisation has recently been re-arranged in order to meet these new challenges. The new organisational model that is emerging at the OU coincides with an observation by Phillippe de Woot that universities facing change can overcome difficulties by having strong leadership at every level 'to motivate and energise the actors in the system' (De Woot, 1996). It appears that the university is evolving into a different sort of organisation that will have stronger lines from the centre in the hope that this will ease institutional change.

Research Methodology

In order to investigate issues of change in teaching and learning at the OU, perceptions of individuals in varying roles (senior and middle managers as well as lecturers and support service staff) and positions have been sought. At this stage, 22 semi-structured individual interviews have been undertaken and a discussion group with four regional staff members have contributed to the empirical evidence. In addition, secondary data have been collected in the form of papers and documents from various parts of the OU.

In-depth studies of two course teams have begun and information collected so far informs the discussion in this paper. Both teams are at roughly the same stage of course development and will be presenting for the first time in February 2000. This 'timing' was a feature taken into consideration when they were selected to inform this research. Another shared characteristic of these two teams is that they both include a change in teaching methodology involving the introduction of new technology. One (Course Team A - CTA) involves an addition of CD-ROM material (arguably 'old' technology but new to this context) and the other (Course Team B - CTB) is entirely internet-based (using the 'latest' technology). Many other aspects of these two course teams are in contrast to each other including subject discipline, task or course type, membership composition and history so far. It is expected that a rich source of data will arise from studying these course teams during the later stages of development and the early stages of presentation. This will throw some light on questions about the nature of changes in teaching methodology being made; reasons why - the motivation, pressures or incentives and how change is being achieved - supporters and inhibitors of the process.

Participants were asked about institutional culture, roles, responsibilities and rewards, the nature of changes in teaching methodology, pressures for or against change and operational aspects of course creation and production as well as 'innovation' issues. Most interviews have been taped in order to check accuracy, but interview notes form the basis for analysis, which is on-going.

Cultural Context of Course Teams

Course teams have always been at the core of creativity and innovation at the OU. This is as a result of design and the careful construction of a vision (or mission) that formed the basis of a pervading institutional culture beginning with Walter Perry, the first OU Vice-Chancellor, and still shared today. A commitment to students, collaboration, democracy and innovation are central to the OU's culture and practice.

Perry explained the reasoning behind the set-up of Course Teams:

'From the beginning the Planning Committee was anxious to ensure that the responsibility for the nature, the content and the teaching method of each course offered by the university should be vested in the university as a whole. It should not be left to the whim of the individual department or the individual member of staff.'(Perry, 1976, p.83).

As a consequence professors were made aware on recruitment that they would not head a department, as it was intended that there would not be any, but would be a 'head' of their discipline. This was to avoid courses being created by academics for academic and scholarly life rather than for careers outside universities - which was thought, by Perry, to be at the root of what was wrong with conventional university teaching. He also felt that though a department was an efficient base for university research, this was not so for teaching. This is why the smallest academic unit was the Faculty - in the hope that administration and research would be inter-disciplinary. Course Teams were set up for teaching purposes - to bring together academics to create multi-disciplinary courses that would be 'balanced, logical and integrated'. Course Teams were intended to consist of academics, educational technologists and BBC production staff. A team would then have authority for content, nature, method and presentation of a course to be produced within a budget and by a deadline. 'Each Course Team is essentially a sub-committee of the Senate'. (p.84).

Departments do now exist, but many course teams (particularly those involved in foundation level courses) cross departmental boundaries. Teams also include a mix of staff - new and experienced, lecturer and dean, academic and non-academic, central and regional. The Course Chair is not directly in a hierarchical position of power but, nevertheless, is a powerful and influential person. Lecturers, as members of course teams (or sometimes the 'Chair'), do have avenues open to fulfil their innovative potential. Neil Costello undertook some research into 'Organisational Culture' at the OU in 1992 and found that:

'Even in the most hierarchically structured parts of the University access to senior managers is seen as a right which all employees can assert. In the main, rules are seen as principles on which to base decisions and not as completely fixed and immovable'. (Costello, 1992, p.5)

Costello identified three broad sub-cultures at the OU:

- 'creative areas' (essentially faculties and research centres and institutes)
- the regions
- the operations and administrative divisions.

Course teams lie in the 'creative areas' and Costello emphasises that within these teams 'power is based on expertise and line-staff distinctions are effectively non-existent' (p.6) Of the two teams involved in this research, one demonstrates this positively and the other, in a different faculty, does not. This would signify that there are also cultural differences between faculties within this area.

Conclusions from Costello's research highlight the need for an understanding of cultural background and the differing perspectives that exist in various corners in

order for organisational actors to manage effectively. Here he argues a need for cultural (and sub-cultural) understanding in the central management of an institution, but as Hannan and Silver (1999) have found - this understanding is also important for the cultivation and support of innovators:

'The position of the innovator depends considerably on the institutional culture, its declared and operational priorities, the reward structure for staff, the availability of resources and the assumptions about what is best for students and for the institution.' (p.29)

According to evidence from those interviewed so far, the OU has a very large and complex operational system with many fixed procedures (necessarily so for the production of printed and broadcast material with consistent quality). It has a reputation of being slow to respond and even slower to change and some interviewees thought that this was a constraint to potential innovation. Despite this 'conservatism' in the system, radical changes have occurred and are happening now.

Course Team Responsibility

The challenge that course teams face is to design a syllabus and present it in a way that is accessible to a broad range of people with varying experience and abilities, on a wider spectrum than universities have done in the past. This is the primary pedagogic issue, added to which is the aspect of distance and dispersed students which poses both methodological and practical problems. Adding to this challenge is the knowledge that a publicly stated aim at the outset declared that the OU be judged by its reputation for excellence in teaching quality:

'There can be no question of offering to students a makeshift project inferior in quality to other universities. That would defeat its whole purpose. Its status will be determined by the quality of its teaching' (quoted in MacArthur, 1974, p.6)

Over the last thirty years many other universities have created course teams to develop new courses, so what makes them particularly special at the OU? One reason is that course teams have consistently had as many members primarily concerned with technology and media as those who are more concerned with pedagogy and content. Many universities do not have resident educational technology experts, editors and publishers. The need for an integration of various teaching media justified the use of a course team approach from the early days of the OU (Riley, 1975). This mix of expertise is still required today and is now more complicated as videos, CD-ROMS and computer conferencing are added to the list of options in method and presentation.

Another, frequently mentioned (amongst interviewees) distinguishing factor is the rigorous scrutiny and 'openness' of every word produced by any of the course team members. They are challenged considerably by the collaborative process of course development, a feature of the OU that marked a profound change in the process of teaching at higher education level. A early report on course teams, by the Nuffield Foundation, made the point that 'a useful way of looking at course teams seems to be in terms of a move from the private to the public' (Squires, 1975, p.1). This was

explained with respect to other research that had shown how teaching in higher education was generally a private affair with little contact between lecturers. Teaching is a very important factor in promotion at the OU and the course team approach makes the teaching skills and creative ideas of lecturers very visible. All meetings are minuted, so ideas can be traced - minutes of a meeting can amount to 75 pages in length (Nicodemus, 1992). All written material is read by two or three others who give detailed feed back to the author for their next draft - in this way 'teaching' is exposed to academic peers during its development as well as on completion.

A long-standing lecturer, in one interview, explained to me that the OU made effective the use of correspondence materials by improving on previous quality and producing courses collaboratively in teams with rigorous external assessment and intensive peer review. It incorporated the fruits of educational research, explored various forms of presentation but best of all embedded it all into this huge regional network which formed the support system and made everything function. This is what it is now trying to do in cyberspace. The lecturer emphasised that the internet is not *just* a delivery mechanism. It is a means by which each student can have a personal tutor, available by email and one who is aware of all students' work patterns and progress (results of self-assessment exercises on the web are automatically sent to the tutor).

Course Teams as Groups

There have been very few studies about Course Teams in recent published research though one could relate research into learning and working in groups to this particular context. Educational research has tended to focus on implications for the *learner* in a group task situation and much of this consists of studies in school education. Recent interest in the field of management training has led to many studies that have resulted in the identification of *trainable* (or *learnable*) skills - communication and team skills being particularly relevant to groups.

The nature and function of groups has also interested psychologists and one of these is Donald Bligh (who has pursued this area within the context of Higher Education). In a book to be published next year he identifies the following factors which affect the functioning of a group: the motivation of group members; the task goals or objectives to be achieved; group norms (or 'rules'); group composition (characteristics of members); group size; group structure (roles and relationships between members); group history and experience; the physical group environment (Bligh, 2000). All these factors are relevant to the development of courses by teams at the OU and for that reason I think some of these useful starting point (at this very early stage) for the analysis of this process.

Motivation of Group Members

'The initiative for a new course team usually stems from an informal group of lecturers with a strong interest in a particular subject.' (Riley, 1975, p.2)

Twenty five years later this is still often the case and has proved to be successful with Course Team - B (CTB). One course team member suggested that at the OU successful innovation comes out of a collaborative culture which makes a huge

difference as people are not isolated. CTB evolved through talking to people about an idea for a new course and inspiring others to get involved. As a result experts offered their services through sheer enthusiasm in the hope that resources would follow.

The story of Course Team - A (CTA) is different and although motivation and collaboration were evident, each member had varying reasons for involvement and a mutual vision was lacking. This demonstrates the complexity of the course development process and highlights the need for other factors to be taken into consideration.

Another example of motivation shows how commitment to the OU's reputation of 'quality' made CTB determined to keep standards high and stand out in the crowd of a very variable World Wide Web - regarding quality. They wanted elegant and functional web pages (not 'silly cartoons' etc.), so they invented a new production system enabling web pages to be produced with ease and consistency of style.

The authors in CTB were all highly motivated to produce this course through interest and passion for the subject matter as well as a commitment to making computers and the use of the internet accessible to all those who wanted it. They also knew that there was a gap in the market for this provision. From experience of earlier projects it was felt that an important pedagogic use of computer networks was to link people for discussion and collaborative work. A paper, written for a conference by one of these authors, highlights the needs of a global network for education based on the experience of the Open University:

'Crucial to this new framework is an on-line environment with associated organisational support designed to foster a sense of community. It requires the development of an ethos of mutual support. It requires tools for checking agreement and mutual understanding. And most important of all, it requires training for students and staff in skills of collaborative learning on-line' (Alexander, 1997, p.10)

CTB have attempted to include these features. The importance of skills in co-operative learning and the cultivation of mutual trust and respect within learning groups were also highlighted in the conclusions of previous research carried out at Exeter University in the Computer Science department (English and Yazdani, 1999).

Group Composition (Size and Roles)

In 1975 a usual size was between 10 - 20 members, although some teams consisted of up to 50 members, particularly for a foundation course (Riley, 1975). This is less likely to be the case today as course teams are gradually getting smaller, though variation in their size is still a distinguishing factor. The composition varies considerably depending on the task and the way in which a project evolved. In general, the following roles exist:

- a Course Chair, appointed by the faculty, who takes overall academic responsibility
- a Course Manager who co-ordinates, administrates and negotiates

- a variable number of academics who are authors, readers or editors
- a variable number of multi-media support staff (including Academic Computing Services, BBC producers and Graphic Designers who can all have some creative input)
- a variable number of regional staff who contribute to the design of the support network and training issues
- a member of the Institute of Educational Technology (IET) advising on teaching strategy and mix of media, testing course materials and feeding back results of student surveys or other evaluative work
- Heads of Departments, Sub-Deans and Deans may also be members of course teams in a full or ex-officio capacity

The two course teams in this case study have very different compositions from each other. CTA had many changes of membership during development and included external collaboration for filming material as well as external commissioned subject experts contributing to written material. CTB began with a small membership which grew at the height of discussion (regarding media development and the support network) before production and then reverted back to the original small 'core' group for most of the meetings. One member of this team, when interviewed, observed that the team 'worked effectively because it was quite small'.

Small course teams (of about 6 academics) have evolved in the Centre for Modern Languages (which began in 1992). These allowed a different way of working together, to the extent that academics paired up to design content and method, allowing each more time to continue with their own research. Writing 'experts' were bought in to produce the text. This is just one example of how a departmental culture can affect change in the entrenched traditional methods of course development. The 'new' aspect of the Centre and the subject matter have necessitated innovation in both process of development and teaching methodology.

Group Task

Tasks of course teams vary extensively. At the moment, courses are modular and most are worth 30 or 60 credits - reflecting their size. In addition to the creation of new courses, other tasks would include a possible 're-write' or revised existing course that would be at a higher, more specialised, level and would have some existing structure and starting points. A core course team also operates to 'maintain' a course once presentation has got underway. Review usually takes place in the second year. Institutional strategy for the future involves the addition of many more shorter courses, these could be worth only 10 or 15 credits each. It will also involve a new task of modifying existing courses into smaller chunks.

Group Operation - Rules

During the first few years faculties evolved different course development processes within their teams. Arts and Social Sciences adopted a system of written units produced by individuals which carried the name of the author. Science and Maths faculties produced drafts that all members contributed to, so individuals were not named. As a result, production of courses in the Arts turned out to be a quicker

process than in the Sciences and this affected the level of staffing required - more academics were needed in the latter case. The Deans of faculties normally set the time schedule. The first task of a course team was to agree on a syllabus and then work was divided into portions (units) which were shared between individual members. There has been little change, other than a preliminary validation process that involves proposals and departmental as well as faculty board meetings. Once the new idea for a course has made it into the faculty 'Five Year Plan', then development can continue in earnest - but that stage can take up to a year, followed by a further year (or two or three) of designing and writing.

A Sub-Dean explained in interview that one of the most important words at the OU is 'but' usually coming after a very complimentary or encouraging statement. New recruits are given advice about the difficulty of reaching a consensus and that shouting is not effective - members should 'insinuate' their views! Teaching methods cannot be separated out of the overall curriculum design - the whole picture must be seen from the beginning of course development. This was one of the Sub-Dean's roles - to push for a comprehensive plan at the start of an idea.

In a different faculty, another Sub-Dean explained that in the old days it was an entirely bottom-up approach - the departmental Head would need to agree, but then the course team would have 'carte blanche' to develop their ideas and present them to the Faculty Board as a proposal. There were just a few criteria on which to judge them - equal opportunities, planning and resources. Recently, there is some thought given to what is needed and ideas are beginning to come from the top-down - there is not so much of the pursuance of personal interest (though in both course teams under study this aspect was very strong). The Dean and Sub-Deans are the interface between the Programme Boards and the University.

History and Experience of Group Members

Past experience of members can be both beneficial and detrimental to the functioning of the team. It is clearly beneficial to have subject experts and experienced writers and editors on the team. However, if team members have worked together before and had an unsatisfactory experience then this can hamper progress considerably. A member of the Institute of Educational Technology, Robert Nicodemus, produced many internal reports regarding Course Teams over a 25 year period. In one such report he explained in detail the experiences (emotional life) of a course team spanning 20 meetings over 2 years that he had observed. Here is an example of the way in which history can affect a course team from the beginning:

'Because this particular course was replacing one which was successful there were worries about the new one being as good or, hopefully better. [...] Their experiences in the old team had been difficult and they did not want the quality of the new course adversely affected by problems which seemed unresolved and unresolvable.' (Nicodemus, 1992, p.2)

An interviewee who had been working on course teams during the last 20 years at the OU suggested that : '...how effectively they work depends on the mixture of individuals, really, and their backgrounds and how effectively the chair of the team

does his bit in pulling everything together'. Though the interviewee had not experienced an unsuccessful team, some had been more efficient than others.

In the two course team case studies involved in this research, one illustrates the positive aspects of history and experience and the other reflects the difficulties. In future analysis this aspect will be explored further.

Conclusion

Many issues have arisen during this research and most of these are not peculiar to the OU. Interesting areas of tension are:

- teaching (course development) and research
- OU culture and Subject/Departmental culture
- latest technological innovation and equal access on courses
- change pushed from the Top Down and from the Bottom Up
- generic production systems / structures and academic freedom

The two courses in this study have contrasting features of subject culture, purpose, context, type, methodology, technology and history of development. They promise a rich and varied database on which to reach an understanding of the process of change in teaching and learning at the Open University which will be of value to other universities facing similar challenges.

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Supporting Students in Learning On-line: The Tutor's Perspective

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Abstract

This paper examines how a new internet-based technology course has changed the tutor's role of student support in a Distance Learning environment. It presents some preliminary findings of an on-going doctoral research project that is investigating the process of change in teaching and learning at the Open University in the UK. As part of the overall project, this particular case study has involved looking at how and why the web-based course was developed and is currently focussing on issues arising from the course presentation (or delivery) through the eyes of tutors working on-line.

Positive and problematic aspects of the on-line tutoring experience are reported incorporating the tutors' perceptions of the student learning experience. The bulk of this paper is devoted to reporting the tutors' perspectives of their recent on-line tutoring role. The brief discussion attempts to highlight areas of consideration in future development of tutor training and support in an on-line environment.

Introduction

Why is it important to investigate the tutor's experience of teaching or 'supporting students' on an internet-based course? It could be argued that computer networks need new forms of teaching and learning which create a basis for conceptualising and implementing changes in education (Harasim et al., 1995). But, it is not the development of an educational paradigm for the twenty first century that is the purpose for this study. In this particular context, the need to gain tutors' perspectives follows on from a study of the development of the course based on interviews and documentation provided by the course team. The course development case study was designed to enable an in-depth look at the process of change in teaching and learning at the OU. Fullan (1991) defined a very simple overview of the change process - initiation, implementation, continuation and outcome. This part of the research focuses on the 'implementation' stage of a change - which is the presentation of a new internet-based course. Fullan (1999) also argues that theories of education and theories of change need each other - the first involves a pedagogical model or approach which should be accompanied by a strategy to guide and support the implementation. The purpose of this paper is to explore, at a very early stage in the course presentation, how far the support strategies employed are working as the course team expected.

The Course

The course methodology, content and support strategy were developed simultaneously in a relatively short space of time. It is at foundation undergraduate level and aims to enable students to 'feel comfortable' with using computers and the internet. It also teaches the history of the development of the personal computer, various study skills (group learning, information discrimination - 'clear thinking', effective writing etc..) and IT skills including the building of web pages. The pedagogy behind the course design involves an emphasis on 'active learning' - the nature of the course subject matter being

integrated into the course activities ('learning by doing'), 'group learning' involving a social constructivist paradigm of students assisting each other and themselves in the learning process and the introduction of the subject in the form of narrative - a method of engaging the students with the course content. The course content is contained in a web site which reveals modules a few weeks before the scheduled time for study - pacing the students through their work. Resources are linked to the web-site requiring an on-line study session. On-line group activities are synchronised with the course material and assignments. Contact between student and tutor is mainly via email and asynchronous computer conferencing. The course was presented as a pilot study in 1999 with 900 students, this year over 9,000 students were registered on the course which began in February 2000 and finishes in October.

The Role of the Tutor

The role of the tutor has been revised, to some extent, from traditionally presented OU courses and customised to fit the needs of students studying this course. In particular, most of the course tutoring happens in an on-line environment but there is one important face-to-face meeting between the tutor and the students which is scheduled before the course starts. This introductory tutorial gives an opportunity for students to meet each other and the tutor as well as to discuss students' expectations and fears and guide and encourage students with regard to the course preparation activities. One other meeting is suggested half way through the course to discuss future course choices with students wishing to continue with their study. A large part of the tutor's role is to facilitate discussion and group activities on-line. Using the First Class conferencing software each tutor has their own tutor group, usually between 15 and 20 students. The tutors are guided by regional staff with suggested activities and schedules as well as giving information that may help particular students. Tutor guides arrive electronically every two weeks reminding the tutor of what is required in the following fortnight. In addition, there are four assignments spread across the nine months of the course and tutors are expected to assess these and give detailed feedback to students. Assignments are sent to a web-site, collected by the tutor and marked using an electronic marking tool before being sent back. There are usually several files including HTML and text files that are zipped together from each student. There is also a counselling element to the role which widens the tutor's role - much like a teacher in a classroom - offering encouragement and strategies to get through personal difficulties which are affecting the student's study and giving career advice. The tutor is supported with video, text, on-line and face-to-face training as well as the provision of a mentor, staff tutor and senior counsellor who are available for help and advice. Marked assignments are also regularly monitored and feedback is formally and regularly given to the tutor on their teaching quality.

The Method of Research

Tutors are typically working full-time in business or education and are spread over a wide geographic area, their work for the OU is often based at home and conducted in their 'spare' time. There are 72 tutors in the Southern region of the UK, (13 regions in total), I am one of them and am therefore researching as part of the phenomenon under observation. The research approach is qualitative and ethnographic. Therefore, the aim of this research is not to search for an 'objective' truth but to advance understanding with 'rigorous subjectivity' (Wolcott,1994) involving accurate recording and writing. The

benefit of being in such a similar position to the participants enables the researcher to 'negotiate access, develop rapport, trust and friendship, sociability, inclusion, identification with the others involved, sensitivity to their concerns, and ability to appreciate their feelings as well as cognitive orientations' (Woods, 1996, p.61).

Aspects of negotiating access, feeling included, having some understanding and sensitivity were all important elements in carrying out this small study. An extra opportunity to collect data arose just before the start of this research - a tutor's training day in early May 2000 which included a discussion about the tutor's experience and examples of good practice. There were 24 tutors at the meeting and some of the conclusions will be referred to later. Following authorisation from a senior staff tutor, 62 tutors were contacted successfully with a brief email (and an attached ethics protocol) requesting their contribution and containing the following questions -

About tutoring on-line with T171 -

1. How do you feel about tutoring on this course (at this mid stage - May, 2000)?
2. What are the positive aspects?
3. What are the problems or the difficulties?
4. Has the tutoring task been as you expected?
5. i) Do you think that the tutoring aspect of the student support design could be more effective?
ii) If so how?
6. i) Roughly about how much time do you spend working on this course?
ii) Could you give an idea of about how much of that time is spent interacting with students?
7. Have you tutored DE students in a more traditional manner before? If so, how do you think on-line tutoring compares?

About the students -

1. How many students are there in your group?
2. How many students have dropped out so far, if any? Can you explain why?
3. Generally, how do you think the students are responding to the course?

And finally - ****Any other burning issues about on-line tutoring with T171?**

An offer of a phone call was also made on the email to give the tutor an alternative way in which to respond. Tutors were asked to respond within a week.

Data Outcomes

Responses were received from 26 of the 62 tutors (42%) that were emailed with questions - mostly within the week. This number included four telephone interviews based on the email questions. Considering the 'openness' of the questions and the demand on the tutor's time, this is thought to be a good response rate and could reflect a strong interest and motivation of the tutors, and perhaps, my own participation in the tutoring process. This does not mean that the 58% of tutors that did not respond were less motivated or interested as it is likely that the short time period given in could have inhibited the response. Answers to the first four questions often overlapped and these

have been grouped into roughly positive and negative comments with reference to the following -

- course design - method of delivery and support strategy
- course material
- communication - email and conferencing
- students

There were a few general remarks given about the overall experience, particularly in response to the first question regarding feelings about the course. It should be noted that one contributor gave several responses and therefore the percentages given pertain to the frequency in which a particular comment was made - meaning that making comparisons between percentages is not the intention. On the positive side, 12 tutors (46%) said that they were enjoying the course, felt excited about the innovative nature of the course or felt generally positive about the course and students. Two tutors commented that the flexibility of their tutoring work was good. There were only 6 tutors (23%) who thought that the tutoring role was 'as expected', most of these had some prior experience of this kind of tutoring. The amount of time needed to fulfil the tutoring role (and familiarise themselves with the course material) was greater than expected and mentioned by 9 tutors (35%). This may be connected to the issue of a new course and a new tutor role - 3 tutors (12%) expressed a lack of confidence with the tutoring. Two tutors suggested that more accurate information about the expectations of the workload would have been helpful at the beginning. Connected to this remark, 4 tutors (15%) felt underpaid for the job.

- Course design - method of delivery and support strategy

The on-line design of the course was applauded by two tutors. One felt that the traditional form of tutoring a Distance Education course was better. However, 7 tutors (27%) felt that more of a mixture of methods for interacting with the students would have been better including face-to-face, phone and on-line conferencing.

Supportive information for the tutors received many comments. Ten tutors (38%) felt that there was an information overload - too much information to deal with. The way the information was presented to the tutors was also thought to be in need of rationalisation - consistent places and sources, ten tutors (38%) also mentioned this. A suggestion of a web site for tutors which could be made available containing all the support material and guides was made by 4 tutors (15%). Two tutors also mentioned that having tutor guides sent fortnightly throughout the course was not as helpful as having everything available at the start of the course - so that forward planning could take place. From a similar point of view two tutors felt that it was a problem that the course material was only revealed in sections throughout the course duration and not available 'up front' either.

The most frequently mentioned aspect of the course design was the electronic marking tool - 14 tutors (54%) made comments, only one of whom preferred this system of marking assignments. All the other comments expressed having problems with this system (there were several software bugs initially) - two actually used the word 'nightmare!'. The unreliability of the marking software was also a subject under

discussion at the May tutor meeting and several suggestions of different ways of 'working round' the software tool were made by tutors.

Eight tutors (31%) reported having technical problems with hardware and software and seven (27%) specifically mentioned difficulty in setting up the First Class conferencing software. Connected to this aspect only one felt that there was not enough technical support available on the course. It should be noted that there is a Helpdesk contactable by phone or email available 7 days a week between 09:00 and 22:30 daily as well as several First Class conferences devoted to student and tutor queries.

Other remarks about the course design included one about the pedagogy - they felt that the students were split into small groups for activities too soon in the course - before they had the opportunity to 'gel' as a whole group. One tutor felt that receiving on-line support from other tutors, via the conferencing, was helpful but another was unsure who to approach for help. One tutor was glad to feel valued by the senior staff.

- Course Material

There were very few comments, overall, about the course material. Two tutors thought that the course material was interesting. One thought that the focus on study skills and reflection was a particular good aspect of the material, but one thought that the number of different skills being developed at the same time meant that the students were on a very steep learning curve at the start of the course. Two tutors referred to the complexity of the assignments which were felt to be very challenging for students who were just entering the world of higher education. Two tutors also mentioned students' difficulty with the 'clear thinking' skills part of the course - reflecting the academic requirement.

- Communication - email and conferencing

This subject matter was often raised by the respondents. Positive remarks were received by 9 tutors (35%), 5 of whom felt that the electronic communication on this course was better than with other methods because it was easier to get to know the students. Three tutors felt that communication was easier to keep in regular contact with students and also to have time to respond and two of these suggested that the group conference was a convenient way to talk to the whole group. One tutor arranged a real-time chat with her students and thought this was a particularly helpful activity - more so than the asynchronous method of communication.

Six tutors (23%) had some kind of problems with this form of communication. Three felt that the tutor conference was an artificial environment and there was not enough feedback to know how the words are being received - they suggested that face-to-face was much better. One other felt a sense of isolation and that they were not really 'getting through' to the students. Another tutor felt that relationships were more difficult to make by email. Many tutors at the May tutor meeting expressed a need for more face-to-face meetings - both for their own satisfaction in helping students and a perceived student wish. Some students had made their own arrangements to meet each other during the course and these meetings were considered to be very helpful.

Three tutors expressed difficulty in 'mediating a conference'. It is unclear whether this refers to the type of communication or the expected role but perhaps it incorporates both

aspects. One tutor made the comment that the nature of this course made him feel 'more responsible' than in a more traditional teaching situation.

Communication was also mentioned with regard to the students' reaction. Two tutors felt that some students make 'conferencing' work for them and are rewarded by the amount of effort put in whereas others are reluctant to participate. One tutor felt that although the student reaction to the group conference was mainly positive, all had felt some frustration with the way the course was organised. One tutor expressed an unusual view that the on-line system, compared with telephone and correspondence, made students less self-reliant and therefore less academic because it was so easy to ask a question (much less embarrassing than using the phone) rather than find something out for themselves. Related to this is one other tutor's remark that students often expect him to be available on-line all the time.

In response to the question about how much time tutors were spending tutoring or interacting with the students - many could not even guess at a figure, others gave quite detailed answers. A total of 18 tutors gave some kind of a number for weekly hours worked - this ranged from 2 to 20 hours, but the upper range included the weeks when marking assignments. A figure given for how much of that time was spent interacting with students was attempted by seven tutors and ranged between half an hour and 5 hours a week. Whether the marking role of the tutor was included or not is unclear, half the tutors gave some kind of a range, 13 were ranging from 5 hours and above and 5 were in the 2 - 4 hour range.

- Students

Many tutors responded to the question regarding the most positive aspects of this course in terms of their students. In all, 13 tutors (50%) said that the 'best bit' of tutoring was -

- Helping students to learn, spreading enthusiasm and knowledge of IT (5 tutors)
- The friendship, fun, commitment and enthusiasm of the students (7 tutors)

With regard to difficulties with tutoring the students -

8 tutors (31%) felt that it was difficult to coax and encourage students to participate in non-assessed activities, three others suggested difficulties of student participation in group work.

Five tutors (19%) commented that they thought their students needed lots of 'hand-holding' and counselling in the course - sometimes more so than subject help. One other mentioned that their students needed lots of help in the initial stages.

One tutor felt that it was hard to meet the needs of a group of students with such mixed ability.

In response to the questions at the end of the email questionnaire about the students - nine tutors (35%) felt that the students, in general, were responding well to the course and eleven (42%) suggested that the students' response varied. Two of these felt that some students were having difficulty with the amount of time required to do the course and one tutor felt that there was some initial resistance to group work.

Tutors had an average group of 20 students at the course start (in February) which has dropped to 14 students - the average size of a group in May 2000. This means that an average number of 6 students have dropped out from each tutor group (30%). Most tutors could give reasons for their students dropping out but not all of them, so the figures below do not account for all the students (numbers are shown in brackets). The reasons given (in descending order) are -

- Time problems - related to changing job commitments (34)
- Never started the course (21)
- Personal reasons - family demands, illness etc (19)
- Course problems (11)
- Technical problems (9)
- Lost contact (8)
- Transferred to another region (2)

Other questions

With regard to suggested improvements to the support design or comparison with other Distance Education courses - only a few responses were given. Many 'suggested improvements' were already made in response to other questions - especially on the subject of the electronic marking tool, the quantity and organisation of support information given to tutors and the intermittent exposure of course material and tutor guides. One tutor felt that the conferencing area could be simplified - there were just too many conferences.

Discussion

This research study took place only a few months after the start of the course in February 2000. Since the arrival of the data there has been only a short time available to digest and analyse the information. Therefore the discussion of the outcomes is tentative and brief.

The most significant issues arising from the data are -

- A heavy workload and greater amount of time is required from the tutor to fulfil all aspects of their role of which the nature of communication/ conferencing moderation plays a large part.
- The amount of information and problems with the organisation of tutor guidance material
- The unreliability of the tutor marking tool software
- Skills involved in using the computer conferencing system and supporting students in their learning are closely linked and both are required.
- On-line tutoring appears to facilitate a closer relationship between tutor and student and can be rewarding for many, but for others a greater isolation can be experienced.
- A greater variety of opportunity for interaction between students and tutors such as the addition of face-to-face meetings may be helpful in supporting students.

Many of the problems expressed in the data outcomes will come as no surprise to members of the course team. One staff tutor, with particular responsibility in aspects of

student support explained, during a recent telephone interview, that concerns during development were that the -

- tutors may not get paid enough (due to the potential heavy work load)
- students who were complete beginners would have a lot to take on board and may have difficulties (technical and pedagogic aspects)
- the inherent limitations of the technology - generally, and
- the specific reliability of the marking tool

As can be seen from the reported tutor experiences, these concerns would seem to have been partly justified and under continual review by the course team. In addressing these issues, it is necessary for the team to negotiate with various parts of the OU service and administrative systems who are now involved (partly due to the large number of students on the course). This means that detailed control of some design aspects is less possible, though development and changes are still taking place.

The Open University has a complex administrative support infrastructure which has been developed over thirty years. It does an excellent job of supporting conventional, print based supported distance learning materials, running to the standard academic schedules which most of their courses relate to. A web based educational innovation, on the scale of T171, has inevitably challenged the system. This means that it is not just the students, the tutors and the course team that are having to adapt - the entire organisation is learning and changing to improve its support for teaching and learning.

In addition to the above issues, possible ways in which the tutors could be trained was often under discussion. In preparation for the first presentation, tutors had two face-to-face training meetings, a video, printed guidance materials and on-line training for the First Class conferencing system and marking tool. One main issue highlighted above with regard to the tutors' comments refers to the organisation of tutor guidance material. Tutor guides are sent to tutors fortnightly partly because it was felt necessary to control the scheduling of tutor group conferencing activities in parallel with the staggered revealing of the web-site material - as both are integrated. The course team heavily debated this design and it was felt that two good reasons for doing it were:

- because of the dynamic nature of the delivery medium and the subject;
- because of the importance of building confidence in students which, from experience, could be helped by ensuring students worked on the same area of the course material at roughly the same time. Indeed, students would not easily be able to participate in group activities unless this was the case.

A drawback to this design is that it limits flexibility of study (a traditional benefit to distance education courses) and because of this frustrates some tutors and students.

An email questionnaire survey of problems experienced in virtual learning environments conducted in 1999 was responded to by 42 people (learners, instructors/ tutors and observers) from Europe, America, Australia and South Africa. A majority of these respondents described problems 'connected with the support and guidance of the learners'. A conclusion is that 'instructors must possess knowledge of content as well as didactical and technical knowledge, which enables them to develop virtual learning environments and support learners using them' (Nistor, 1999).

The OU have also undertaken several evaluative surveys of tutors and students on this course during the pilot presentation and the current one. Interim findings at the same time as this, last year, showed similar issues arising from the feedback of 24 tutors. Interestingly, the average time spent on tutoring per week was very close to this year's outcomes - 2 to 21 hours. Software difficulties and lack of participation in group activities were also mentioned. However, several changes in the course design have taken place since then - in particular, greater preparation time and activities are given to the students prior to the course start, the video for tutor training has been added and some of the course material has been cut - easing some of the early workload for students. Technical changes associated with the web-site and conferencing systems were also made to accommodate the scaling up from 900 to 9000 students. The data from this research regarding students dropping out show an average of 30% which has reduced from a figure of around 50% at the same time last year. This illustrates that some of the adjustments made to the course design have had the desired effect.

Conclusion

Supporting students on-line is very much a new form of teaching, as learning on-line is for students. The pedagogy and implementation strategy on this course have already been through several stages of evolution and are still visibly evolving. 'The most important element in producing effective on-line learning, in my view, is that of the tutor' (p. 1, Prendergast, 2000) - this is becoming an established understanding. The chair of this course, Martin Weller, is also acutely aware of this situation '...both for those involved in the staff development process and tutors themselves, there are a new set of skills to learn and working practices to adopt' (p.11, Mason & Weller, 2000). A member of staff from the OU Business School has just published a book on the subject 'E-moderating: the key to teaching and learning online' (Salmon, 2000). In the chapter about training she explains that heavy investment is needed in staff development. The evidence presented in this research gives weight to the already identified need for further attention and investment in the training of on-line tutors, but it also highlights the importance of course design and the way in which integration of student support is organised.

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