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MICROTUTORING

in

HIGHER EDUCATION

the development and evaluation

of a programme of skills

by Malcolm Shaw B.Sc.

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ABSTRACT

The prime concern of the study is with the development and evaluation of a short in-service course suitable for teachers in Higher Education. The aim of the course is to introduce and allow tutors to practice the pedagogic skills relevant to encounters with students engaged in independent and individualised modes of teaching and learning such as assignments, projects, contract learning, practical work and research.

The study is firmly grounded in principles derived from thorough reviews of staff development, theories of instruction, and microencounter theory and techniques. In exploring this novel area of study ,the new generic term, microtutoring, is defined. The research approach is firmly based in the descriptive, case study, course evaluation tradition with some experimental research integrated within the overall design.

A detailed description is given of the development of observable skills and the design of instruments for their detection and measurement. The clustering of skills into the meaningful and highly relevant dimensions of structure, directness, centredness, control, cognitive level and appropriateness is described. A full account is given of the formative evaluation of the course and the data and results derived from summative evaluation are processed and discussed. Further development and research in relation to both course and skills is identified and prioritised.

Experimental results suggest that it is possible to cause significant changes to the tutorial skills, dimensions and style of a tutor in a predetermined direction. It also seems that these changes are independent of the extent of prior teaching experience possessed by the tutor.

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CHAPTER 1

Introduction

CHAPTER 1 - INTRODUCTION

This study is concerned with the design, development and evaluation of a course on tutorial skills for lecturers in Polytechnics and Universities. The study grew out of a number of interrelated factors which were of concern to the author at the time of its conception and which are discussed in the thesis.

The research strategies adopted in the study are located mainly within the descriptive - developmental - evaluative paradigm of educational research.

This chapter describes the background to the research, its methodological nature, the broad purpose of the study, its specific objectives and the general pattern and structure of the thesis.

1.1 Background

In the early 80's much concern was being expressed regarding the completion rates of students undertaking postgraduate study leading to the award of research degrees. The concern had been prompted largely by the results stimulated by the Swinnerton-Dyer Working Party, which had been set up in 1979 by the Advisory Board for the Research Councils. The Working Party recommended that the Research Councils should provide statistics relating to the submission rates of research students falling within their remit. The Social Science Research Council found that, of the 1973 cohort, 40% had completed by 1980. The Science and Engineering Research Council found that, of their 1974 cohort, 57% had completed by 1980. The comparable figures for the 1979 cohort's achievement by 1983 were 25% (ESCR 1984) and 48% (SERC 1984). The figures are not directly comparable since the engagement periods are different and the 1979 figures

relate to submission rates not completion rates. However it should be borne in mind that SERC and SSRC students are relatively favoured in that they have attracted economic support, whereas many struggling part-time, self-financing research students are omitted from their survey. The DES produced figures that showed an Arts research student completion rate of about 55%, but over a 10year engagement period. A fuller treatment of this subject can be found in Rudd(1985), who concludes that ' the percentage of entrants to postgraduate study who do not successfully complete their studies is high ' p.11. To this might well be added that many who do reach completion take an inordinate amount of time. Similar results and conclusions have been found in Australia and are reported by Moses (1985).

Rudd classified the factors causing failure or slowness into four categories with a number of items within each. The categories are summarised in figure 1.1. Whilst teaching and supervision is shown as a discrete category, its influence would seem pervasive in all other categories to a greater or lesser extent. The concern for supervision as a major contributory factor was also borne out by a number of publications emerging at that time, see for example Christopherson(1982), ESRC(1984a), which gave general advice on good supervisory practice. Much of the advice given in these and other references quoted above   , whilst seeming extremely valid, is concerned with essentially global policy, administrative or procedural macro-skills. A typical example is shown in Figure 1.2.

An initial search failed to discover any literature or research related to the within-encounter skills of the supervisor – the microskills of research supervision. This seemed a promising area for research and was very much in sympathy both with the author's

1. The qualities of the student: previous studies & experience

                                                    boredom,disenchantment,laziness

                                                    motivation

2. Personal & individual problems: injury and illness

                                                    marital

                                                    employment interference

                                                    loneliness

                                                    finance

                                                    employment prospects

3. Research problems :   early decisions

                                                    university choice

                                                    topic choice

                                                    cross-disciplinary

                                                    lack of results

                                                    third party risks

                                                    writing up

                                                    intellectual isolation

4. Supervision :   overall planning

                                                    structure

                                                    closeness

                                                    competence

                                                    supervisor absence

                                                    relationships

                                                    neglect

                                                    quality of teaching

FIGURE 1.1: FACTORS CONTRIBUTING TO FAILURE-A SUMMARY OF RUDD(1985)

We have discussed some of the practices which we think if generally adopted would lead to many more students completing their PhD in three years. We end with a check list, in question form, which brings out the main points we have tried to make.

1. Is there a departmental document available to students and supervisors, laying out the department's view on good supervisory practice?

2. What steps are taken to try and make a good match between a supervisor and the prospective student?

3. Is the student given a reading guide for the summer vacation after graduation?

4. Does the student present a report in the first year which is assessed by people other than the supervisor?

5. Does the student see the supervisor often enough?

6. Are there regular occasions when the student's progress and background knowledge of the subject are both assessed?

7. Is the first year assessment procedure seen as satisfactory by both supervisor and student?

8. Are there occasions when the student has to make a public presentation and are these presentations satisfactory?

9. How is the topic of research refined in the first year?

10. When is a long term programme of research laid out and has a critical path been defined?

11. Is there a point where the supervisor checks the student's record-keeping to see whether it is systematic?

12. Is it clear by half-way into the second year that it is possible to finish the project in the three years?

13. Does the student get a mock viva between six and twelve months before he is due to submit?

FIGURE 1.2: A CHECKLIST ON GOOD SUPERVISORY PRACTICE

(Christopherson 1982)

responsibilities for staff development within a large Polytechnic, his particular involvement in the creation of an in-service staff development programme and the increasing concern for Research within the Polytechnics, as this sector of Higher Education continued to mature. This area of study also was seen to represent a natural extension of much of the practical microencounter work that the author had introduced in the contexts of microteaching with pre-service and in-service teachers and undergraduate paramedical courses(see Fieldhouse and Shaw 1978)

1.2 The General Purpose of the Study

As indicated above, the general area of location of the study was the microskills of research supervision. This was further clarified and made more explicit by the identification of the general purpose of the study as :

the development of a short course for the in-service training of the microskills of research supervision (later identified by the new term 'microtutoring' as explained in Ch.4.)

This general purpose was considered to include a number of discrete stages in its realisation: the identification and definition of the microskills within the encounter, the selection of a number of pertinent skills, the development and evaluation of the short course to train the selected skills, the identification of factors relevant to the implementation of such courses, the interpetation of the results and evaluative data in the context of the principles and objectives underpinning both the course and this study.

In order to explore and extend these strategies further it was considered essential to attempt to locate the study as accurately as possible within the spectrum of Educational research modes.This

was to allow the appropriate application of research methodology and techniques throughout the various facets of the study.

1.3 The nature of the Study

Many sources identify an essentially bi-partite nature to possible approaches to research in Education. For example, Snelbecker (1974) draws a distinction between research and development, which is defined as 'the systematic use of scientific knowledge directed toward the production of materials, devices, systems or methods, including design and development of prototypes and processes' p167. Knapper (1980) contrasts descriptive and experimental research. Cohen and Manion (1985) prefer to make an initial distinction between normative and interpretive research, but also allow the descriptive-experimental dimension to emerge later. Borg (1981) also contrasts descriptive and experimental research but then describes a research and development cycle for 'the development and evaluation of educational products'.Slavin (1984) chooses to draw a distinction between experimental and non-experimental research. All these sources are, in effect, drawing a distinction between methods involving the careful control and manipulation of variables with proper experimental rigour and methods that do not have or cannot have such control.

A summary of these sources and their subdivisions within the two broad categories is included at figure 1.3. It is important to realise that the categories are not wholly discrete and mutually exclusive. For example, the case study technique can itself subsume many other research methods and techniques(experimental,observation and evaluation) within its overall design and realisation.

SNELBECKER 1974	Research		
	Development		
BORG 198-I	Experimental	True experimental	
		Quasi—experimental	Research &
		Single—subject	Development
	Correlation	Relationship	
		Prediction	
	Descriptive	Survey	Evaluation
		Observation—self report	
		direct	
KNAPPER 1980	Experimental	True experimental	
		Quasi—experimental	
		Correlation designs	
	Descriptive	Informal observation	
		Testimony	
		Case study	
SLAVIN 1984	Experimental	Comparison	
		Single case	
	Non—experimental	Correlation	
		Descriptive— survey	
		assessment	
		evaluation	
		ethnography	
		historical	
COHEN AND MANION 1985	Experimental	Pre—experimental	
		True experimental	
		Quasi—experimental	
	Descriptive	Historical	
		Developmental	
		Survey	
		Case study	
		Correlation	
		Ex post facto	
		Action research	
		Ethnogenic	

FIGURE 1.3: CLASSIFICATIONS OF RESEARCH METHODS IN EDUCATION

Borg describes his general Research and Development category as 'being used to develop and evaluate educational products' p.221. It was certainly one of the identified purposes of this study to create an educational product. So a concern for such an R&D cycle, with an emphasis on evaluation and observation, seemed appropriate. This was seen to be broadly in sympathy with the Descriptive Case study categories of Cohen and Manion and of Knapper. This was also seen to locate within Slavin's Non-experimental Descriptive category, with its coverage of assessment and evaluation. Such a classification of this study was considered- sufficient, at this stage, to allow valid guidance to be obtained from the literature for the further development of strategies, procedures and methods.

It was necessary however to give some consideration to one further critical issue - the extent to which this study was able to locate within the Experimental research domain. In this regard, it was decided that a strong pre-test, post-test, control group design was not feasible, for a number of reasons;

a. only a one version treatment of the course was envisaged in this new area of study,

b. members should not have to forego the course to act as control,

c. the developmental nature of the study implied a less constrained format to allow investigation of process and formative matters,

d. it was necessary to balance the needs of the course members with the requirements of the research study.

As a result the decision was taken to include a pre-test, post-test pre-experimental design within the overall R&D format. It was thought that this could be integrated effectively and sensitively without causing any undue distortion to the content and mode of delivery of the course.

1.4 Specific Objectives and Hypotheses for the Study

Since the study was seen to have both experimental and descriptive emphases, it seemed appropriate to distinguish between them as suggested by Borg (1981). This involved the statement of hypotheses for the experimental elements and the expression of objectives for those aspects of the study that are essentially descriptive in nature.

Descriptive Research Objectives

O.1. To undertake and describe the development, from existing literature and research sources, of a set of microskills applicable to encounters between supervisor and research student.

O.2. To describe the development, with reference to generally accepted good practice, of a range of instruments for the observation and measurement of such identified skills.

O.3. To describe the development of a short course for the training of these skills based on the application of microteaching principles and techniques.

O.4. To evaluate the short course both formatively and summatively with particular reference to salient features such as ;
course content, course strategies, course acceptability, course effectiveness, course relevance, course efficiency, tutor role, tutor effectiveness, student attitudes, and to present the outcomes of the evaluative processes.

O.5. To make observations and present conclusions from the evaluative processes regarding the appropriateness of the principles underpinning the course and curriculum development.

O.6. To make observations and present conclusions from the evaluative process regarding the relevance and acceptability of the skills of research supervision implemented through the course.

O.7. To make observations regarding differential effects of skill acquisition related, for example, to; subject discipline of supervisor, experience of supervisor, student characteristics.

O.8. To make proposals for the further development of the skills of research supervision and of the course.

O.9. To make suggestions for further descriptive and experimental research related to this area of study.

Experimental Research Hypothesis

H.1. Selected intraencounter, pedagogic skills of the research supervisor can be influenced, in a predetermined way, through the medium of a short in-service course utilising modified microteaching techniques.

1.5 The Structure of the Study

An attempt was made at an early stage to locate a model that could guide the study and provide a useful structured framework for the emerging thesis. Borg and Gall(1983)have outlined the value of PERT (Planned Evaluation & Review Technique) methods involving the use of critical path analysis flow charts. This approach is essentially concerned with operations rather than structures and, as such, has more to offer in the actual ongoing realisation of a project. Cohen and Manion(1985) describe models for specific modes of research - particularly for Survey and Roleplay but these not translatable into the context of this study. Davies(1971) and Gagne & Briggs

(1979),see figure 5.2, present typical models for the design of Instructional systems, but these are limiting in that they lack the necessary concern for the Research dimension in this study. The model proposed by Snelbecker(1974),see figure 1.4, for the design and evaluation of large scale Instructional projects does have the merit of a strong contextual basis in its concern for the pertinent Knowledge bases. These Knowledge bases are described in some detail within the text, providing useful guidelines on the sources of reference that are appropriate for each stage of the design. In the absence of any more congruent model, it was decided to modify the Snelbecker model in order to produce a structural model to guide this study. The adapted model is included at figures 1.5 and 1.6. The Knowledge bases have been interpreted and specified in more detail for particular application here. It was felt that this model provided a broad stream that could accommodate all the various curriculum design and evaluation requirements of the study, whilst at the same time providing a strong, but not mode-specific research context. This model was employed both in the implementation of the study and in the account contained in the following chapters.

The chapters of the thesis provide a review and analysis of the relevant literature on staff development,on theories of instruction and on microencounter techniques and allied topics. These reviews lead directly into the development of skills and observation instruments, which in turn leads to the development of the curriculum and the course design. Finally the results obtained from course implementation are analysed and discussed along with proposals for further derivative research and development.

CHAPTER 2

Review of Staff Development

CHAPTER 2 - REVIEW OF STAFF DEVELOPMENT

The general aim of this chapter is contextual in nature, in that
it attempts to explore the wider field of staff development
within which the microteaching programme must be integrated.
The purpose of such exploration is to synthesise those factors
which are pertinent to and are likely to influence the strategy
and design of the microteaching programme. In consideration of
this the chapter will deal, in particular, with:

1. An examination of the definitions and emerging concepts of staff
    development.

2. a) A consideration, historically of the factors that have
        shaped the emergence of staff development and its current
        state of development.

    b) The identification of likely future trends and developments
        in Higher Education that are pertinent to the field of staff
        development.

3. a) An analysis of recent and current issues in staff
        development with particular emphasis on those relating to
        established staff in Higher Education.

    b) The identification of a set of guidelines from within the
        wider field of staff development which is likely to
        contribute to the design of an effective microteaching
        programme.

The chapter is divided into five sections that equate closely
with the particular aims above:

2.1   Staff Development - Definitions and Concepts

2.2   The Emergence of Staff Development and its Current State

2.3   Future Trends in Higher Education

2.4   Some Issues in Staff Development

2.5   Guidelines for Staff Development

This chapter is congruent with Stage 1: Knowledge base A and
also covers aspects of Stage 2: Knowledge base B of the Model
for Instructional Design described in Chapter 1.

2.1 Staff Development - Definitions and Concepts

Gaff (1975), in his survey and analysis of instructional
improvement programmes in the United States, complained that the
diversity of terminology in the realm of staff development has
posed continuous problems in the conduct of his research. In
his surveys he had encountered considerable problems with the
use of language and the variety of interpretation placed on the
terminology used. This was attributed partly to a lack of
consensus regarding definitions of terms and also to the
diversity of background of staff working in the field, who
brought interpretations from their own background disciplines.
Even a cursory examination of the literature relating to staff
development in the UK reveals a similar diversity and
interchangability of terminology that can lead at worst to
considerable confusion and at least to a need for constant
questioning of the text for precise meaning. The predicament
is perhaps most easily summarised by the 'jargon generator' (see
figure 2.1) which will conveniently generate such terms
as: instructional development, staff training, faculty renewal,
learning resources and many more.

The intention here is to consider this conceptual and linguistic
confusion with a view to developing a consistent pattern of
usage throughout this study - a pattern which mirrors what seems
to be the most commonly developing usage in the literature of
staff development.
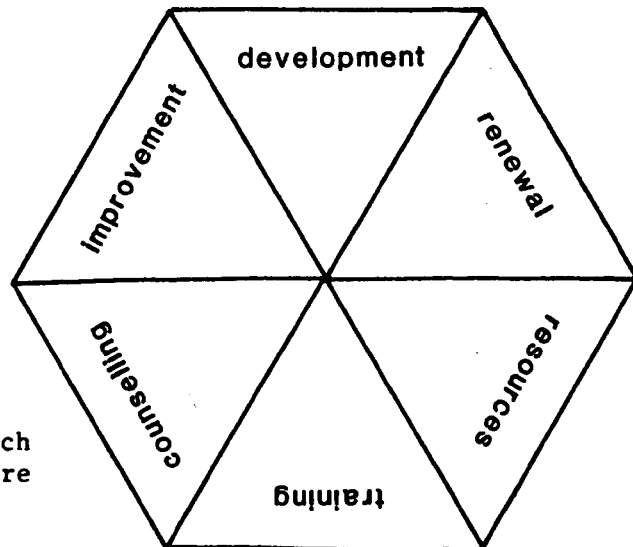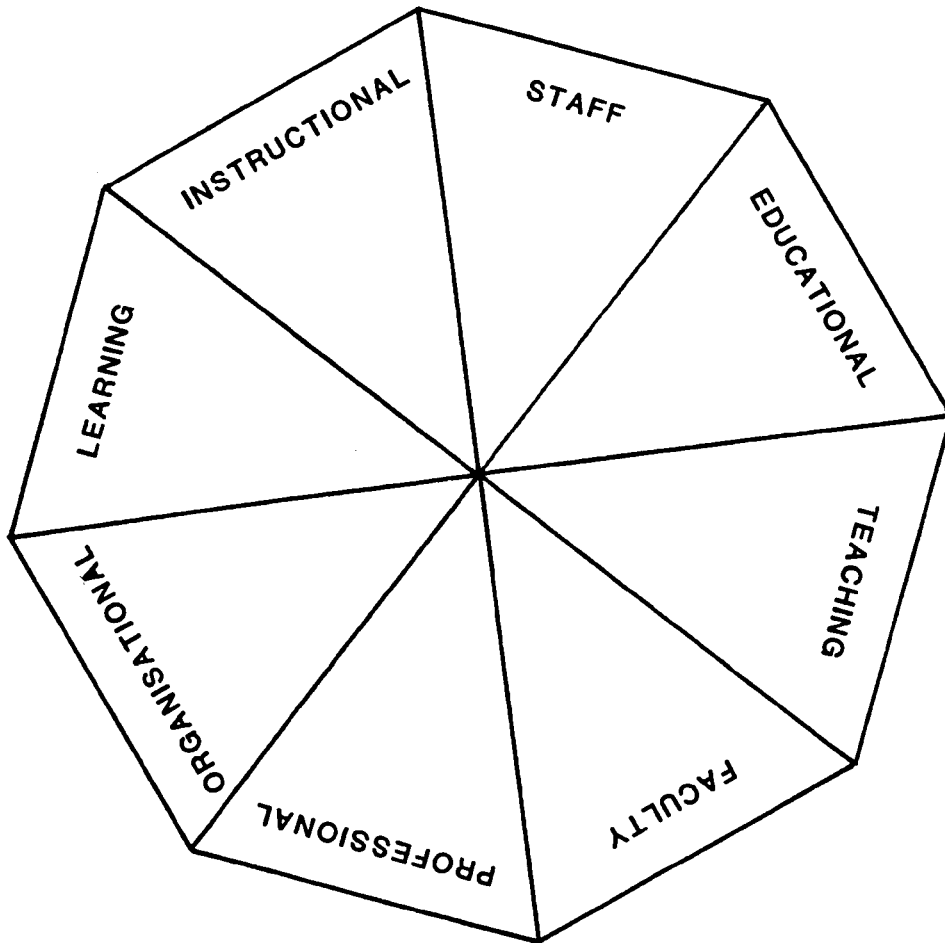
Instructions

i)   Cut out shapes

ii)   Press sharpened match
      sticks through centre
      of shapes

iii) Spin each shape

iv)   The two words generated
      can be combined to give a
      term that has probably
      been used as a synonym
      for Staff Development

FIGURE 2.1:   STAFF DEVELOPMENT TERMINOLOGY GENERATOR

Definitions of Staff Development

The developing concept of staff development can be usefully

considered by noting the emerging definitions throughout the

1970's - see figure 2.2.

What is evident from these definitions is: the attempt for more

precision and detail, the move towards a more comprehensive view

of staff development which includes all aspects of the role of

the staff member and his integration with the staff, students

and systems within the institution.

This more comprehensive definition compares quite closely with

the American experience (Gaff 1975, 1979) where staff

development is variously seen as synonymous with faculty

renewal, professional development and instructional improvement.

However, the emphasis is on three areas of involvement viz.

faculty development, instructional development and organisational

development. Faculty development concerns the faculty members

themselves, instructional development refers to learning,

courses and curriculum and organisational development relates to

the systems within the institution.

The Higher Education Research and Development Society of

Australasia has recently adopted a definition for professional

development:

"Institutional policies, practices and programmes directed at

the skills, knowledge and attitudes of academic staff and

designed to assist them to meet more fully their own, student

and institutional needs."

1973 Identifying the professional needs of individual teachers and devising programmes to meet those needs
ACFHE/APTI (1973)

1975 Staff development is a systematic attempt to harmonise individuals' interests and wishes, and their
carefully assessed requirements of furthering their careers with the forthcoming requirements of the
organisation within which they are expected to work. Piper (1975)

1977 Staff development is a deliberate and continuous process involving the identification and discussion of
present and anticipated needs of individual staff for furthering their job satisfaction and career
prospects and of the institution for supporting its academic work and plans, and the implementation of
programmes of staff activities designed for the harmonious satisfaction of those needs. Billing (1977)

1977 Staff development can be seen as institutional policies, programmes and procedures to facilitate and
support the professional growth of staff so that they may more fully serve their own, students' and
institutional needs. Harding and Kaewsonthi (1977)

1979 Staff development is:

1. part of a process of organisational development to which an institution is committed as a result of policy
decisions to that effect;

2. the implementation of policy decisions involving intervention in the working lives and working system of
members of the institution in order to influence their attitudes, behaviour and procedures;

3. a continuous process requiring (a) evaluation, by individuals and groups, of their capacity to operate
effectively and (b) efforts to improve that capacity;

4. a shared responsibility which, in one way or another, involves all members of institution committed to a
policy of staff development;

5. a delegated responsibility resting with an individual or group charged with the task of overseeing the
implementation of policy decisions and monitoring the effectiveness of any resulting activity;

6. a range of strategies which together support the implementation of an institutional policy aimed at fostering:

   a) a personal and professional growth of its members, and

   b) an improvement in understanding and collaboration between groups within the organisation. Hewton (1979)

FIGURE 2.2: EMERGING DEFINITIONS OF STAFF DEVELOPMENT

This is remarkably similar to the Harding and Kaewsonthi definition of <u>staff development</u> (see figure 2.2).

HERDSA's additional definition of the scope also does much to indicate the emerging comprehensive nature ot staff development (see figure 2.3). Within this definition of the scope can be identified the elements of Gaff's structure. The one significant addition here is the extra-institutional emphasis in item (d), which had not figured prominiently in other definitions.

One further type of embellishment to the definition of staff development is to be found in the East German perspective:

'A planned, unified process geared to the implementation of academic and higher education policies, the main intention is that members of academic staff should become more qualified in the fields of politics, ideology, university pedagogics and group management as well as in their own specialist subjects'. (Mohle 1979)

Here the extra institutional emphasis is moved even further into the fields of politics and ideology - an area with which this study would not wish to concern itself to any great extent.

Throughout the period of emergence of these definitions, there has been a corresponding move in the preoccupation of staff developers from their initial interest in staff training to a concern for the wider concept of staff development. The move from training to development has occurred for a variety of reasons (Matheson 1981, Greenaway and Harding 1978):

a) Teaching and related activities: This area encompasses the
    various activities associated with the management and
    facilitation of student learning, including classroom teaching,
    the assessement of student learning, course development and
    evaluation, and the academic counselling of students.

b) Development within the staff member's discipline: This includes
    research and other forms of scholarly and creative persuit, and
    interaction with other scholars.

c) Administration: This involves, as appropriate, participation in
    institutional and/or departmental decision making and planning
    through the activities of boards and committees, together with
    the various aspects of administration involved in the operation
    of academic departments, including, for example, personnel
    management an leadership, resource management, budgetary
    control, and student enrolment and progress.

d) Community involvement and consultancy: This area includes
    research and consulting work relating to community,
    professional, industrial and commercial needs and problems,
    contributions to professional organisations, and other forms of
    community involvement consistent with the goals of the
    institution and which extend the work of the institution outward
    into the community.

FIGURE 2.3: SCOPE OF PROFESSIONAL DEVELOPMENT (HERDSA)

i)   Training is often seen as synonymous with training in teaching – a term that is too narrow to encompass the developing range of activities.

ii) Training is seen as having authoritarian overtones, which belies the co-operative nature of the relationship sought between staff and developers.

iii) Training is seen as finite and easily achievable, whereas development implies a continuous, ongoing process.

iv) Training is seen as having unfortunate industrial connotations that do not appeal to staff, especially in Universities.

Recently a certain disenchantment has been expressed with regard to the term 'Staff Development' (Matheson 1981) since it tends to imply 'doing good' to people. The latest, less emotive, label is 'professional development', which suggests that it is processes, techniques, systems, methods, that are being improved and only incident ally, or by implication, the staff.

It seems likely that the ground will continue to shift. The current literature shows a growing partiality towards 'professional development' (see, for example, Black & Sparkes 1982, Bligh 1982a, Bradley, Chesson and Silverleaf 1983). In fact the definition of staff development by Harding and Kaewsonthi (1977) has, four years later, been metamorphosed into a definition of professional development (Harding, Kaewsonthi et al 1981).

Throughout this study, however:

Staff development will be used as the generic term for this field, to include the whole spectrum of activities indicated in the more comprehensive definitions such as that of HERDSA and its statement of scope (figure 2.3).

Staff training will be used with special reference to those areas within staff development that are concerned primarily with the improvement of teaching performance. This is in no way to imply a denigration of staff training, since it is potentially a powerful vehicle for the achievement of the many aims of staff development (see later sections 2.5 and chapter 3).

Professional development will not be used, since it has less universality of application, has not been distinguished to any great extent by either definition or description and seems likely, eventually, to be synonymous with staff development. Although the move towards and the discussion of professionalism in staff development may further cloud the issue (Furedy C & Furedy J 1979, Swain 1979).

2.2   The Emergence of Staff Development and its Current State

A number of quite disparate agencies, events and trends have
prompted and influenced the emergence of staff development in
higher education.   These influences have operated within and
affected the two sectors, University and Public, of higher
education in significantly different ways.   Prior to 1960,
attempts at 'conceiving' staff development as something other
than merely ad hoc attendance at courses, conferences and
meetings, had been limited to concern expressed by AUT and NUS
regarding the quality of teaching in Universities.   Approaches
by AUT to CVCP on this matter in 1945 and again in 1954 had
yielded little progress.   It is only possible in this study to
consider the major shaping influences from 1960 to date and
these are summarised in figure 2.5.   A brief discussion of
those influences, under the headings:

2.2.1   Universities

2.2.2   Polytechnics

2.2.3   General trends

is attempted, and their significance identified.

In 2.2.4 the present state, the current staff development scene
will be examined.

Figure 2.4 provides a glossary of the abbreviations used in this
chapter and figure 2.5 presents a historical summary of major
influences.

ACFHE	Association of Colleges of Further & Higher Education
ACSTT	Advisory Committee for the Supply and Training of Teachers
APTI	Association of Principals of Technical Institutions
AUT	Association of University Teachers
BEC	Business Education Council
CCTUT	Co-ordinating Committee for the Training of University Teachers
CDP	Committee of Directors of Polytechnics
CET	Council for Educational Technology
CNAA	Council for National Academic Awards
CTUT	Committee on the Training of University Teachers
CVCP	Committee of Vice Chancellors and Principals
DES	Department of Education and Science
FEU	Further Education Unit
ITB	Industrial Training Board
MSC	Manpower Services Commission
NAB	National Advisory Body
NATFHE	National Association of Teachers in Further & Higher Education
NCET	National Council for Educational Technology
NUS	National Union of Students
SCEDSIP	Standing Conference of Educational Development Services in Polytechnics
SRHE	Society for Research into Higher Education
TEC	Technician Education Council
UAP	University Authorities Panel
UGC	University Grants Committee

FIGURE 2.4: GLOSSARY OF ABBREVIATIONS

INCREASING CONCERN FOR STUDENT FAILURE RATE

EVENTS-UNIVERSITIES

Spasmodic Efforts to Improve Teaching

AUT Approaches CVCP Again
NUS Memorandum to Hale Committee

AUT Panel on Teaching Techniques
Report of Robbins Committee on HE
AUT Panel Interim Report
Report of Hale Committee on University Teaching
SRHE Founded
Report of Brynmor Jones Committee

NCET Established by Government
UGC Establishes High Activity Centres

1st Report Prices & Incomes Board on Pay
of University Teachers

Report of AUT Working Party on Training

Report of NUS Commission on Teaching in HE

2nd Report of Prices & Incomes Board

AUT/SRHE Conference on Training

UGC Memo on Educational Technology

SRHE Publishes Survey on Training .

Report of Brynmor Jones Working Group

CVCP Establishes CCTUT

UGC Earmarks Special Grants for Training

UGC Earmarks Reserve for Ed Dev Projects

UAP/AUT agreement on Probationary procedures

PERIOD OF LOCAL, REGIONAL
AND NATIONAL CONSOLIDATION

NUS Lecturer Training Campaign
Pitt Review Group Report
SRHE Special Interest Group Formed
CCTUT Replaced by CTUT

GENERAL TRENDS

UNIVERSITY PROVISION DOUBLES

GROWTH IN EDUCATIONAL THEORY

GROWTH IN TECHNOLOGY AND KNOWLEDGE EXPLOSION

GROWTH IN SIZE OF H.E. INSTITUTIONS

GROWTH IN DIVERSITY OF STUDENT INTAKES AND CURRICULAE

GROWTH IN CROSS-DISCIPLINARY COURSES AND CURRICULUM INNOVATION

DOWNWARD TREND IN THE ECONOMY

Years: 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82

EVENTS-POLYTECHNICS

64 Establishment of CNAA
Industrial Training Act Sets up ITB's

66 White Paper: A Plan for Polytechnics and Other Colleges

ESTABLISHMENT OF POLYTECHNICS

Haslegrave Committee Report Proposes BEC & TEC

72 White Paper: Education - A Framework for Expansion

TEC Established
73 Report of ACFHE/APTI Working Party on Staff Dev in FE

DES Circular 7/73 (College of Ed Mergers)
74 HSC Emerges as Result of Employment and Training Act
BEC Established
SCEDSIP Inaugurated
75 Report of CNAA Working Party on Resources
Houghton Report on Pay of Non-University Teachers

76 Haycocks Report (ACSTT)

78 DES Circular 11/77

NATFHE Policy Statement

81 HSC makes funds available for training developments
GREEN PAPER: HE in England outside the universities
82 ITB's Abolished
NAB Formed

FIGURE 2.5: MAJOR FACTORS INFLUENCING THE EMERGENCE OF STAFF DEVELOPMENT

2.2.1 Universities

<u>1961</u> AUT approached CVCP again regarding its concern about academic

staff training and the need to consider University teaching

methods. This approach was no more successful than earlier

approaches had been.

Government appointed the Committee on Higher Education under the

Chairmanship of Lord Robbins to review the pattern of full time

Higher Education in Great Britain and advise on its long term

development.

UGC appointed Committee on University Teaching Methods under the

Chairmanship of Sir Edward Hale to study undergraduate teaching

methods.

NUS memorandum to the Hale Committee called for courses in

teaching techniques for new and established staff.

<u>1963</u> AUT established a Panel on Teaching Techniques to investigate

the training given to academic staff and enable recommendations

for the improvement of university teaching.

UGC and DES appointed Committee on audio-visual aids in HE

under the Chairmanship of Sir Brynmor Jones to survey the use,

assess the potential and suggest lines of development for audio

visual aids.

The Report of the Robbins Committee (HMSO 1963) was published

and amongst an enormous number of recommendations was one

relating to training of academic staff. This referred to

the need for newly appointed staff to have 'organised

opportunities to acquire the techniques of lecturing and of

conducting discussion groups'. This is very much in the area

of staff training as defined in section 2.1.

1964 The AUT Panel on teaching techniques circulated an interim report (AUT 1964).   Amongst other suggestions it advocated the provision of voluntary but officially encouraged courses dealing with such matters as; the principles of university teaching, nature of the learning process, deportment and voice production.   It also suggested that practice lectures and seminars would be of value.   This is anchored firmly in the realm of staff training, but with the suggestion of an underpinning of theory.   The report also referred to courses for established staff and thus indirectly began to question the preoccupation with newly appointed staff that had been in evidence to date.

The Hale Committee reported (HMSO 1964) and suggested that, whilst it could not detect any support for mandatory courses of training for lecturers, training in lecturing and tutorial work should be given.   It further advocated that newly appointed inexperienced staff should undergo a test, possibly using CCTV, to diagnose possible shortcomings.   Possibly this is the first official sanction of techniques of microteaching, albeit a rather limited perspective, in staff training.

The AUT Panel was influential in the founding of SRHE to 'encourage and co-ordinate research into all aspects of higher education'.   Within this aim, SRHE has always given prominence to staff development matters and continues to do so.

1965 The Brynmor Jones Committee reported (HMSO 1965) and amongst the more pertinent recommendations for this study were that;   each institution of the HE should establish a central service unit to

improve teaching and communication.   There should be a national
body called the Council for Educational Technology to
co-ordinate, advise and provide courses.

This report, although dealing initially with audio visual aids,
broadened into the wider realm of educational technology and in
doing so more closely identified with teaching strategies and
techniques that fall within the domain of staff training.   It
thus proposed a formal national and local structure within which
the emerging concern for staff training could possibly find an
outlet for concrete action.

1967 UGC had been advised, by its Sub-Committee on Educational
Technology (set up after the Brynmor Jones Report), to encourage
Universities to set up central service units.   To this end UGC
nominated and provided grants to 10 Universities as 'high
activity' centres, so that they could carry out media research,
provide an advice and training service to other Universities and
produce innovative materials for general use.   In addition, UGC
earmarked funds within its general equipment grants for central
service units.

NCET was established by the Government along the lines suggested
in the Brynmor Jones report.   Whilst dealing essentially with
Educational Technology, its remit and operation has always
intersected with the domain of staff training and as a result
has frequently provided a useful agency and forum within which
matters concerning staff training can be discussed.

NUS established a Commission on Teaching in Higher Education to
look for ways in which improvements could be made in the quality
of teaching in higher education.

CVCP invited AUT to study the question of the need for and desirability of co-ordinated action on the part of the Universities in the area of academic staff training. AUT set up a Working Party on the Training of University Teachers.

1968 The National Board for Prices and Incomes in its first report on the pay of University Teachers (HMSO 1968) recognised the need to emphasise teaching in the Universities and proposed a reward system (4% of the annual salary bill) for exacting teaching loads or exceptional quality in teaching. It further suggested that inexperienced academic staff entering Universities should be required to undergo a four or five year probationary period, at the end of which progress should not be automatic but should be carefully controlled. The UGC endorsed this subsequently suggesting a period of 3 or 4 years probation and adding to the argument the need for Universities to provide the opportunity for new academic staff to develop their skills and demonstrate their competence through systematic training.

1969 AUT Working Party on Training of University Teachers reported (AUT 1969) and amongst it recommendations were that: courses for training new staff should be mounted at a few centres (course outlines were provided), teaching should be vitalised by requiring

i)   reports from departments regarding its teaching methods

ii)   the appointment of training organisers

iii)   the appointment of Senate Committees on teaching techniques.

Here, then, was a genuine attempt to institutionalise staff training - to set up the mechanisms within the institution by which staff training could be co-ordinated.

NUS Commission on Teaching in Higher Education reported (NUS 1969) and, with regard to training, recommended that all lecturers should be trained within the first 3 years of their careers. The case was also made for in-service courses for existing lecturers, as was the plea for greater involvement of students in course design and evaluation. These factors begin to show a concern for the wider aspect of staff development, at least as it impinges directly on the role of the student.

1970 The National Board for Prices and Incomes second report indicated that its 4% reward factor had, after consultation with interested parties, been reduced to a level of 1.33%. This was as a result of the controversy that was generated and the general resistance and inertia that there is in the University system that militates against attempts to promote teaching (see, for example, Rutherford R J D & Taylor P H 1977, Startup 1977). Eventually even this 1.33% was finally eradicated in 1972.

Joint AUT/SRHE conference was held, at which information was exchanged concerning existing provision for staff training in individual universities. This represents possibly the first major attempt at co-ordination of the practitioners in staff development within the University sector of higher education.

1971 UGC issued a memorandum on Educational Technology, based on the experience to date of the high activity centres set up in 1967. This memorandum (HMSO 1972) noted that one of the problems that should receive attention was 'persuading the general academic body to accept innovation in teaching methods aimed at improving the effectiveness of teaching and learning'. The memorandum suggested that the central service agencies set up in 1967 should now move their emphasis from hardware to a concern for

materials and methods. It was therefore identifying a significant role for Educational Technology and Central Service agencies within staff training. It also broadened the scope to include a concern for what it called 'curricular replanning' - another shift towards staff development.

CVCP with AUT and UGC set up a Working Group under the Chairmanship of Sir Brynmor Jones to look into the future provision for the training of University Teachers.
SRHE published Training of University Teachers (Greenaway 1971) - a survey of training provision in the Universities.

1972 The Brynmor Jones Working Group reported (CVCP 1972), calling for a more formal set of arrangements for staff training. To this end, it suggested a scheme that included induction, initial training, continuing training for new lecturers and advanced courses for established staff. The responsibility for conducting these staff training arrangements was to rest quite significantly with experienced members of staff in each of the University departments - a variation of the 'mentor' approach.

A further recommendation was that a Co-ordinating Committee for the Training of University Teachers should be established in order to promote and assist in the implementation of the detailed arrangements proposed. CCTUT was immediately established by CVCP and members were nominated by AUT and UGC.

UGC provided financial support for 'experimental projects in the training and development of university teachers and administrators' and 19 projects were identified and funded mainly dealing with the development of courses and materials for staff training.

1973 UGC set aside funds which could be used, amongst other things, for educational development, staff training methods, curriculum replanning and development (HMSO 1974). This is significant in that the importance of curriculum development was, at last, recognised in the Unversity sector. Additionally, it is significant in that nothing was achieved. The funds were diverted in order to offset Government cuts in public expenditure caused by the worsening economic situation.

1974 UAP/AUT issued 'Agreement on Probation' (AUT 1974). This was the final endorsement of the probation question that had begun in 1968 with the First Report of the National Board for Prices and Incomes. The real core of this Agreement with regard to staff training is to be found in section 11:

'An employing university which declines to retain a person on grounds of inadequate performance or insufficient promise or personal unsuitability should be able to show

a) that training in university teaching was made available and

b) that continuing advice and help towards improvement were offered and due warning given of inadequacies by the Head of Department or other responsible person.

The period from 1972-81 has been called (Matheson 1981) 'a period of consolidation at local, regional and national level'. Various guidelines, agreements, local and national mechanisms and organisations were in existence. These agencies were able to work steadily in the field of staff training whilst now beginning to expose the wider cause of staff development. The dread shadow of a worsening economic situation effectively inhibited any significant or spectacular attempts at expansion -

a period of retrenchment in education led to a period of entrenchment in staff training and development.

1980 The NUS launched its national Lecturer Training Campaign, the basic aim of which was to emphasise the need for better teaching in Higher Education. This seemed to move us back, almost full circle, to the NUS memorandum to the Hale Committee in 1961. It would seem that, at least from the students' point of view, insufficient progress had been made in 20 years of attempting to tackle this problem.

The Pitt Review group, established by CVCP in 1978 to review arrangements for the training of University teachers, circulated its report. The recommendations included; the strengthening of CCTUT by increasing its staff, raising its level of finance and widening its sphere of activity. It did, however, acknowledge that the responsibility ultimately (in 4-6 years) should devolve back to the Universities themselves. Despite these recommendations and despite a concerted campaign involving CCTUT, AUT, NUS and many interested individuals, CVCP terminated CCTUT in 1981. It was replaced by CTUT - a new committee, which had neither permanent staff nor a budget. This had the result of immediately devolving all responsibility for staff development and its co-ordination back to individual Universities. CVCP, whilst remaining committed to the improvement of the quality of teaching, felt that this could best be done by the universities on a local or regional basis. However, the feeling persists that this was another sacrifice to economy and reduced 'official' University national policy on staff development to what is really little more than a token gesture.

SRHE in anticipation of the demise of CCTUT, evolved a Staff Development Group - a special interest group, which aims to stimulate a wide range of activity in staff development in Higher Education and thereby, to some extent, redeem the situation.

CCTUT, under the chairmanship of Professor William Taylor, met annually to monitor and report on Staff development in the universities.

In 1984, CVCP appointed a part-time national Coordinator for staff development. The coordinator undertook a survey of training needs in Universities (Brown and Atkins, 1986) and the results were used to provide a code of practice which has now been accepted by the Universities (CVCP 1987) - see Apendix K. It remains to be seen what impact this code will have on practice within the Universities.

2.2.2 The Polytechnics

Since their designation in the late 1960's, the Polytechnics have increasingly become responsible for Higher Education in the non-University sector. Further impetus was given to this growth in responsibility by the College of Education mergers, mostly with Polytechnics, in the 1970's. It seems likely also that the current 'rationalisation', being undertaken by the National Advisory Body, will lead to a further concentration of public sector Higher Education courses within the Polytechnics. For these reasons, and also in an attempt to limit the scope of this study to manageable proportions, non-University higher education will be treated as synonymous with the Polytechnic provision of higher education for the purposes of research and application. Occasional reference may be made to findings from other types of institutions within the public sector, where such findings have a bearing on the Polytechnics due to similarity, for example of courses considered or staff involved, implying that transfer is reasonably valid.

1964 The CNAA was established to award degrees and diplomas within the public sector of Higher Education. Thus providing an alternative to the external University degrees that had been dominant up to this date.

Industrial Training Act (1964) led to the establishment of the Industrial Training Boards which were to become influential particularly in those strands of the public sector dealing with degree equivalent technical qualifications.

(This set the pattern for the accountability of public sector higher education to agencies that are essentially independent of the Institutions that they validate.)

1966 Government White Paper 'A Plan for Polytechnics and Other

Colleges' (HMSO 1966) established the guidelines for a

distinctive sector of higher education that was to complement

the Universities. This White Paper, together with the related

Administrative Memorandum 8/67 (DES 1967), led to the almost

instanteous creation of 30 Polytechnics in the period 1969-71.

These Polytechnics were created almost invariably by the merging

of quite disparate institutions, requiring the creation of new

common administrative structures and a significant commitment to

co-operative curriculum development. The framework within

which this was to be done was significantly different from the

circumstances that had prevailed formerly in any of the

constituent institutions. The contribution that staff training

and development could make here was quite substantial - but the

emphasis was different to that within the University sector.

The primacy of the teaching role in Polytechnics had never been

in question and had been a prime concern of the constituent

institutions. It was the real and considerable concern with

curriculum development and course design and validation that

resulted in the more comprehensive concept of staff development

rather than staff training, being adopted from the start. This

was, of course, very much in sympathy with the corresponding

conceptual drift in the University sector.

1969 The Report of the Haslegrave Committee (HMSO 1969), that had

been set up to investigate and make recommendations regarding

Technician courses, advocated a new rationalised system for

technician and business education that was to lead ultimately to

the establishment of TEC and BEC (see below). This was to

influence the work of the Polytechnics, since the <u>highest</u> awards
are of degree equivalence and are offered by Polytechnics. The
lower awards also affect Polytechnics since they provide a
source of recruitment and entry qualification into
Polytechnic courses.

1972 The Government's White Paper 'Education - A framework for
Expansion' (HMSO 1972b) identified a key role for the
Polytechnics in the expansion of higher education during the
1970's - a pronouncement that was to gain a hollower ring as the
decade progressed (see below). However this White Paper did
make reference to the need to assimilate Colleges of Education
more closely into the non-University sector of higher education.

1973 The Technician Education Council (TEC) was established as a
result of the Haslegrave Report. Within the remit of TEC was

i)   the development of model or standard courses for adoption
      by colleges

ii)   the validation of college produced courses (a function not
      dissimilar to that of CNAA, but in a different course
      context).

This was to subsequently place an "enormous burden on all those
involved" (Bradley, Chesson & Sliverleaf 1983) not least due to
the rigour which TEC insisted upon with regard to the design of
courses largely based on Bloom's Taxonomy (Bloom 1956, Bloom et
al 1956).

The ACFHE/APTI Working Party on Staff Development in Further
Education produced its report (ACFHE/APTI 1973). It identified
a limited definition (see fig 2.2) but a broad concept that
embraced initial and in-service professional courses, research,

consultancy and industrial placements. This document, whilst not specifically related to Polytechnics, had some influence on the policy decisions that were being taken in Polytechnics at that time.

DES issued circular 7/73 (DES 1973) based on the White Paper: Education - a framework for Expansion. This brought about the complex mergers between 40 colleges of education and 23 of the Polytechnics that were to be a feature, often traumatic, of the latter half of the 1970's. The effect of this was to considerably increase the size and complexity of most of the Polytechnics. In addition, the influx of academic staff with an educational bias was variously seen by existing staff developers as possibly a cavalry charge of reinforcements or perhaps an alternative force eager to compete for the 'prize' of staff development in a contracting teacher-education setting.

As a result of the employment and Training Act 1973, responsibility for training in the public sector passed to the MSC. The emphasis here was on _training_, and so the work of ITB's came under MSC scrutiny for approval. In addition, the responsibility for co-ordination in sectors of industry not covered by the ITBs fell to the MSC. This was the beginning of the rise to considerable prominence that the MSC was to make over a ten year period to date, with a corresponding effect on policy in the public sector mainly within further education, but with some limited effect on the Polytechnics (see 2.3)

1974 The Business Education Council (BEC) was established. Its remit was similar to TEC but based in the Business Studies and related subject areas. BEC's approach was initially more formalised and directive in nature, in that standard units were

produced and strongly recommended for adoption. Its validation role increased as colleges gained more confidence and as work began on the higher qualifications and courses offered in the Polytechnics, where CNAA type course design is the norm.

SCEDSIP was established as an organisation, holding twice-yearly conferences, of direct relevance to staff developers. Throughout the period of its existence, SCEDSIP has provided a forum for the discussion of matters related to staff development and has forged close links with such organisations as CDP, CET, SRHE, FEU, CNAA and DES. It has, thus become an important agent in the promotion and evolution of staff development both within the Polytechnics and the wider national context.

The CNAA Working Party on Resources for Research in Polytechnics and Other Colleges (CNAA 1974) firmly placed staff development as an important factor, alongside research, study and scholarship and consultancy. This effectively identified a broad concept of staff development for the terms of reference of CNAA and its validating procedures and committees. This was a considerable endorsement for staff development, coming as it did from the body that 'granted licenses' to the Institutions to enable them to offer courses.

The Report of the Houghton Committee (HMSO 1974b) focussed attention on the progression through bars on the salary scales which was related to the concept of professional competence. The possibilities for interpretation had to some extent led to no observable coherent policy or practices amongst Polytechnics as reported by Greenaway and Harding 1978 (p43).

<u>1975</u> The Advisory Committee on the Supply and Training of Teachers

presented its report: The Training of Teachers for Further

Education (ACSTT 1975). Among the recommendations were items

dealing with: in-house provision of staff development, the need

for professional tutors, the advantages of 'mentor' systems,

<u>release</u> for inexperienced staff to undertake induction courses,

release for in-service staff development and secondment to

industry. This report placed considerable emphasis on the

needs for adequate and appropriate induction for new staff, as

such it tended to narrow the concept of staff development to a

concern for initial staff training.

<u>1977</u> DES circular 11/77 (DES 1977) based on the ACSTT report was

issued. The circular endorsed many of the recommendations of

the report. The Regional Advisory Councils were also asked to

submit plans for the implementation of the proposals. To date,

no formal decision has been made by the DES on the policy

regarding such plans. The effect of the Report and the

Circular has been considerable in the support that they have

provided to institutions and agencies committed to the cause of

staff development. However, the lack of the emergence of a

formal DES policy has allowed considerable scope for the

disinterested to maintain the status quo. The economic

constraints of the present time are often quoted (Bradley,

Chesson, Silverleaf 1983) as inhibiting the concept of staff

release advocated in the ACSTT proposals.

<u>1981</u> MSC announced that it intended to finance projects aimed at the

development of training schemes and materials (MSC 1981) and

this was closely allied to its aspirations regarding Open Tech

and Open Learning systems.

The Government circulated a Green Paper (Consultative) entitled Higher Education in England outside the Universities: Policy, Funding and Management. This gave a number of alternative structures and patterns and asked for reactions. One outcome of this was the formation of NAB (see below).

The ITB's were abolished thereby strengthening the control of MSC over training in the public sector.

1982 A National Advisory Body for Local Authority Higher Education (NAB) was formed to make recommendations to the Government regarding the future shape and structure of this sector of higher education. Its effects were soon causing consternation in Polytechnics with proposals for funding, course rationalisation, staffing levels and even course closures. The operation and remit of this body was being pursued in the Polytechnics whilst a similar function was being performed by UGC in the Universities. Under the influence of NAB, the Polytechnic sector has become even more firmly established as the non-University provider of Higher Education.

NAB policies in the mid '80's concerning wider access had definite implications for staff development especially for new learning contexts.

1985 NAB is asked to formulate guidance on good management practice in public sector higher education.

1986 DES circular 6/86 changes the mechanisms by which grants for In-service training of teachers are distributed. It identifies national priority areas and a system of bidding for funds.

<u>1987</u> NAB report on good management practice 'management for a
purpose' is circulated, placing the spotlight on management and
management training for staff.

<u>1987</u> Government White paper 'Higher Education: meeting the challenge'
summarises recent trends and emphasises aims and purposes,
access, quality and efficiency. The Polytechnics are to be
granted corporate status and be funded through a new
Polytechnic and Colleges Funding Council (PCFC) that replaces
NAB. Better teaching is advocated through staff training,
development and appraisal.

2.2.3 <u>General Trends</u>

Throughout the period of emergence of staff development, there have been a number of significant general trends. These trends can usefully be classified under the following five headings:

i)   Economic and demographic trends

ii) Technological and discipline-based trends

iii) Educational Theories and practices

iv) The curriculum

v)   The student

They have had a considerable effect on institutions and the work of academic staff in higher education and thereby an effect on the perceived needs for staff development. In some cases events already discussed triggered or were triggered by one or a number of these general trends.

Since the general economic climate changed significantly during the period 1960-1980 it is convenient to look at each of the 5 trends in both the periods of the 60's and the 70's separately. The 60's was a period of expansion and optimism in education hence it is labelled as 'the progressive 60's' - the 70's on the other hand progressively developed as a difficult period hence 'the regressive 70's'.

<u>The Progressive 60's</u>

i)   <u>Economic and demographic trends</u>:- throughout the 60's there was a generally stable economic situation, coupled with a rise in demand for Higher Education. This resulted in a considerable expansion of provision for higher education. The University provision was increased from 23 institutions in 1961 to 45 institutions in 1967

and finally doubled by the founding of the Open University
in 1969.   This resulted in more than double the student
capacity and an increase in staff from 11,000 to 26,000.
The creation of the Polytechnics was another feature of
this expansion.   In all some 30 Polytechnics were
designated in the latter part of the decade, resulting in
the creation of large conglomerate institutions often with
disparate and diverse components.   By 1971 the
Polytechnics had 10,000 staff dealing with 145,000
students on a variety of patterns of attendance.   The
resulting recruitment of new staff into the Universities
and resettlement of experienced FE staff into the new
Polytechnics had obvious implications for staff
development.   But, staff development with two significant
emphases:

a)   in the Universities, fitting new staff for existing
     institutions.

b)   in the Polytechnics, fitting existing staff for new
     institutions.

ii)   Technological and discipline based trends:- the knowledge
      explosion, particularly in the sciences and technology,
      had led to the emergence of new disciplines and redefining
      and reshaping of the old disciplines.   A greater concern
      for science and technology was one factor that prompted
      the emergence of the Polytechnics.   Additionally
      technology, in the form of audio visual aids and
      associated hardware, began to find its way into the
      repertoire of the teacher in the lecture room.   These
      factors all combined to induce staff to adopt new
      methods and techniques both in the newly emerging

disciplines as well as those firmly established.

iii) <u>Educational theories and practices</u>:- it is only possible

to consider here a very limited number of the most

relevant developments in this huge field of activity.

Probably the most significant influence during the 60's

was the work of B F Skinner (1968), whose work on

programmed learning and its theories of stimulus-response

and reinforcement found a brief vogue in this decade.

Whilst programmed learning in its 'pure' form was to find

many critics, its influence in such areas as educational

technology, curriculum development, course design and the

systems approach to learning was to be considerable. The

work of Skinner and of Bloom et al (1956), Krathwohl et al

(1964), with its emphasis on the need for objectives,

spearheaded a general change of emphasis from teaching to

learning as an active, definable and measurable quantity.

iv) <u>The curriculum</u>:- considerable pressures were building in

higher education for curriculum reform from a number of

directions:

a) from students worldwide (Teather 1979), who were

generally dissatisfied with the content and

presentation of many University courses. This

dissatisfaction reached a peak in the late 60's.

b) from educational theorists and policy makers, who

were concerned to see curriculae more accurately and

carefully made explicit - the work of the CNAA was

a representative indicator of this trend.

c) from the community at large (see for example, Child,

1971), who were concerned that the content of

University courses should be more specialised and

vocationally oriented and less concerned with the
pursuit of knowledge for its own sake.

Such pressures began to cause the Polytechnics, in
concert with the CNAA and the Universities to a much
lesser extent, to consider carefully their courses
and curriculae.

v) The student: during this period was concerned to
gain influence in the decision making of
institutions, to improve the content and teaching
of courses and to generally improve the efficiency of
his learning experiences within the University.
Student 'participation' was the key word of the
decade.

Although there were the above pressures and influences at work
on staff, the general tone of the decade was one of optimism.
Higher education was expanding, promotion prospects were good,
funds were available, problems could and were being tackled.
Staff development had a recognisable role to play in this phase
of expansion particularly in the induction of new staff into
their new institutions and professions. Staff development
germinated and grew strongly in the fertile ground of the latter
years of the progressive 60's.

The Regressive 70's

i) Economic and demographic trends

Whilst the decade began in an optimistic vein, by the mid
seventies the stark realities of an economic recession at
home and a trade recession abroad were starkly evident.
The trigger to these events is generally held to be the
rise in oil prices that began in 1972. Despite this

recession, the demand for higher education continued to grow. The Polytechnics were now becoming firmly established, student numbers increasing by 50% during the decade and staff to 16,700. The Universities student numbers, during the same period increased by 30% and staff numbers correspondingly to 34,000. One notable exception to this expanding of student numbers was in the Colleges of Education, where falling pupil roles due to the working of 'bulges' through the school system resulted in the need for rationalisation. This was achieved by mergers, mainly with Polytechncs, and quota systems being introduced for student recruitment, but some redundancy of staff resulted, mainly by early retirement. 'Value for money' was more and more being discussed in the context of staff-student ratios and greater efficiency. The elimination of waste and better handling of finances was of great concern - but this was only able to take institutions, so far. Many costs are fixed - rates, heating, maintenance of buildings, electricity. Eventually and inevitably at the end of the decade the debate turned to the major item of cost that could be adjusted - staff costs.

ii) Educational Theories and Practices

Developments from the work of Skinner found a more general outlet in the hierarchical theories of Gagne (1970) and those advocating a systematic approach to the design of learning experiences involving an 'objectives - design - evaluate - revision' cycle approach (see for example Gagne 1970, Gagne & Briggs 1979, Davies 1971, Beard 1970). These approaches were further promoted by the growth in

the educational technology movement during this period,
which replaced the essentially hardware-oriented approach
of the audio visual specialists in the 60's. The
theoretical emphasis continued to be placed more and more
on student-centred learning rather than teacher-centred
teaching, but the 'narrowness' of the behaviourist
approach was being questioned (see Beard, Bligh & Harding
1978 p8-13).

iii) Technological and discipline-based trends - the
disciplines continued to require constant monitoring.
Typical during this period was the progress in Electronics
and Communications contrasted with the economy led
faltering in Architecture and Town Planning. There was a
general call, formalised by the Finniston Report
(HMSO 1980), for an increase in the supply of
technologists and scientists, usually at the expense of
the Arts and Humanities. In the Lecture room, technology
became more available and more sophisticated. Television
equipment became more and more the tool of each lecturer
and less and less the exclusive preserve of the
'specialist'. Towards the end of the decade the
micro-computer was beginning to create further
technological ripples that were to herald the Information
Technology construct of the 80's.

vi) The Curriculum - the pressures on University and
Polytechnic, whether they were economic or social, UGC or
CNAA imposed, student or community inspired, led during
the 70's to a remarkable range of curriculum developments.
The growth in inter-disciplinary, cross-disciplinary,
multi-disciplinary courses that might be modular in nature

and could, in some cases, be highly student-centred was
considerable. The influence in the Polytechnics of the
CNAA, TEC and BEC led to an enormous output of courses and
curriculae designed to take account of the exigencies of
each developing need. The Universities also began to
experiment with new course patterns for example involving
such techniques as the Keller Plan (Keller 1968) and other
institutionalised methods described by Bridge and Elton
(1977) for example.

v) The Student - the decade saw a period of relative quiet.
The nature of the student however changed considerably.
Emphasis was placed on mid-career, retraining for new
careers, adult and continuing education, requiring
different approaches from the lecturer to accommodate a
widely varying student intake. The considerable
worsening in employment prospects of students towards the
end of this decade also contributed to the general
pessimism and regression of attitudes.

The general pessimism that grew throughout the 70's due to the
factors outlined above coupled with the resulting lack of
opportunity for advancement of staff, led to no less a need for
the staff developer. The need for economy and efficiency in
education, the need to do 'more with less', provided ample
opportunity for a significant contribution from staff
development. Higher education still undertook considerable
expansion, what was missing was the pro rata economic provision
for such expansion. This then was a period of consolidation
for staff development with a shift of emphasis away from
induction of new staff to a more comprehensive role involving
in-service training of existing staff and course and curriculum
design.

2.2.4 Current State

'....despite the visionaries and despite the considerable thought and effort that is put into staff development, activity remains generally on a small scale, outcomes are intangible and benefits uncertain.' (Hewton 1980)

'....staff development is regarded by many institutions merely as a minimally-financed fire-fighting capability confined to an arena, mainly teaching, in which there is little consensus that there is any vestige of smoke'.   (Matheson 1981)

These quotations, whilst relating essentially to Universities, can be seen as representative of the general state in the wider higher education context.   This is not to say that there are not institutions that provide much more than a minimal capability.   The implication is quite clear, the flower of staff development that germinated in the spring of the sixties, flourished during the summer of the seventies may wither and die in the Autumn and Winter of the eighties.   In some institutions economic pressure is forcing an assessment of the value of the staff development effort.   In others, the economic vortex is providing a convenient muddy pool within which politically-motivated doubts regarding staff development find their way to the surface.   Yet other institutions are confirming their policy of a role for staff development, even an enhanced role, in coping with the problems that beset higher education.

Figure 2.6 shows the most recently available data on the state of staff development provision in higher education.   This survey data, taken at a moment in time, does little to give an indication of trends.   Where evidence of movement could be found then this is appended in the 'comments' column.

FIGURE 2.6: CURRENT STATE OF STAFF DEVELOPMENT — A SUMMARY

UNIVERSITIES (based on Matheson 1981) Max 51*	ORGANISATION AND FEATURES OF STAFF DEVELOPMENT	POLYTECHNICS (based on Whitlock 1982) Max 31	TRENDS AND COMMENTS
43	Institutions with committee formally responsible	26	There are expressions from some of the 5 Polytechnics of intent here.
37 8 7	Institutions with: Centralised AV Service Centralised Staff Development Unit Combined AV and Staff Development Unit	13 6 14	The Universities AV heritage is evident here. Whereas the Polytechnics have generally a broader base. Of the excluded four Polytechnics, three had proposals for centralised provision in advanced stages.
11 7 13	Institutions with one member of staff (at least) designated as responsible for provision of staff development: Full Time Part Time Notionally, as only a part of other main duties	25 5 1	Staffing of units was under close scrutiny, 'freezing' of posts and similar tactics were becoming common here as elsewhere.
42	Mentor system	Not applicable	The commitment to mentors has essentially a University feature.
46	Provision of induction and initial courses	21	The lack of recruitment is leading to a move away from initial courses.
17 23 6 - -	Duration of initial courses <3 days 3≤ <6 days 6≤ <10 days >10 days unspecified	2 3 2 7 7	The course length in Polytechnics tends to be longer perhaps due to no mentor system. The general move is away from initial courses towards in-service courses for established staff.
19 9 5	Duration of in-service courses for experienced staff: <3 days 3≤ ≤10 days >10 days	) 18) (lack of) precision about duration)	The trend here is towards the provision of courses, opportunistic in nature, in response to identified demand or needs either of staff or institution. This often supplements an existing basic available 'mean'.

* excluding London University

The general trend is summed up by Whitlock (1982):

'....vigilant readers may detect another change from the
preceding edition.   When that edition appeared in January 1979
Stuart Trickey (1979), the editor, wrote that "in almost all
units or services the range of facilities offered to Polytechnic
colleagues or the wider educational community has expanded and
improved."   Sadly that general trend has not continued.
Indeed in some cases retrenchment has been characteristic of the
past three years.'

The development of provision within the University and
Polytechnic sector has shown some distinct variations:

i)   The University bias towards audio visual units shows the
      development historically.   Since Polytechnics were not
      designated until 1968-71 they were able to embrace a
      broader and more comprehensive definition of staff
      development as evidenced by their central units' roles.

ii)   The University 'probationary period' has led to an
      emphasis on initial courses with 'mentor' back up.   The
      lack of any formal requirement in Polytechnics has led to
      a more persuasive and even pervasive approach, resulting
      in a less obvious general patttern being evident.

iii) The considerable commitment within the Polytechnics to
      course design, submission and evaluation, has led to a
      greater emphasis on 'consultancy' in Polytechnic units
      responsible for staff development.   Such consultancy
      covering the whole range of curriculum development
      activities.

Despite these differences both sectors of higher education have
suffered recently from the economic situation.   Budgets have

been cut in real terms, difficulties have been experienced in
replacing staff and staff development services have borne their
share of the cuts. The provision of a fixed 'menu' of courses
has proved an insufficient strategy. The lack of recruitment of
'new' staff has made many initial courses unviable. The
emergence of strategies to deal with the worsening economic
situation, such as individualised, independent, open and
distance learning, has led to the need for a considerable degree
of adaptability and opportunism. The staff development agencies
have thus been involved in the provision of courses to satisfy
emerging staff and institutional immediate needs. The
development of courses of an economic nature, in an effort
to help defray their own costs, have been a feature especially
within Polytechnic units. This then is the current uncertain
state of staff development in higher education. It has no
'divine right' to its existence, it will need to fight for its
survival and take its chance with the rest. Matheson (1981) has
suggested that what is needed for survival is..
'a credible combination of policies and procedures at
institutional level backed by sound pedagogy and good practice
at individual level. It must, therefore, reflect and respond to
the values and problems of institutions of higher education
as well as the aspirations of academic staff and those with a
vested interest in it'.

This is perhaps what was always needed and there are signs,
described above, that the trends are in this general direction.

2.3   Future Trends in Higher Education

Predicting the future is inevitably fraught with danger.   The
intention here is to present an amalgam of predictions, problem
specification and current matters of debate that will give a
flavour of what is likely to be in store for staff and staff
development in the coming decade.   The five headings used in
section 2.2.3 will be used here for consistency:

i)   Economic and demographic trends

ii)   Technological and discipline based trends

iii)   Educational theories and practices

iv)   The Curriculum

v)   The Student

i)   Economic and demographic trends

There is fairly general agreement that any improvement in
the economy is, at best, only likely to be very slow over
the next few years.   Coupled with a likely predicted fall
in the number of qualified school leavers of the order of
23% by 1995 (SRHE 1983), there seems little prospect of
any improvement in the financial prospects of institutions
of higher education in the foreseeable future.   Indeed the
recent exercise in achieving cost reduction of 10% in real
terms (of 1981 expenditure) by 1985 may set the trend for
further cash limit targeting strategies.

The effects of these factors are likely to be twofold:

a)   an increase in entrepreneurial fund-raising
        activities on the part of departments and
        institutions to offset shortfall in funding.   (See
        for example Sims 1982).

b)   moves within higher education to increase

participation rates of school leavers and adults

(Fulton 1981a).   Even with a good degree of success

it is unlikely that this could prevent a 'decline in

the total size of the higher education system by

1990' (Farrant 1981).

ii)   <u>Technological and discipline based trends</u>

Recent technological trends in such areas as

microcomputers and information technology seem likely to

continue to grow.   Despite economic stringency, the

continued reducing costs in real terms of educational

hardware seem likely to lead to increasing availability of

such hardware to the teacher.   Institutions are likely to

find students being enrolled with a much more highly

developed technological ability - the most obvious example

being in microcomputer facility.

There is considerable debate about the ultra-

specialisation that exists in the dominance of the

'A' level-Honours degree route to academic qualification.

Calls for a serious consideration of a two-year pass

degree as a post-'A' level initial degree, (Wagner 1982)

would have considerable effect on the defining of

disciplines at 'A' level and in the first two years of

higher education.

iii)   <u>Educational Theories and Practices</u>

The pressure for a higher participation rate, with its

implications concerning the creation of more

heterogeneous student groups, is quite likely to lead

to an increase in interest and need for more student-

centred learning.   This in turn will move the emphasis

from group centred to individualised learning theories
(see for example Black & Sparkes 1982). The effort to
recruit students and the changes in the operation of
courses implied by such techniques as Open and Distance
learning are further factors (Black & Sparkes 1982) that
will focus on independing learning methods. The growing
argument for higher education to involve its students to
a greater extent in activities such as problem-solving
rather than the acquisition of a body of knowledge -
methods rather than facts - (Goodlad & Pippard 1982), may
lead to a concern for higher order learning categories and
strategies.

The main obvious result of such trends should be a drift
away from the lecture as a universal all-purpose teaching
method and the possible adoption of such techniques as
team teaching to cope with the greater flexibility
required on the part of the staff (Williams & Blackstone
1983).

iv)   The Curriculum

Curriculae are likely to undergo significant changes for a
variety of reasons:

a)   to provide more student appeal - implying student
      centred, more open courses available to a much wider
      section (economic, social and ethnic) of the
      community.

b)   to provide a richer experience for the student, with
      more of an emphasis on methods, techniques and
      procedures and less emphasis on facts and knowledge.

c) to cope with a much wider range of ability of student
recruit, whether this be by age, education, experience
or background.

d) to deal with the possibility, debated recently in the
Leverhulme Report (SRHE 1983) that there should be a
form of external validation of Univeristy courses
(similar to the CNAA), which would have very far
reaching effects in the procedures for course design
in the University sector.

e) to satisfy the call for more flexible, short, modular
courses that deal quickly with emerging problems as
they arise (Lindley 1981).

The overall effect is likely to be a significant increase
in curriculum development activity, particularly in the
University sector, which has not had such a concentrated
involvement as the Polytechnics.

v) **The Student**

The wider social, ethnic, economic and educational
background of student recruitment has been alluded to
above. In addition, the growth in the proportion of
adult and continuing education students has been referred
to, whether they are involved in first time training and
education or are re-entering higher education for updating
or retraining.

One further factor that is receiving much concern at the
moment is the possibility of student loans for courses of
higher education. It is interesting to speculate how the
tolerance of students will be affected when the costs of
their courses are coming almost directly out of their own

pockets. It seems likely that student demand for

curriculum reform could become quite considerable. It

has not been altogether lacking in the recent past.

Effects on Staff and Staff Development

The educational climate for staff during the next decade is

neatly summed up by Williams and Blackstone (1983)

'Whatever adaptations are made in British Higher Education,

during the next decade there is unlikely to be recruitment on a

scale that justifies any but very large institutions having

specialist units devoted to the induction of new teachers.

There will, however, be a continuing need for innovation,

flexibility and adaptability amongst existing staff. This

means flexibility in methods and organisation of teaching as

well as in course content and institutional structures. If

proper use is to be made of rapidly changing new technology,

there will need to be ways of keeping staff informed of new

developments and practised in their use. Constant review and

evaluation of teaching and the improvement of its effectiveness,

rather than the initiation of new staff into well established

teaching patterns will be the main needs of the next two

decades'.

Whilst there is a general measure of agreement with their

identification of some of the problems facing staff and staff

development agencies, issue can be taken with regard to their

pattern for solution and this will be explored more fully below

(see section 2.4).

In addition to the need for adaptability, flexibility and rapid

response to change, it is possible to find some specific debate

about certain particular problems:

a) The 'tenuring in' of staff that has been discussed with

    regard to the American experience by Gaff (1975) has been

    echoed with regard to Britain by (SRHE 1983),

    (Bligh 1982a), (Bligh 1982b) and (Williams and Blackstone

    1983). Amongst the solutions suggested are; the

    abolition of tenure for life in Universities, mechanisms

    for staff exchanges between institutions, opportunity for

    professional and industrial secondment, increasing

    opportunity for study leave, extended use of part time and

    temporary staff and schemes for early retirement.

b) The effectiveness of teaching can be improved, it is

    suggested, (Oldham 1982), (Lindop et al 1982), (Williams

    and Blackstone 1983) by enhancing the status of teaching

    through such strategies as; peer evaluation, regular

    staff appraisal, promotion by appraisal of performance,

    separating the three functions (teaching, research

    administration) more carefully so that some measure of

    parity of esteem can be awarded to each.

c) The stimulation of innovation is seen (Morris & Sizer

    1982) as being capable of implementation by a judicious

    mixture of staff development, resource allocation,

    positive institutional encouragement and the careful

    selection of staff with the necessary abilities and/or

    attitudes.

The general conclusion to be drawn from the above assembly of

predictions is that the recent turmoil in higher education

is likely to continue for the foreseeable future and is likely

to have far reaching effects on the students recruited, the

courses that staff teach, staff conditions of service, the

organisation and structures within and across institutions and

the roles of staff within institutions. There is likely to be no shortage of work for the progressive staff development agency within such a period of metamorphosis. It remains to be seen whether political, social and economic pressures continue to provide the opportunity.

2.4 Some Issues in Staff Development

It is possible to group issues under a small number of coherent headings for convenience;

a) Accountability of staff development

b) Purpose of staff development

c) Strategies for staff development

d) Organisation of staff development

e) Curriculum for staff development

a) Accountability

Classically here is found the argument regarding whether staff development should be a tool of management or a tool of staff. Called variously the management model vs shop floor model by Yorke (1977) or the 'tops down' vs 'bottoms up' by Gaff (1975) reporting the American experience.

The development of the idea of partnership, as implied in the Piper definition (see figure 2.2) and illustrated in Yorke (1977) 'Partnership Model', (see figure 2.6) attempts to reconcile these interests. The Harding and Kaewsonthi definition (see figure 2) introduces a further dimension with the specific inclusion of the student – a development also mirrored by Gaff (1975). Hewton's definition (figure 2.2) suggests a role in the process for the staff developers themselves, thus completing what appears to be the quartet of interests that seem to require some form of reconciliation in the implementation of coherent policies of staff development.

The identification of needs within Yorke's model might well be more usefully separated, extended and integrated as indicated in figure 2.8.
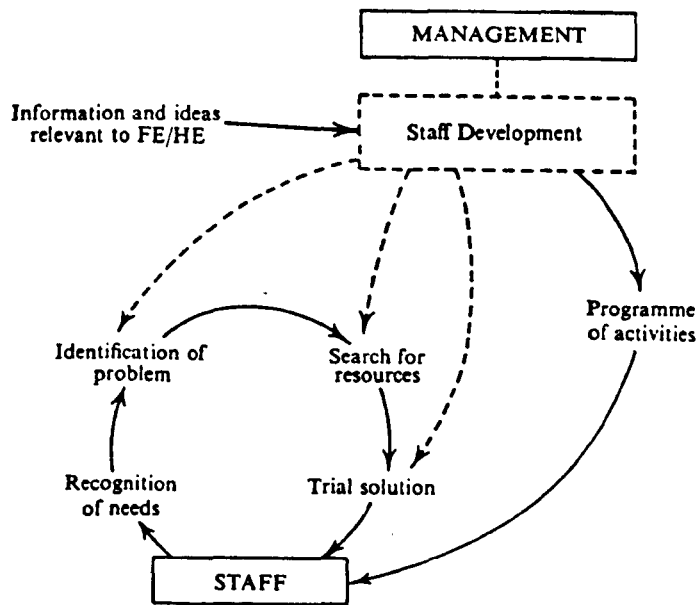
FIGURE 2.7: THE PARTNERSHIP MODEL FOR STAFF DEVELOPMENT (YORKE, 1977)

The quadripartite nature of the 'recognition of needs'
illustrates the four main interests within the institution
to which staff development must be accountable.

This component itself is capable of showing, due to its
set-based structure, a variety of levels of consensus and
coincidence, as illustrated in figure 2.9.

Staff development is seen as the umbrella set unifying the
others. Obviously the higher the consensus of needs the
less is likely to be the antipathy between the four
interests represented. It would seem that institutional
debate and discussion by all parties in an open and frank
atmosphere is likely to lead to better consensus. It is
unlikely that high coincidence is as important or capable
of being influenced to the same extent. It seems
inevitable that some needs of each party will be
relatively exclusive to that party, or at best only common
to some not all of the others.

Staff development must recognise the diverse needs and
attempt to provide programmes that reconcile and optimise
the satisfaction of such identified needs.

b)   Purpose

A fuller consideration of the objectives of staff
development will be found in Chapter 3. The concern
here is to identify general features only.

There is evidence (Rhodes 1977, Nisbet & McAleese 1979) of
an inertia in higher education that tries to maintain the
status quo. This point of view will allow a role for
staff development in improving and inducting staff into

FIGURE 2.8: QUADRIPATITE MODEL FOR STAFF DEVELOPMENT

MANAGEMENT

STAFF DEVELOPERS

EXTERNAL INFLUENCES
NT TO H.E.

ENTIFICATION OF PROBLEM

PROGRAMME
OF
ACTIVITIES

SEARCH FOR
RESOURCES

STUDENTS

STAFF

66
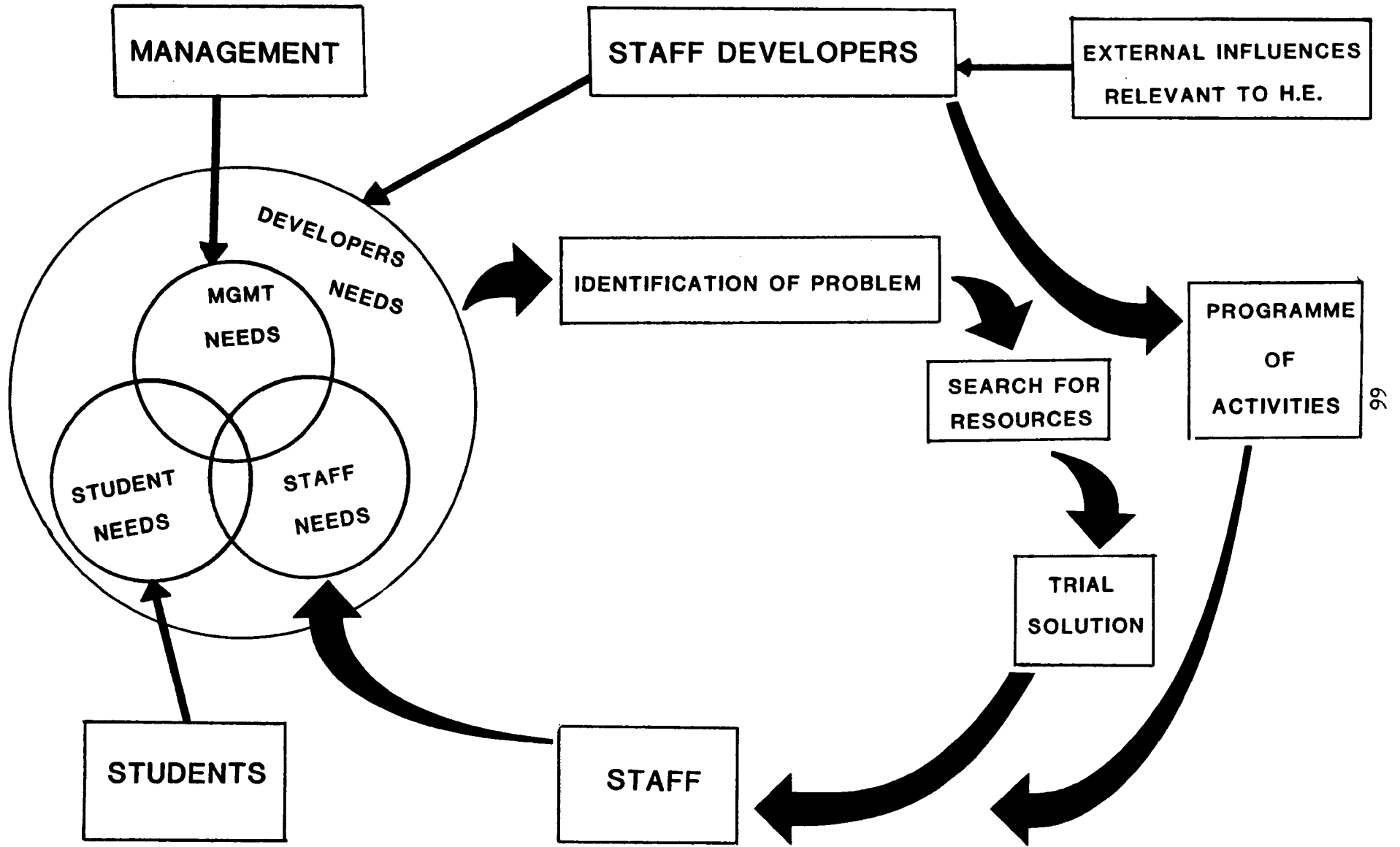
FIGURE 2.9: RECOGNITION OF NEEDS FOR STAFF DEVELOPMENT - A MODEL.

limited agreement

unanimously agreed

management   student

staff developers

staff

low consensus
low coincidence

management   staff

staff developers   student

moderate consensus
moderate coincidence

student

staff   mgmt

staff developers

high consensus
high coincidence

67
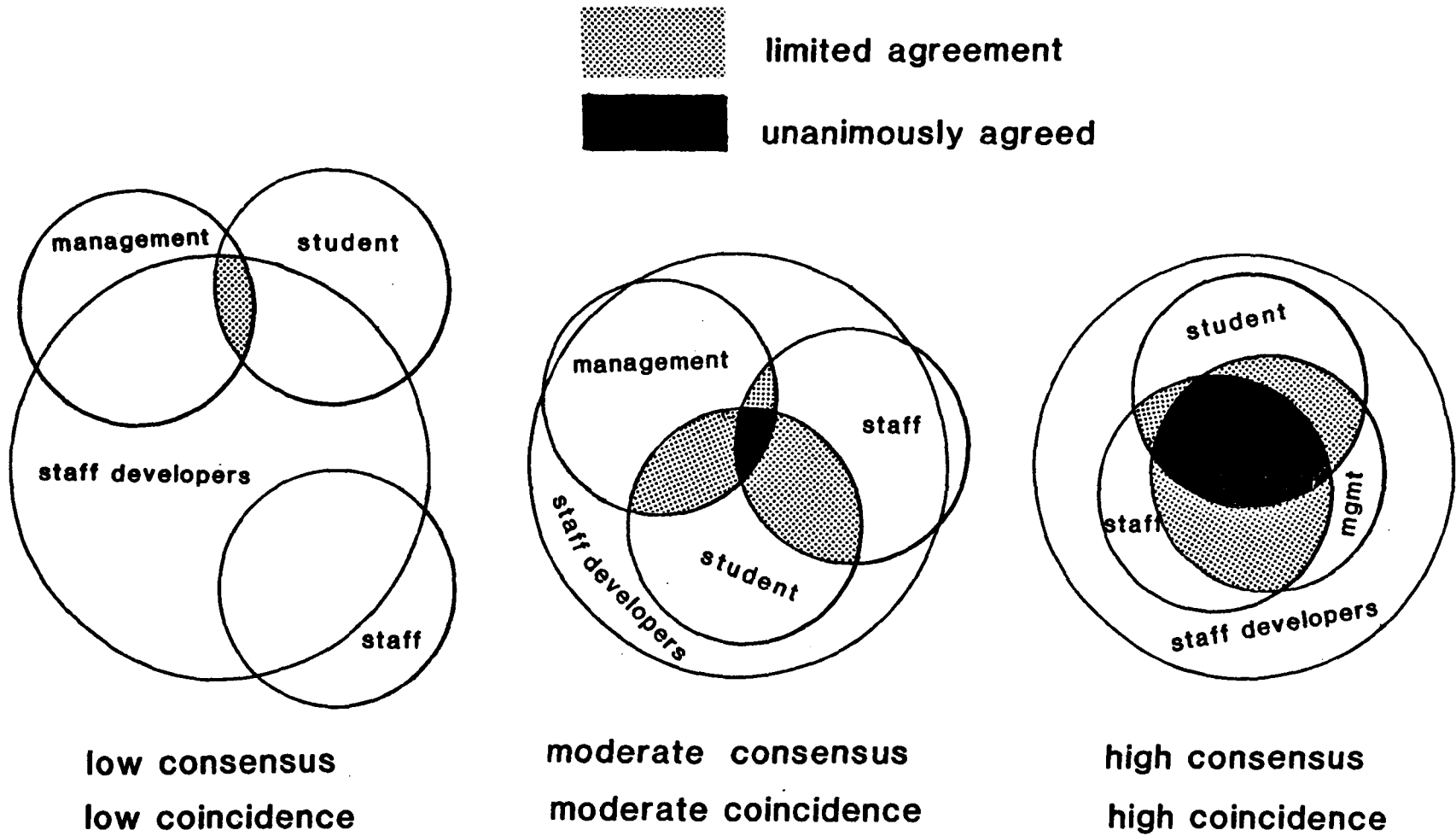
those techniques and practices that are firmly

established. Fox (1977) proposed that staff development

was a system - 'a co-operative exercise in which everyone

plays a part', rather than a process - 'something that

some people (staff developers) do to others (staff)'.

Nisbet and McAleese (1979) further suggested that staff

development was pursuing 'systems engineering' rather

than 'systems maintenance'. This clearly runs contrary

to the maintenance of the status quo. When account is

taken of Hewton (1979) and Rutherford (1982), with their

discussion of strategies for innovation applied to staff

development, then the issue regarding the extent to which

staff development should be reactive, collaborative or

originative is exposed. It would seem dangerous to err

too much towards the reactive/collaborative (normative/

re-educative in innovation theory jargon), since the

status quo is likely to prevail. A collaborative/

originative approach (involving a degree of the empirical/

rational strategy of innovation) would seem essential if

staff development is to have some contribution to make in

its own right. This area is closely related to

'Strategies' - see below.

c)   Strategies

Staff development has been subjected to almost

continuously shifting concepts and conditions over the

past decade. The metamorphosis from staff training to

staff development to professional development has been

considered (see section 2.1). The addition now of

elements of a counselling approach (see for example

Bradley, Chesson & Silverleaf 1983, Gaff 1975, Hewton

1979), where emphasis is placed on the personal development of the staff member, further shifts the conceptual ground. This could be a genuine search for a way forward, but it might also be an attempt to search for problems that are easier to solve than those left behind. Matheson (1981), Warren (1977) and the analysis of the current state (section 2.2.4) combine to suggest the lack of major impact, let alone any degree of consolidation. Gaff (1975) has suggested that the 'flavour' of staff development has much to do with the background and predilections of the staff developers involved - a plea for objectivity would seem in order here.

This apparent 'butterfly' flitting from concept to concept and strategy to strategy is further compounded by the externally imposed drifts of emphasis

i) from new staff to experienced staff

ii) from teaching skills and techniques including inter-personal skills to curriculum development and course design.

It is easy to underemphasise the importance of devising effective strategies for promoting staff development programmes. The failures of the past may have much to say about poor marketing rather than, necessarily, poor products.

d)   Organisation

The issues being discussed here can best be summed up by quotes from the SRHE Leverhulme Report:

'Institutions should encourage faculty boards and academic

departments to appoint or designate staff to have special expertise in the study of the teaching and learning of their subjects. These specialists will, with their colleagues, work on the design and management of courses. Professional development Units should concentrate upon the education and training of such specialists .....' (Bligh 1982a)

'The main responsibility for improving teaching within a discipline must belong to scholars in that discipline.' (Black & Sparkes 1982)

'There will .... be a continuing need for innovation flexibility and adaptability amongst existing staff....
.... there will need to be ways of keeping staff informed of new developments and practised in their use.
Constant review and evaluation of teaching and the improvement of its effectiveness, rather than initiation of new staff into well established teaching patters will be the main needs of the next two decades. In pursuing this aim there is a place for national co-ordination and for subject and discipline based endeavours to improve teaching'. (Williams & Blackstone 1983)

Thus the suggested trend is towards the consolidation of the innovative process in the teaching departments of the institution, with 'professional' support provided by the specialist in-house unit and other regional or national 'professional' agencies.

Rutherford (1983) in his discussion of four models of professional development echoes these trends in his description of a 'working group' model which relies

heavily on the initiative of temporarily constituted groups who work on specific problems that fall within the broad remit of staff development.

It seems more appropriate to consider these organisational strategies (as well as strategies in other sections of 2.4) as a repertoire of possible approaches that are available to apply in the necessarily multi-faceted world of the Higher Education institution. A universal single solution would seem to be at odds with the inherent diverse nature of our institutions of higher education.

Writing about the variety of 'instructional-improvement programs' in America, Gaff (1975) concluded that '(they) come in all sizes and shapes. The organisation of any single program reflects the size, character, and traditions of the institution, the purpose, history, and nature of the program, and the interests, abilities and personalities of the persons involved'.

e) Curriculum

Piper (1975) pointed out the dangers of concentrating solely on the technique of the teacher.

'....blinding themselves to all consideration of the learner, they (the teachers) concentrate on the mechanics of their own performance, thus, temporarily at least denying themselves the route to becoming a first class academic teacher'.

Nisbet and McAleese (1979) have pointed out the need for a serious consideration of the role and extent of theory in programmes of staff development.

Gaff (1975), also advocates a 'comprehensive' approach
that 'seems more capable of meeting the diverse needs of
faculty at different stages in their lives and careers and
with different educational philosophies and personal
styles .....'
He also points out a further important consideration - the
hardness of the approach. Should a systems approach be
the sole and rigid method suggested or should this be
capable of being 'softened' in order to avoid rigid
stances being taken, with the attendant conflict that
can be generated?

To these staff development specific issues must be added,
in an attempt to be consistent and practice what is
preached, the factors influencing courses in general.
These factors have been considered in section 2.3, and
include the move towards independent and individualised
learning, coping with diverse student enrolment and
optimising courses for updating and amendment through
modularisation. All concerns which, if worthy of
attention by staff, should be worthy of the attention of
staff developers who hope to influence those staff.

This review of the literature suggested a number of
guidelines for consideration and implementation in this
study - the guidelines themselves forming a minimal
summary of this chapter.

2.5 <u>Guidelines for Staff Development</u>

Staff development must:

a)   Be adaptable and flexible

b)   Be sensitive to the needs of institutions, staff and

       students and be able to reconcile them.

c)   Be able to deal with a wider range of problems and

       clientele

d)   Develop effective survival strategies

e)   Innovate and initiate (become less passive), systems

       engineering not maintenance.

f)   Monitor the rapidly changing educational scene for

       opportunities to make a contribution to the development

       of the institution and its staff.

g)   Strive harder to make real impact rather than token

       gestures.

h)   Continue to develop its own (staff developers).

i)   Become more intimately concerned in the research process.

j)   Consider carefully its image and the way it 'sells its

       products'.

Staff development courses should:

a)   Have an appropriate degree of student centred independent

       learning.

b)   Have, where appropriate, a degree of individualisation to

       cater for a wide variety of clientele.   Offering a

       variety of approaches.

c)   Be flexible and adaptable - maybe even modular - to allow

       a degree of openness.

d)   Have a carefully chosen mixture of theory and practice.

e)   Be comprehensive in nature with a 'holistic' approach
     that mirrors the real tasks of the teacher.

f)   Offer a choice of hard and soft approaches, where
     possible, in order to avoid the antipathy - especially
     from the humanities - towards a strong systems approach.

g)   Have considerable thought and effort given to their
     'marketing'.

h)   Be designed with the general Staff Development guidelines
     in mind.

CHAPTER 3

Objectives of Staff Development

CHAPTER 3 - THE OBJECTIVES OF STAFF DEVELOPMENT

The purpose of this chapter is to attempt to discover and
compare the objectives of staff development.   It must be
appreciated that the sources of such objectives are as
diverse as the interests that are involved.   It was also seldom
found that the particular interests involved couched their
aims, purposes, hopes, intentions, wishes, demands... in
objective terms.   Nevertheless, where objectives were not
explicit, content analysis has been used in order that their
objectives may be inferred.

The secondary purpose of the investigation in this chapter is to
discover the broad context of objectives within which the later
parts of this study must be located.   For this reason it has
been decided to limit the consideration of objectives to those
interests and agencies that are essentially intra institutional
and to eliminate from the discussion all extra institutional
influences.   By this means the emphasis will be concentrated on
the operational objectives at the 'coal-face' of staff
development.   The broader aims of organisations, such as CTUT,
CNAA, CVCP, DES and the like, which have less relevance to this
study, will be omitted.

In Chapter 2 (see figures 2.8 and 2.9), the quadripartite
nature of staff development needs was discussed and that theme
will be continued through into this chapter.   Objectives will
be considered under the subheadings of the four
intra-institutional interests:

3.1   The Institution

3.2   The Staff Developers

3.3   The Staff

3.4   The Students

3.5   Conclusions

This chapter is closely related to Stage 2 - Knowledge-base

B and begins to move into Stage 3 - Knowledge base C, of the

Model for Instructional Design in Chapter 1.

3.1 Institutional Objectives for Staff Development

The identification of explicit institutional operational objectives seems to have had no place in survey and research work to date. As Greenaway and Harding (1978) state in their survey of institutional staff development policy (p14) - "We did not ask what institutions saw as the purpose or aims of staff development. Although no university felt the need to identify such purposes, a quarter of the Polytechnics did so". In fact aims were suggested in the preamble to their survey instrument in order to more carefully delineate the term 'staff development'. Further they give an example of a response regarding aims from one of the institutions (presumably a polytechnic) as follows:

1. To advance each individual as an academic and as a teacher.

2. To prepare staff for changing duties and responsibilities to accord with the academic development plan for the college, the use of new methods and techniques and changing course structures, career advancement in their own college or in the education service generally.

3. To enhance a teachers contribution to group activities

4. To enhance the personal satisfaction from the work undertaken by a teacher.

Such individualised and essentially idiosyncratic statements and policies regarding the aims of institutions can be pursued further by considering such references as:

Cowell (1977) referring to Sunderland Polytechnic and identifying four major areas - teaching, research, administration, consultancy and external contacts.

Warren (1977) referring to Leicester Polytechnic's Personal Development Programme (PDP).

Robinson (1976) referring to Bradford College and identifying four major areas - teaching, research, organisation and policy-making.

The pursuance of this approach leads inevitably to the need for a full scale survey that is beyond the scope of this study. The approach of Matheson (1981) involving an analysis of remits does however highlight those areas of importance and achieves some attempt at identifying levels of consensus. Figure 3.1, column A gives an attenuated and slightly recategorised version of Matheson's analysis of the remits of central Training Committees - the equivalent to institutional policy. This obviously identifies six main areas within which objectives must be formulated. It also gives some categories within the six main headings. Its main weakness, however, is the inherent lack of detail that is implied regarding the returns from the Universities. With a total of 178 references from 46 Unversities an average of four references per University can be computed. This tends to suggest that the remits received from Universities were not particularly comprehenisve nor detailed in many cases. However it does show the distribution, in broad terms, of such information as was received. This would seem to be as far as one can get, based on existing data, in assessing institutional concerns and their relative importance.

3.2 Staff Developers Objectives for Staff Development

Using a strategy similar to that adopted in section 3.1, it is possible to analyse the remits of central training agencies (the staff developers). This has been done both for Universities, based on Matheson (1981) and for Polytechnics, based on Whitlock (1982). The results are displayed in column B of figure 3.1. Some interesting features are:

i)   The relative importance of both areas 5 and 6 in both the Universities and the Polytechnics.

ii) The more comprehensive nature of the Polytechnic provision at average 6 references per institution compared to average 4 references per institution for the Universities.

iii) The stronger course orientation of the Polytechnics (1.8 references per institution in item 6 to 1 reference per University).

iv) The equivalence of Universities and Polytechnics in item 7 - research - at 0.5 references per institution.

v)   The importance of curriculum and course design in the Polytechnics.

It would not be wise to draw any but general conclusions from such data, since it is not possible to deduce the levels of activity undertaken. Also the gap between intent and practice can often be quite considerable when closer methods of scrutiny are employed. Nevertheless such data does represent the stated intentions of the parties concerned.

Further guidelines from staff developers can be found from amongst those sources that have attempted a listing of more

precise objectives. Notable amongst these are Harding and Sayer (1975) and SCEDSIP (1974). These two sources represent opposite ends of the spectrum of opinion regarding the purposes and strategies of staff development:

Harding and Sayers approach (see figure 3.2) - stressing the pre-eminence of attitudes (the affective domain) and the dismissing out of hand of any legitimate concern for a 'skills' approach to teaching.

The SCEDSIP approach - which is more firmly rooted in the acquisition of teaching skills (the cognitive domain) allied to some concern for appropriate attitudes.

Some issue can be taken with Harding and Sayers perspective, especially when applied to experienced staff. The experienced member of staff is quite likely to have no anxieties in section 2 figure 3.2 and will say that he is able to 'appreciate' most of section 4 and 5, thus leaving himself with his self-concept nicely intact. Stanton (1978) has described the importance of building a positive self-concept in the new teacher. The problem with the experienced teacher would seem to be more a case of finding ways of modifying an existing strong - though not appropriate enough - self-concept. Large parts of Harding and Sayers inventory would seem to have little to offer in this context being too bland and essentially problematic. In fact it offers a range of the variety of objectives that is traditionally evaluated by a number of 3 hour essay-type examination papers - an activity that would seem to bear little relationship to the task of the teacher in Higher Education. Further to this, there has been much work in recent years by, for example;

a)   Hiller, Fisher and Kaess (1969), Hiller (1971) who have

     related 'vagueness' and 'verbal fluency' to achievement.

b)   Nuthall (1968), who investigated structure in the form of

     descriptive, instantial and comparative moves and found

     certain of these structures more effective in the

     classroom.

c)   Wright and Nuthall (1970) who discussed the effectiveness

     and positioning of summaries.

d)   Madike (1980) who noted relationships between learning

     gains and teacher skills such as, questioning, closure,

     use of examples, stimulus variation, reinforcement,

     cueing.

This work would seem to refute the rejection by Harding and

Sayer of an element of a skills approach on the basis that

'individual differences in response among students will not

allow any methods or skills to be identified as inherently more

effective than others'. (ibid p309)

It would seem equally unwise to follow a pure skills approach,

where little or no regard was given to matters of motivation,

needs, self-concept and inter-personal relationships.

Rutherford (1982) identifies four distinct models for the

relationship between staff developer and academic staff.   These

four models: product, prescription, process and

problem-oriented, he maintains should be considered when

devising an overall strategy for the implementation of staff

development activity within an institution.   The four models

taken together with theories of innovation, also outlined by

Rutherford, can lead to the adoption of a general strategy or approach. This general strategy will very greatly affect the positioning on the affective-skills continuum and influence the mix of objectives.

There would seem then to be no general consensus regarding objectives amongst staff developers. The issues are, however fairly clear and there seems to be some evidence for a careful balance between the extreme views that have been expressed.

Gaff (1975) is his review of staff development programmes in the USA discussed what staff development programmes might accomplish. His conclusions regarding the benefits to staff, students and the institution are included here in figure 3.3 since they illustrate a balance between attitudinal (affective) benefits and skills (cognitive) benefits. Although 'benefits' are not 'objectives', a translation into objective terms can be readily undertaken.

3.3 Staff Objectives for Staff Development

Bradley, Chesson and Silverleaf (1983) in their investigation into the professional development needs of staff in further education actually asked staff by what means their needs should be best identified. The responses received when analysed showed:

1. discussions with senior staff - most widespread support

2. observation of teaching - considerably less popular

3. student assessment - even less popular

4. peer assessment
) the only other procedures to
   team teaching
) receive any measure of support
   self assessment

They are essentially linking staff development with staff appraisal, as on-the-job identification of needs, followed by a remedial programme of training. This is essentially a fairly limited but sensitive perspective on staff development. Nevertheless the relative lack of importance attached to self-assessment of needs is of interest, although an element of this is implied in 'discussions with senior staff'. Presumably staff are aware of the lack of objectivity implied by their own self-assessment of their needs and are reluctant to give this too high a priority in the 'procedures' scale.

Despite this cautionary note, most of the data gathered from staff regarding their needs for staff development has been by questionnaire.

Sutherland (1975) gathered information from 117 new staff entrants to Universities. Approximately 80% of these new entrants had previous teaching experience. They were asked to identify what problem areas they would like help with

from an initial training course, what items they thought would be of particular value on such a course and what they would hope to gain. All quite open ended questions. Amongst the most frequently mentioned responses were: help with lecturing, AVA and educational technology hardware, small group teaching, available forms of teaching, opportunity to meet other staff, organisation of University, educational psychology.

A subsequent questionnaire, sent to the 81 new entrants who completed the initial training courses, asked them to rate the course components. The problem here is that the six universities were operating different courses, so the results are difficult to aggregate across Universities. However, the one universal consensus concerned components that related to lecturing, whether practical or theoretical, which were without exception rated extremely highly. When asked further to rate a number of components for study in the future then the items scoring most highly were: student learning and motivation, small group teaching, examinations and assessment, organisation and supervision of research. There was also considerable support for some kind of service to help staff to improve their teaching - the use of CCTV and student based information gathering being the favoured methods for obtaining feedback on teaching performance. Such methods have since been echoed by Bradley, Chesson and Silverleaf (ibid). King (1973), in a survey of 303 new entrants in 18 Univesities, used a particularly insensitive (four alternatives) and crude comparative item to identify which teaching situation caused them most self-doubt. 'Lectures' was the item which scored most highly, though this is not an absolute measure. It is suggested that no items may

cause new staff much concern, it may simply be that 'lectures' is a little higher than the others. A further factor is, of course, that 'lectures' scores highly simply because that is what staff expect to have to do and other methods are seen as largely irrelevant. If they were informed that 'seminars' constituted 70% of their teaching contact time then the results might be different. Amongst the reasons given for doubts about lecturing were inadequacies in:

i)   planning - structure material, organise resources, make
       understandable.

ii)   presentation - public speaking, speed, timing, use of
       aids, delivery, voice projection, maintaining interest,
       lucidity, coherence, intelligibility.

iii)   personal - lack of experience, nerves, lack of confidence.

iv)   interpersonal-student responses, feedback, participation,
       satisfactory relationships.

Once again the analysis is in many ways unsatisfactory, since it represents a crude content analysis with little quantitative validity. It is useful nevertheless as a qualitative analysis. Elton and Kilty (1975) asked new entrants both inexperienced and experienced, to rate 33 aims for a staff development course by rating each item on a 1 to 5 scale of importance. The higher rankings are shown in figure 3.4 below. Once again, concern for the lecture figures most prominently. When inexperienced and experienced new entrants were considered separately some differences in emphases emerged:

experienced teachers rated 'to improve audibility and clarity of speech', 'to increase awareness of personal annoying mannerisms' and 'to develop an orderly blackboard manner' very highly.

Rank (in order of importance)		Mean rating 5 point scale
1	To improve personal lecturing technique	4.67
2	To increase knowledge of techniques and methods of organising and conducting a lecture	4.60
3	To increase knowledge of techniques and methods of organising and conducting a tutorial	4.27
4	To increase awareness of the variety of student approaches to learning	4.13
6	To increase knowledge of other teaching methods	4.07
	To increase awareness of the variety of possible designs of teaching situations	4.07
	To increase knowledge of the variety of methods of assessment and their applications	4.07
8	To increase knowledge of the effects of stating aims and their applications	4.03

FIGURE 3.4: RANKING OF THE AIMS OF STAFF DEVELOPMENT (Elton & Kilty 1975)

inexperienced staff found the above less important and were more concerned with 'to increase knowledge of other teaching methods' and 'to develop confidence in teaching'.

Bruhns and Thomson (1979) in a survey of 81 new staff entrants to the University of Copenhagen used both open ended questions and a 21 item checklist to elicit their concerns regarding their impending teaching responsiblities.   Concerns that scored highly on both open and checklist treatments were:

i)   organisation of content into appropriate form,

ii)   ability to express oneself lucidly, coherently and with certainty,

iii) ability to arouse, maintain interest of student and promote active teaching and learning processes.

There is considerable congruence with the findings of King (ibid) described above, in that these three concerns figure most prominently in that study also.

Bruhns and Thomson go a stage futher in labelling the concerns ego (teacher) centred, student centred, and teaching centred. A finer analysis of concerns against experience of new entrants showed that:

inexperienced teachers tend toward ego-centredness

experienced teachers tend towards student and

teaching-centredness.

This analysis would seem to be at odds with the findings of Elton and Kilty (ibid) described above, but the instruments are different in content and in construction (checklist vs 5 point rating) which could account of the discrepancy.

A consideration of some items on the Elton and Kilty instrument would suggest that they are not sufficiently discrete and distinguishable one from another. A factor that may well lead to some lack of confidence in the results. This, taken together with the fact that Bruhns and Thomsons results confirm earlier findings reviewed by Fuller (1969), lends weight to the ego-centred theory of the beginner - but more to the point of this study - the student and teaching-centred concern of experienced staff.

A study by Pangman (1982) was designed to develop an instrument for staff to self-assess their concerns and needs for professional development. The instrument was used with experienced University teachers in Canada and England. Whilst the analysis of results concerned mainly across-item comparisons and Canadian/English comparisons, the most enduring and striking impression is the high level of complacency of the staff concerned. With the exception of some relatively small number of either disturbed teachers or questionnaire saboteurs, there was a general lack of concern from staff about the major areas of planning, class/effectiveness, questioning, explaining, use of time, vocal expression, student awareness covered by the study. This illustrates the main dilemma facing the researcher in trying to account for the concerns of the experienced member of staff - he has none - that he is prepared to admit to. The mere rating of one item higher than another does not necessarily imply any absolute concern about either to any great extent.

3.4 Student Objectives for Staff Development

The literature is absolutely brimming with individuals

attempts to collect data from students about the quality of

teaching that they receive.   This is mainly a concern for

the use of student feedback in improving specific teaching

and learning experiences on specific courses.   It does not

normally represent any attempt at generalisability, nor are

the numbers involved likely to achieve a consensus.   A review

of these many source could represent a complete study in itself.

Some degree of student consensus on staff development can be

obtained by considering the utterances of the NUS.   The Report

of the Commission on Teaching in Higher Education;   NUS (1969)

suggested improvement of teaching based on six points:

i)   knowledge of the psychology of learning;

ii)   learning about the abilities, interests, motives of one's

       students and taking account of these in lecture planning;

iii) clarifying the outcomes to be achieved by one's teaching;

iv)   preparation and structuring of material to best achieve

       aims;

v)   mastery of oral communication;

vi)   study of methods of evaluation.

These were echoed and in some cases extended and slightly

elaborated in the findings of a review by Trent and Cohen (1973)

undertaken in America.   The points that they enumerated as the

concerns of students for their teachers being:

i)   Clarity of organistaion, interpretation and explanation;

ii)   encouragement of discussion and presentation of diverse

       points of view;

iii) stimulation of students' interest, motivation and thinking;

iv)   manifestations of, attentiveness to and interest in,

students;

v)   manifestations of enthusiasm.

More recently in their 1981 campaign to improve teaching methods
and lecturer training a number of perceptive and hardhitting
documents addressed themselves to staff development. A survey
of these, NUS (1981a, 1981b, 1981c), yields illuminating quotes:
'All lecturers need training in the skills of teaching:
communicating, using aids, as well as on how to mark essays,
supervise and undertake tutorial duties. This training should
be compulsory at the start of teaching careers and at intervals
throughout. Only a lecturer who understands nothing about how
people learn (the elementary psychology of attention spans and
learning theory) could rattle on in a monotone for an hour
without pause.'

'Visual aids should be fully and properly used, and good clear
delivery is of the essence.'

'A lecturer should set out clearly his/her programme of lectures
etc, for the term. Students should be encouraged to make
suggestions on the improvement of the programme at any stage
during the course, and preferably be actively involved in
drawing up the programme for the following year.'

'There is more to good teaching than acquiring a certain number
of skills and an overhead projector. Lecturers must understand
why certain kinds of teaching are preferred by students. They
must be willing to experiment and change their approach to suit
the needs of each group of students.'

'Lecturers attitudes to students must also be challenged - both during their training and by students themselves. Too many lecturers have a picture of students which reinforces and justifies their unimaginative approach to teaching - "students just want notes to get them through exams", "it's no good trying to have discussions with women students - they haven't got anything to say for themselves", "if you let people ask questions in lectures only one or two will do so and disrupt things for the rest".'

These quotations, whilst small in number, do accurately summarise both the concerns of students as expressed in the documents and the general tone of the documents.
Students then are primarily concerned with the performance of the teacher in the classroom and with his attitude to and interaction with themselves.

3.5 Summary and Conclusions

A classification of areas of location for objectives in staff development is shown in figure 3.5. Where a particular area is given some prominence in the literature surveyed than that is indicated in the column of the appropriate sector.

The classification is by no means exhaustive, but is more comprehensive than might be thought at first glance, since some areas are quite broad. This is particularly true of areas within Theory and Practice which relate to knowledge and skills within all of the methods and techniques available to the teacher in higher education.

Some further care must be taken in interpreting omissions in the table. One cannot for example believe that institutions are not interested at all in the affective development of students - it is simply that this is not seen by them as a prime purpose for staff development. Presumably they see this task resting somewhere else witin the collective responsibility. Alternatively, some areas of concern can be seen to be subsumed under a more comprehensive (less explicit) area. For example, the lack of institutional concern for relationships is to some extent counteracted by a concern for smoother functioning in departments and committees but this does represent a slightly different perspective - institutional rather than personal.

This analysis of objectives confirms the quadrapartite nature of the recognition of needs developed and discussed earlier (see figure 2.9). There is far more of a degree of unanimity if the Institutional column is omitted - illustrating the 'management' vs 'shop floor' models as suggested by Yorke (1977).

SPECIFIC AREAS OF LOCATION FOR OBJECTIVES			INST	SD	STAFF	STUDENT
TEACHING AND LEARNING	THEORY	Psychology of learning			✓	✓
		Knowledge of developments in teaching and learning		✓	✓	✓
		Research findings in teaching and learning	✓	✓	✓	
	PLANNING	Aims and objectives		✓	✓	✓
		Structuring of material		✓	✓	
		Development of learning materials		✓	✓	✓
		Course and curriculum development	✓	✓		
	PRACTICE	Development of new/improved teaching skills	✓	✓	✓	✓
		Development of new/improved teaching techniques	✓	✓	✓	✓
		More effective learning experiences for students	✓	✓	✓	✓
	EVALUATION AND ASSESSMENT	Of methods and materials		✓		✓
		Formative and summative		✓		
		Importance of student feedback		✓	✓	✓
		Assessment and examinations	✓	✓	✓	✓
AFFECTIVE	STAFF	Development of favourable attitudes to teaching and learning		✓	✓	✓
		Development of favourable attitudes to professional development		✓		
		Increased job satisfaction	✓	✓	✓	
		Increased morale	✓	✓		
		Favourable attitudes to working with students		✓		✓
	STUDENTS	Better attitudes towards subject and course		✓		
		Better attitude towards institution		✓		
		Lower drop-out rates		✓		✓
RELATIONSHIPS		More understanding relationship with colleagues		✓	✓	
		More understanding relationship with students		✓	✓	✓
		More understanding relationship with admin staff		✓		
ORGANISATION		Promotion by ability	✓			
		Coping with change effectively	✓	✓		
		Staff versatility and adaptability	✓	✓		✓
		Smoother functioning - departments-committees	✓	✓		
		Increased student enrolment	✓			
		More exciting courses	✓	✓		✓

FIGURE 3.5: IMPORTANCE OF AREAS OF OBJECTIVES BY SECTOR

The general conclusions that may be drawn are concerned then with degrees of universal consensus. The strength of concern and stated commitment is evident in all areas of 'Practice', most areas of 'Theory' and 'Planning', in 'Student Feedback', 'assessment and examination', 'attitudes to teaching and learning', 'staff/student relationships'.

It would seem that attempts to develop and implement programmes in these areas are more likely to be dealing with the perceived needs of all parties. As such, their success is more likely to be assured and their achievement more valued and worthwhile. As will be seen (Chapter 4) micro teaching techniques have much to offer in most if not all of these prime areas.

CHAPTER 4

Review of Microteaching

4.1   The concept of microteaching.

4.2   The applications of microteaching

4.3   The effectiveness of microteaching

4.4   Current Issues in microteaching

4.5   The microteaching model

4.6   Conclusions and guidelines

This chapter is congruent mainly with Stage 3: Knowledge base C

of the Model for Instructional design described in Chapter 1,

but also begins to move into Stage 4 and Knowledge base D of the

model.

4.1   The Concept of Microteaching

Allen and Ryan (1969) described microteaching as an idea that

had five essential propositions:

a)   microteachng is real teaching, although the teaching

      situation may be artificial to some extent.

b)   microteaching lessens the complexity by reducing class

      size, content and time involved.

c)   microteaching focusses on training for specific tasks in

      instructional skills, teaching techniques, curricular

      materials presentation or teaching methods.

d)   microteaching allows a greater degree of control over

      such variables as time, students, feedback, supervision

      and many others.

e)   microteaching enhances greatly the opportunity for

      feedback of many different forms.

The original microteaching pattern (see figure 4.1) developed in

1963 at Stanford University involved six major stages as

indicated.

Typically then a student teacher will plan a short (5 minute)

sequence of a lesson to allow the use of a particular teaching

skill (eg fluency in asking questions) and this he will teach

to a small number (3 or 4) of pupils. Observational feedback is

provided (by supervisor and/or pupils and/or video or audio

tape) to the student teacher to enable him to re-plan the lesson

and his performance.   He reteaches the lesson to another small

group of pupils and feedback from the reobservation is again

made available to the student teacher.   This is considered and

compared to the feedback at Stage 3 and considerable improvement

FIGURE 4.1: THE STANFORD MICROTEACHING PATTERN

1. Plan	2. Teach	3. Observe (critique)	4. Replan	5. Reteach	6. Reobserve (critique and compare)
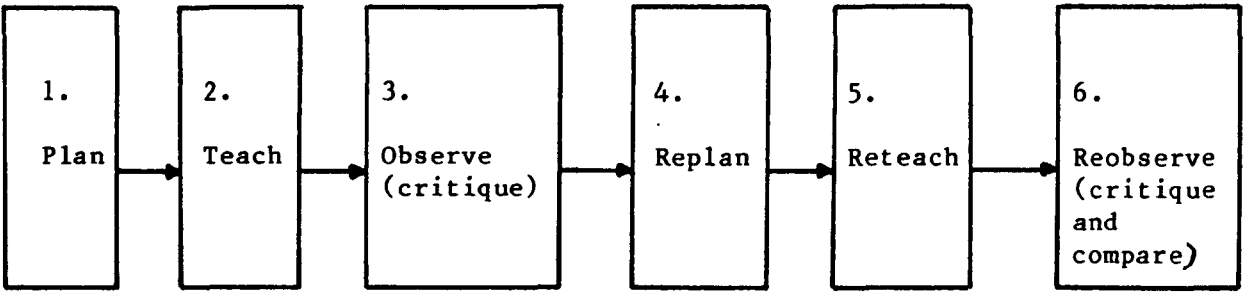
is expected towards the achievement of skill in the chosen task.
Normally this sequence will be preceded by some form of
instruction relating to the particular skills that are to be
practised and student teachers who experience difficulties can
repeat the sequence until some degree of mastery is evident.

Elsewhere may be found attempts at short definitions of
microteaching;

'a system of controlled practice that makes it possible to
concentrate on specific teaching skills and to practise
teaching under controlled conditions' Allen and Eve (1968)

'a scaled down teaching encounter: scaled down in class size
(4-7 pupils); lesson length (5-20 mins) and teaching
complexity, in that it concentrates on one or a small group of
related teaching skills at a time' Perrott (1977).

'Microteaching is a technique whereby trainees are introduced to
the component skills of teaching, and are given an opportunity
to practise these skills in scaled down teaching encounters'.
Hargie and Maidment (1979) pvii

Such brief definitions are essentially unsatisfactory in that
they fail to adequately describe the range of features inherent
in the microteachng situation - for example no definition
above mentions the feedback phase.   Further dissatisfaction can
be found in the search for adequate definitions due to the
multiplicity of patterns of microteaching that are being
implemented.   This is not so surprising since as Allen and Ryan
(1969) observed (pvii),

'....the concept has never been a static one.   It continues to grow and change and develop both in focus and format.'

This point of view was echoed by Brown (1975b),
'there have been so many variations in the approach that the term microteaching is generic rather than specific.' (p25)

For the moment, it is sufficient to give some general indication of the degree and range of variability that is possible within the stages of a programme labelled 'microteaching'.

1.   Planning - can involve lectures, tutorials with or without

      models (either real or taped).   May involve

      discrimination training of skills with or without the use

      of cues and observation instruments (of which their is a

      vast choice).

2.   Teach - can vary in length (5-20 minutes), number of

      pupils, number and range of skills.   May involve real

      pupils or peers.   Can be recorded or merely observed

      by independent observers.

3.   Observe - critique - can be self, group, supervisor-based,

      involving reference to printed criteria relating to

      teacher performance and/or pupil performance.   Can be

      whole or selective, cued or uncued, immediate or delayed,

      involve positive and/or negative feedback.

4.   Re-plan   5. Re-teach   6. Re-observe

      These three stages can vary to the same extent as the

      first three stages but with some additional factors.

      Stages 4, 5, 6 may or may not be there in entirety and

      may be scheduled in diverse ways.   The content may be

identical, similar or completely different to that in the initial stages.

Overall the balance of the stages and their emphasis can change considerably - some programmes are very minimal others display a degree of 'overkill' that makes one wonder how they could possibly fail.

There would seem to be little point in pursuing precise definitions. It would seem more appropriate to use the five propositions of Allen and Ryan (ibid) as a reasonable descriptor, to consider how microteachng has been applied and how these varieties of application have thrown up issues relating to the elements within the descriptor. This will be pursued in subsequent sections.

4.2 The Applications of Microteaching

Since its inception in 1963 microteaching has indeed

grown, changed and developed.   It has been applied

to the training of teachers in an intuitive, almost

hypothetical, way as it was in the beginning at Stanford.

It has been influential in promoting considerable research

into teaching, some of which has, in turn, influenced the

intuitive approaches to teacher training.   It has also

found applications outside the specific purpose of

training.   It has found further applications outside the

specific purpose of training teachers for the classroom.

It is convenient therefore to consider the applications of

microteaching under the three headings suggested above:

4.2.1   Applications to teacher training

4.2.2.   Applications to research on teaching

4.2.3   Applications beyond teaching

4.2.1 Applications to teacher training

Allen and Ryan (1969) enumerated 14 teaching skills that had

been developed at Stanford (see figure 4.2) and had been used

there in the training of teachers for secondary schools.   Since

that initial development it has been applied;   at all levels

from primary to higher education, with pre-service and

in-service teachers, in a wide range of subject teaching

contexts, with a constantly widening range of skills and

methods being employed, Allen (1980).   Some of these

applications have involved the development of detailed category

observation instruments that identify and indicate classroom

predictors of the occurrence of the specific teaching skills

1. Stimulus variation

2. Set induction

3. Closure

4. Silence and non-verbal cues

5. Reinforcement of student participation

6. Fluency in asking questions

7. Probing questions

8. Higher order questions

9. Divergent questions

10. Recognising attending behaviour

11. Illustrating and use of examples

12. Lecturing

13. Planned repetition

14. Completeness of communication

FIGURE 4.2: STANFORD TEACHING SKILLS (ALLEN & RYAN, 1969)

being considered. Others have devised and employed higher

inference rating schedules for completion by pupils, supervisors

and peers. Examples of such instruments are legion, see Simon

and Boyer (1967), (1970), Borich and Madden (1977) for American

perspectives, Brown (1975a), McIntyre, Macleod and Griffiths

(1977) for British perspectives and Turney, Clift, Dunkin and

Traill (1973) for an Australian point of view.

The classification of teaching skills undertaken by Turney et al

(1973) clearly illustrates (see figure 4.3) the analytical

thrust in microteaching at that time and the considerable

preoccupation with identifying and defining individual skills.

Subsequent to what one might call this 'analytical' period there

emerged a synthesising influence which attempted to cluster tiny

skills into groups which had more relevance to classroom

practices, strategies and methods. So we have for example:

The mini courses of Borg (1971) translated into the English

context by Perrott (1977) dealing with questioning.

The work on lecturing and explaining by Brown (1978).

The concern for the teacher as a decision maker Shavelson

(1976).

The survey by Hargie and Maidment (1979), indicating some quite

broad categories within the analysis of skills employed in

microteaching programmes in UK teacher training establishments

(see figure 4.4). Of the 220 institutions surveyed 51% had

active programmes, 11% were prospective users, 18% were inactive

and 20% did not respond at all to the questionnaire.

So we have, then a picture of microteaching as a widely applied

technique in teacher training, used in all educational strata,

with a large variety of skills often used idiocyncratically.

This general overview will be explored more deeply in section

FIGURE 4.3: TEACHING SKILLS CLASSIFICATION
(Turney et al 1973, p 121)

Skills	Number of mentions by respondents		
	University departments	All other institutions	Total
1. Questioning/redirecting	12	54	66
2. Inducting/initiating/ defining/focussing	10	24	34
3. Reinforcing/encouraging/ praising	11	17	28
4. Closing/recapitulating	8	17	25
5. Varying stimulus	8	16	23
6. Using aids	4	11	15
7. Communicating	4	10	14
8. Presenting/sequencing/ progressing/pacing	2	11	13
9. Participating/using ideas	5	7	12
10. Illustrating/demonstrating	3	9	12
11. Cueing	3	8	11
12. Interacting	3	8	11
13. Expounding/instructing/ narrating	4	5	9
14. Presenting self/poise/ orienting	2	6	8
15. Explaining/elaborating	2	6	8
16. Controlling/manipulating	2	5	7
17. Organizing/planning	1	6	7
18. Discussing	2	4	6
19. Animating/liveliness	3	2	5
20. Structuring/forming concepts	3	1	4
21. Rapport	1	1	2
Total	93	230	323

FIGURE 4.4: **ANALYSIS OF SKILLS FEATURED IN MICROTEACHING PROGRAMMES IN UK TEACHER TRAINING ESTABLISHMENTS (Hargie & Maidment (1979) p 76)**

4.4, where aspects briefly touched upon here will be seen and considered as major issues.

4.2.2 Applications to research on teaching

The potential for micro teaching as a research tool was realised from the beginning. So, hand in hand with its application to the training of teachers, has been its use for identifying teacher behaviours and skills. This process of identifying teaching skills is sometimes distinguished from microteaching approaches and labelled 'technical skills of teaching' Dunkin (1987). However since the approach grew out of microteaching and the format of the research studies is essentially micro, it is proposed to consider this research under the banner of microteaching. This research has attempted to focus particularly on the identification of those skills possessed by the 'good' teacher and efforts to show that these skills lead to improvement in the level of pupils' learning. Most research has been done in the primary and secondary levels of education, but this is still of interest in view of the principles involved.

The quantity of research is vast and an attempt to give a general representative overview is all that can be undertaken here. More specific references to research will be found in section 4.4 alongside the specific issue to which the research relates. This is appropriate, in that much research has been undertaken specifically to explore issues within the microteaching context, whereas here we are more concerned with broader issues.

In an attempt to make some sense of the many and diverse studies that have been undertaken dealing with process-product correlations, Rosenshine and Furst (1971) undertook a review of 50 of these studies. They were concerned to suggest possible though tentative relationships between teacher behaviours (skills) and pupil outcomes (learning). The weakness of much of the work surveyed and the dangers of inferring causation from correlational studies was pointed out. Nevertheless they felt able to hypothesise that:

Clarity, variability, enthusiasm, business like or task-oriented behaviour, student opportunity to learn seemed strongly related to pupil learning.

Use of student ideas (indirectness), criticism, use of structuring comments, types of questions, probing, level of difficulty whilst less strongly related seemed worthy of further examination.

Heath and Nielson (1974) in a reworking and severe critique of the Rosenshine and Furst review concluded that:

i)   the research literature did not offer an empirical basis for selection of teacher training objectives,

ii)   the failure was due to 'sterile operational definitions of both teaching and achievement', weak research design and flaws in statistical analyses,

iii) given the well documented, strong association between student achievement and variables such as socio-economic status and ethnic status' process-product relationships are likely to be 'inherently trivial'.

Rosenshine and Furst themselves made many cautionary qualifications in their review relating to points i) and ii) above. Point iii) is itself such a non-sequitur that, whilst not calling into question the authors' empiricism nor their statistical ability, it does engender concern for their ability to apply logic.

Fundamentally what should be appreciated is that because a hypothesis is not proved is insufficient reason to assume it is disproved. No amount of empirical research and statistical analysis is likely to persuade the dedicated teacher that the effect he has upon the learning of his students is 'inherently trivial'.

Rosenshine (1977) in a much more careful follow-up review, which was at pains to avoid some of the earlier errors pointed out by Heath and Nielson (ibid), concentrated on studying only those research studies that had common population characteristics. In this review six major studies dealt with reading and maths for primary children from low SES backgrounds.

The significant relationships for this pupil group would seem to be as follows, pupil achievement is:

i)   positively related to direct instructional time and content covered

ii)   positively related to frequency of factual single-answer questions, negatively related to frequency of complex or divergent questions

iii) negatively related to pupil inattention

iv)   positively related to working in groups, negatively

related to working independently without teacher

supervision

v)   positively related (but not strongly) to teacher praise

vi)   unrelated to pupil initiated talk.

Rosenshine is at pains to constantly emphasise that these

conclusions are for this type of pupil population, engaged on

these types of learning tasks, associated with these subjects at

this level.

In a study to compare more effective and less effective teachers

(based on the performance of their pupils), Good and Grouws

(1977) found a number of process skill clusters that seemed to

be strongly associated with teaching effectiveness.   These

clusters were:

a)   student initiated behaviour

b)   whole class instruction

c)   clarity of instruction and information availability as

needed

d)   non-evaluative and relaxed learning environment

e)   higher achievement expectation of pupil by teacher

f)   freedom from behavioural disorders in classroom.

These findings are somewhat at odds with Rosenshine's review -

but Good and Grouws were dealing with 4th grade mathematics.

FIGURE 4.5: PREDICTORS OF PUPIL PERFORMANCE
(based on McDonald (1977) p.131)

Teaching Behaviours		
	+ve predictors	-ve predictors
GRADE 2: READING	variety of instructional materials	variety of instructional purposes
GRADE 2: MATHEMATICS	variety of skills taught maintaining task involvement content coverage	variety of instructional materials unsystematic questioning whole-class and group teaching variety of instructional activities
GRADE 5: READING	variety of instructional techniques independant work	variety of instructional materials variety of materials organising time
GRADE 5: MATHEMATICS	whole-class and group teaching variety of instructional techniques	variety of instructional materials

McDonald (1977) studied the effects of teaching behaviour on the achievement of pupils in 2nd and 5th grade reading and mathematics. His results are summarised in figure 4.5, in the form of predictors of pupil performance. Whilst the results may seem contradictory, McDonald concludes that

'There is no one method of organising instruction that is effective across both reading and mathematics and across both 2nd and 5th grade. But there are methods which are effective for each subject area and each grade level' (p 134).

Shavelson and Attwood (1977) clustered smaller teaching skills and behaviours into 12 groups which they called categories. These 12 categories: teacher presentation, content presentation, teacher questions, teacher feedback, motivational skills, expressive teaching style, student centred style, interpersonal behaviour, affective style, following procedures, classroom management, teacher individualisation, were then examined in a review of eleven research studies. The purpose was to consider the stability of these teaching process measures. It is sufficient for our purposes here to state that the results were very mixed and no really clear pattern emerged for the categories, there being considerable variations of the stability within category skills.

This then gives the flavour of the application of microteaching to educational research. It must be borne in mind that the principles emerging especially those relating to dependence on target group, subject matter, and level, can illuminate the approach necessary in this study. Also to be considered is the 'notion... that more global skills should be developed,

accompanied by an overall framework for the skills' McKnight (1980) p 220.

4.2.3 Applications beyond teaching

The micro-encounter has been applied in many contexts beyond the training of teachers. In fact, it may make a contribution in any activity concerned with the training of interpersonal communication skills. So we find applications in supervisory training, management and personnel training, medical and paramedical interviewing, counselling, performance arts, human movement studies and case presentation in a wide variety of disciplines including law, engineering, architecture, town planning. A few examples are presented to illustrate:

i)   Brusling (1974) reports the work of Sadker (1971) who used microteaching techniques in order to train pupils' classroom behaviour - in this case to emit a greater number of higher order questions. This is perhaps a technique that has more to offer in the Higher Education context where learning is a more complex process and students are expected to display more autonomy and initiative.

ii) Douglas and Pfeiffer (1973) have pointed out the potential of micro-encounter techniques in effecting changes in the behaviour of micro-teaching supervisors and the possibility of the transfer of the potential into supervisory skills in general.

iii) Ivey (1971, 1974) has described the application to counselling skills - microcounselling. The development closely resembling that in microteaching with the focus

shifting from individual skills to skills typically grouped in larger clusters: beginning skills, selective listening skills, psychological interpretation, self-expression.

iv) Fieldhouse and Shaw (1978) have described the micro-encounter approach in the training of dietitian-client interview skills, which is similar in principle to work in speech therapy encounters also undertaken by the author.

These examples illustrate the widening role for micro-encounter techniques and have been included in order to suggest the possibility of the application of such techniques in the wider role of the teacher - applications that extend beyond the confines of his teaching role in the classroom. The pastoral role of the teacher, interpersonal skills and relationships with peers, professional functions within the institution, administrative roles are all areas that readily spring to mind and are fundamental, though often neglected, aspects of staff development.

4.3 The Effectiveness of microteaching

Allen (1980) has neatly summed up the inherent dilemma and the current state of affairs relating to the effectiveness of micro teaching:

'In the early years, much of the research that was done was on the efficacy of microteachng as a technique. More recently however, the technique of microteaching has been pretty well accepted as having a defacto face validity. Its high level of acceptance both in the USA and abroad has been based not so much on research evidence as upon the satisfaction level of the teacher education staff, the teaching candidates, and the school personnel involved in its use.' p148

In short, then, it seems to work and people like it! That does not mean however that microteaching, as a technique, has not been and is not without its critics. It would seem worthwhile to consider such criticisms in the light of relevant research that has been done. This is undertaken not merely through some sense of 'fair play' but in order that such criticism, which is strongly felt, can influence the approach in this study.

Research into the effectiveness of microteaching has looked for evidence in four major dimensions:

i)   the performance of the teacher

ii)   pupil/student attitudes to their teacher

iii) teachers attitudes to their mode of training

iv)   increases in pupil/student learning

There is some danger in compartmentalising the above dimensions, since they are, in any case closely related. The edges will be

blurred, as appropriate, in the following discussion to consider effectively across-group correlations.

i) Teacher performance

A large number of studies have considered the change in teacher performance, measured by rating of specific skills, frequency counts of specific behaviours or even by traditional global ratings. Some have used criterion measures from pre and post treatment scores, others have used comparison of microteach treatment groups with control groups.

Gage and Winne (1975) have made the point that microteaching 'and its close relative, the mini course, have consistently been found to be effective in changing trainees' teaching behaviours to parallel more closely those of a particular teaching strategy' p161.

There are number of studies that bear out this point of view amongst them are the following:

A. Fortune etal (1967) reported on the early work at Stanford University involving 140 pre-service teachers. Their performance before and after a six week period of micro teaching was assessed and the students showed significant improvements on nine of the first twelve items on the Stanford Teacher Competence Appraisal guide (STCAG). This confirmed earlier work, particularly by Bush (1966), relating to the early Summer Clinics at Stanford.

B. Perrott (1977) in a translation of the work of Borg (1971), Borg et al (1970) into the UK context used the minicourse 'Effective Questioning' with a group (n=28) of

in-service teachers over a number of weeks, administering pretests, post tests and a delayed test after 4 months. Fourclusters of questioning skills: encouraging pupils readiness to respond, improving initial responses, increasing level and amount of pupil participation, elminating disrupting habits, were investigated involving some 13 smaller skills. In all but the first of these clusters significant gains were found from pre and post testing and were maintained in delayed testing. This involved significant consistent gains in 8 of the 13 smaller skills under consideration in both post course tests.

C.   Miltz (1978), in a study involving 13 in-service teachers at the University of Massachusetts, coached the skills of asking questions and increasing student participation. Pre and post microteaching tapes were assessed by independent raters using the Technion Diagnostic System (TDS) - an instrument developed by Perlberg at the University of Haifa. Significant gains are reported in both skills from pre and post assessments.

Brown (1982a) in a study of the training of lecturers in explaining used a one sample pre-test/post test design. Significant changes were evident in structuring moves and observer ratings of clarity, use of A-V aids, interest. The study did not use a control group, so results are suggestive rather than definitive.

There seems little doubt regarding the effectiveness of microteaching techniques to coach teaching skills. The debate is more concerned with, whether these skills are

worth coaching in the first place, whether such skills do, in fact, distinguish the good teacher from the bad. The critics of the teaching skills approach are looking for more than correlational studies, they require empirical causal evidence. Other researchers have attempted the task of comparing microteaching with more conventional or traditional methods of teacher training invariably involving a 'control group' design:

D. Kallenbach and Gall (1969) trained two groups of students, one involved the use of microteaching, whilst the other involved the normal student teaching college programme. Both groups received the same pre encounter instruction in teaching skills. The microteaching group showed no significant difference in teacher effectiveness as assessed by the Stanford Teacher Competence Appraisal Guide. The really significant factor was that the microteaching group had been involved for only one fifth of the time taken by the conventional group.

E. Davis (1970) used microteaching to train a group of students in the skill of set induction. This group was compared to a control group who had the same programme but without the microteaching experience. The microteaching group received significantly higher scores on the skill when rated by independent observers.

F. Kissock (1971) compared a 'control group' who used model tapes and were given lectures on higher order questions with a group who had microteaching experience in the skills. The microteaching group significantly out

performed the control group in the skill on the post-test, but in a test administered four weeks later there was no significant difference between the groups.

G. Britton and Leith (1972) reported an experiment which involved 58 first year students in a College of Education. Three treatment groups were randomly assigned: conventional, micro class (acting only as pupils and pupil raters), microteach (acting as pupils and teachers in microteaching encounters). In independently rated post-test lessons and normal teaching practice assessment by t.p supervisors, both micro encounter groups scored significantly higher than the control group. The micro class group fell between the other two groups but was not significantly different to the microteach group. In a follow-up study with the same students at final teaching practice 2 years later, Britton and Leith (1982) reported that the combined micro encounter groups still performed significantly better than the control group. However, at this stage the micro class, whilst still falling between the other two groups, was significantly different to the microteach group but not to the control group.

H. Allen (1972) compared a traditionally prepared control group with a microteaching group. He found the microteaching group to be significantly more effective in the skills of stimulus variation, reinforcement, developing main points, probing and closure as measured by rating instruments.

I. Jensen and Young (1972) using factors from the Sinba Teacher Performance Evaluation scale found that students

who received microteaching obtained significantly higher
ratings than the control group on five of the six factors
investigated: personality traits, warmth, classroom
atmosphere, lesson usefulness, teacher interest in pupils.
An interesting feature here is that the effects were not
immediately shown and it did take some time on teaching
practice before differences became apparent.

J.   Foster, Heys and Harvey (1973) compared a control group
      who had seminars on microteaching skills with a
      microteaching group who had actual microteaching
      experience in schools. During subsequent teaching
      practice the two groups were rated by supervisors,
      teachers, pupils and peers as well as measures of pupil
      achievement being obtained. No significant differences
      between groups on any of these measures are found. The
      control group was however found to have a much wider
      spread of anxiety scores than the microteach group.

K.   Yorke (1977), in a methodologically weak study conducted
      at Manchester Polytechnic, compared the pupil achievement,
      as measured by a multiple choice test, of two groups of
      student teachers. One group had a lecture-based course
      whilst the other had a similar course involving some
      microteaching. There was found to be no significant
      difference between the two treatment groups. There was
      however some difference in the content covered by the
      groups, particularly in the skills discrimination
      training.

L.   Leith and Britton (1977), in an attempt to investigate
      the differential effects of micro treatment groups,

clustered teaching skills into intellectual and performance aspects, using the groups already discussed (see section G). In the subsequent ratings of performance in these skill clusters, microteach and microclass groups were not significantly better in intellectual skills than each other but were both significantly better than the control group. However in the performance skill cluster, the micro teach group was significantly better than both the other groups, who were themselves not significantly different.

A brief summary of these studies is to be found in figure 4.6. It must be emphasised that this is merely a representative sample of a very large number of studies that have dealt with the effectiveness of microteaching. However it is such evidence and the general direction in which it points that has contributed to the wide acceptance of microteaching as a valid technique in teacher training.

ii)   Student/pupil attitudes

Brown (1975b) pointed out that 'pupils' reactions to microteaching have received little attention' p43 and this still remains true. However some efforts have been made to incorporate pupils reactions to teaching into the appraisal of teachers in microteaching settings.

Fortune et al (1967) used pupils ratings as one source of data in their assessment of teaching performance. It did, however, take six hours of training in the use of the STCAG which is often, as Hargie (1980) has suggested

FIGURE 4.6: SUMMARY OF A SELECTION OF STUDIES CONCERNED WITH THE EFFECTIVENESS OF MICROTEACHING IN INFLUENCING TEACHING BEHAVIOUR.

STUDY	TYPE OF EXPERIMENT	TEACHING SKILLS	CONCLUSIONS AND COMMENTS
A. Fortune et al (1967)	pre and post tests for skill gains	Stanford Teacher Competence appraisal guide skills	Microteaching led to positive gains in nine of the first 12 skills
B. Perrott (1975)	pre and post-tests for skill gains	Effective questioning	Microteaching led to positive gains in level of skills
C. Miltz (1978)	pre and post-tests for skill gains	Asking questions increasing pupil participation	Microteaching led to positive gains in skills
D. Kallenbach and Gall (1969)	Microteaching group vs control group	Stanford Teacher Competence appraisal guide skills	No significant difference between groups, but microteaching leads to considerable time saving
E. Davis (1970)	Microteaching group vs control group	Set induction	Microteaching group significantly better than control group
F. Kissock (1971)	Microteaching group vs control group	Higher order questions	Microteaching group significantly better than control group
G. Britton and Leith (1972, 1982)	Microteaching group vs microclass group vs control group	Set induction and reinforcement	Both micro encounter groups significantly better than control group, but microclass regresses towards control after 2 years
H. Allen (1972)	Microteaching group vs control group	Stimulus variation, reinforcement, main point development, probing, closure	Microteaching group significantly better than control group
I. Jensen and Young (1972)	Microteaching group vs control group	Six factors from the Sinba Teacher Performance Scale	Microteaching group significantly better than control group in all factors but 'teacher interest in pupil achievement'
J. Foster, Heys and Harvey (1973)	Microteaching group vs control group	Various measures of anxiety	No significant differences except microteaching group less anxious. Doubt about whether groups are sufficiently differentiated.
K. Yorke (1977)	Microteaching group vs control group	Six skills, but varied between groups	No signigicant difference between groups. But doubt about adequate control of variables and group differentiation
L. Leith and Britton (1977)	Microteaching group vs microclass group vs control group	Two skill clusters: intellectual and performance	Both micro groups significantly better than control in intellectual skills microteach group significantly better in performance skills

(p48), beyond the means of a normal college microteaching programme. A further complicating factor in many US studies is that pupils are often paid - once again a factor beyond most college budgets in the UK - but also a factor that raises many doubts about the validity of the data collected.

Wragg (1981), in a study to investigate the effectiveness of feedback modes, used pupil ratings as one of the dimensions of student teacher appraisal. But problems of economy, rating competency and validity and increased student teacher stress (Hargie, 1980) have led some tutors and researchers to utilise peers as pupils. This is an issue that will be explored later in this chapter, but some examples are in order here.

Leith and Britton (1977) in the research reported earlier, used peer ratings as a means of focussing peer-pupil attention and as an additional form of training. The ratings were also used as a basis for feedback in the critique sessions.

Peterson et al (1978), in a small study involving twelve experienced teachers, investigated the relationship of teacher planning to teacher behaviour and student achievement. Student attitudes were assessed as one factor in the measurement of student change.

It would seem that insufficient evidence exists upon which to make firm conclusions regarding the effectiveness of microteaching from the point of view of participating pupils/students. In most studies and programmes the

pupil's role is such that he has no idea of the technique being applied, apart perhaps from an awareness of recording devices either video, audio or paper and pencil, which perhaps implies some special happening.

iii) <u>Trainee-teacher attitudes to microteaching</u>

Among the many studies that have attempted to investigate trainee-teacher attitudes to microteaching are: Bush (1966), Davis (1970), Gregory (1971), Brown (1976a), Hargie (1977), Perrott (1977), Miltz (1978), Hargie and Dwyer (1980). All report generally favourable attitudes to microteaching, with some criticisms of detail.

Typical is the conclusion of McIntyre and Duthie (1977), 'The evidence .....appears to show that the majority of these students found most aspects of microteaching interesting and rewarding. Furthermore, they tended to express fairly clear preferences on most issues, preferences which do not seem to run counter to other evidence or arguments about how microteaching can be made most effective, and which can therefore, in principle, provide a basis for planning microteaching programmes to optimise their attractiveness to students.'

The difficulty in attempting any comparison of these studies lies in the diversity of the instruments used – some even changing within a study. However, their diversity adds to the number of dimensions upon which microteaching is accepted by the trainee. One study, Gibbs (1980), seems to run contrary to the consensus found above. However, doubts regarding a number of factors in this study, such as tutor commitment, logistics and

organisational factors, timing of practice, and across

group interference cause some lack of confidence in the

findings. Taken together with Brown's (1975b) general

cautionary words about attitude questionnaires;

'If unstructured questionnaires are used it is difficult

to decide whether respondents are saying what they mean' -

then the weight of evidence remains firmly with

microteaching as a highly valued technique.

iv)   Gains in pupil/student learning

Some consideration of the contribution of measurement of

pupil achievement has been given in section 4.2.2 dealing

with research. Here we are concerned with its

application to the evaluation of microteaching and

microteaching programmes. There is not a great deal in

the literature on such applications. Perhaps the small-

scale and selective nature of microteaching encounters,

with its emphasis on teaching skills, has led to a neglect

in the measurement of student learning. The exceptions

are those studies that deal with the coaching of pupil

classroom skills, where observation schedules focus on

pupils eg pupil participation. However there are some

studies that have concerned themselves with pupil

learning:

Foster et al (1973) used multiple choice pre and

post-tests to measure the learning gains over a two week

period in schools achieved by a microteaching group and a

control group of trainee-teachers. Whilst the mean gains

for the microteaching group were higher, they were not

significantly so. Peterson et al (1978) looked for

correlations between various aspects of teacher planning, subsequent teacher behaviours and pupil achievement as measured on multiple-choice tests and essay questions. The relationships were extremely varied and lacking in consistency, suggesting a reassessment of the salient variables.

Brown and Armstrong (1984), working with PGCE students teaching microclasses of 10 pupils, used a pre-test, post-test, experimental/control group design. Learning measures used multiple choice items of recall, identification and application to new phenomena. The 'best' lessons varied the cognitive demands, were well structured, were delivered with enthusiasm. The study also showed that training did appear to improve explanatory teaching as rated by independent observers and indicated by a variety of teaching moves identified in the analysis of discourse. The results should be treated with caution since only 27 students were used and pupil learning was measured very shortly after teaching.

Yorke (1977a) used pupil scores on a multiple choice post-test in order to compare a microteach group with a control group - no significant difference was found, but the study suffers from the deliberate omission of a pre-test for logistical reasons.

The deficiency of evidence in this area is apparent and prompted Brusling (1974) to the view that, 'Every change project in teacher education should include some measure of pupil behaviour concurrently with measures of teacher

behaviour' p152.   This was in order to avoid the
criticism that 'Microteaching is in obvious danger of
re-inforcing the "teacher-centredness" of most teacher
training programmes instead of being instrumental in
effecting a much sought for "pupil-centredness".'
A point of view that is difficult to argue with.

Despite the evidence presented in this section, there is
still criticism of microteaching as a technique for the
training of teachers.   Brown (1976) has enumerated some
fairly common reservations expressed by critics:

1.   It cannot work since teaching is a unique, complex
      and personal activity.

2.   It attempts to produce automatons.

3.   It is artificial.

4.   It is threatening.

5.   It encourages the deliberate manipulation of students
      or clients.

Gage and Winne (1975) outline four central problems in
their consideration of the wider field of Performance
Based Teacher Education (PBTE), of which microteaching is
a part:

i)   humanistic criticisms: similar to Brown's five
      identified reservations above

ii)   teacher-behaviour/student-achievement relationships:
      much in common with factors considered in 4.2.2

iii) trainability of desirable teacher behaviours: an

area considered already in this section.

iv) costs incurred: which are no more than the costs of

any curriculum innovation.

Berliner (1977) has emphasised strongly the need to

establish empirically relationships between teacher

behaviour and student cognitive and affective outcomes.

He has gone further in asserting the need to move from a

strong behaviourist stance to a more qualitative

assessment of the appropriate use of skills. By this

means he envisages researchers being able to study the

information processing and decision-making skills of the

teacher.

Allen (1980) has conceded that microteaching may encourage

presentation and didactic teaching. He suggests that

this is more to do with time than format, and proposes

'longer microteching sessions that would encourage small

group and other more informal teaching approaches to be

used' p150.

Whilst argument and debate about the detail and pattern of

microteaching programmes may be valid, it would seem that

much general criticism is misplaced. The antipathy would

seem to be akin to disliking a neighbour's car because it

travels from Nottingham to Loughborough each day. The

journey is not a function of the car - it is a function of

the driver. So, the applications of microteaching are

not a function of microteaching, but a function of the

educator. Microteaching is merely the vehicle, but those

who would drive have the responsibility for the direction

in which it shall go, with the added proviso that it is no

panacea for all applications.

4.4 Current Issues in Microteaching

Many of the variables involved in the microteaching concept have
been touched upon briefly in section 4.1. In this section more
active issues relating to some of these variables will be
considered in the search for guidance from the research
literature for the more effective design of a microteaching
programme for use with in-service staff in Higher Education.

i) The role of educational theory

Dunkin and Biddle (1974) in their lament concerning the
lack of adequate theories of teaching identify two main
effects of this:

a) the focus of attention on instruments rather than
concepts.

b) the tendency for researcher commitment (to a
particular method, school of thought, for example) to
be the prime mover rather than the unbiased pursuit of
knowledge.

The recommendations suggested are that 'new observational
instruments for research on teaching should not be
developed in the absence of clear theoretical
justifications' and also 'investigators who hold
commitments .... should take pains to recognise these and
not allow them to colour their research methods or
interpretation of data' pp426-427. Borich (1977)
acknowledges this need for underpinning theories and
frameworks. He proposed teacher competencies
(Borich uses teacher competencies to indicate not merely

teaching skills, but the acceptable performance levels of there skills) that fall into three categories:

Knowledge compe tencies, performance competencies and consequence competencies.

These categories are comparable to the presage, process and product stages of Dunkin and Biddle's (1974, p38) model.

Borich (ibid) asserts that teacher training is a 'complex process of creating a hierarchical training structure composed of knowledge, performance and consequence competencies'. He further subdivides knowledge competencies into process (of teaching) and content (subject-matter) competencies. He goes further in identifying the main sources of competencies as being:

personal judgement by, for example, a supervisor;

observation in the classroom, usually with the aid of a specified instrument;

theory, seen as the relating of teacher variables within a symbolic construct, a schema;

experimental studies, which infer causation (correlational studies are seen as part of the observation source above).

In developing an appraisal system, which must have considerable congruency with the process of developing a curriculum to train the teachers who are to be appraised, Borich (ibid) identifies four stages:

a)   the identification of an underlying philosophy or metatheory

b)   the selection or construction of theories based on

this metatheory to describe teacher behaviour, pupil

outcomes and their relationships.

c)   the design of a prototype which incorporates the

theories

d)   the trial and revision of the prototype (or example

of it) for validation.

This metatheory/theory approach has been echoed by other

researchers and practitioners:

Perrott (1977) refers to the underlying systems approach

inherent in her work and, presumably, that of Borg (1971)

whose courses she was transferring. MacLeod and McIntyre

(1977) suggest a cognitive interpretation of microteaching

focussing on the conceptual schemata of the teacher. The

achievements through microteaching of 'short-term

behavioural changes are likely to be matched by similar

and enduring changes in classroom teaching behaviour only

as they reflect changes in cognitive structures.

Likewise, the incorporation of the theory-based concepts

into the practically necessary, conceptually 'simple',

cognitive structures used by teachers in the classrooms

would automatically contribute to the bridging of the

traditional gap between theory and practice, and, in

consequence, would lead to a more satisfactory assessment

of 'relevance' by the participants.'

Contained in their cognitive metatheory is a consideration

(theory) of the teacher as a decision-maker. This theme

has also been explored by Clark (1980) who refers to the work of:

Shulman and Elstein (1975) on chemical information processing; Yinger (1977) on teacher planning; Visionhaler et al (1977) on the diagnostic function of the teacher; Joyce and Harootunian (1964) on problem solving; Shavelson (1976) on decision making. Clark also contrasts this decision-making theory within the cognitive metatheory, with an alternative theory considering the teacher as an information-processor. It is inappropriate to go into more detail of specifics here. The trend is towards designs that are firmly rooted in structured theory. As Hargie (1982) has suggested, 'at present it might well be pointed out that, while microteaching seems fine in practice, it may not work in theory!'

ii)   <u>The role of planning</u>

The role of planning or 'microplanning' Brown (1975a) has been recognised for some considerable time now yet, as Brown (1982) points out, this preparation stage in microteaching is frequently neglected. In his model of the planning cycle Brown (1975a) identifies a number of tasks for the teacher including; specification of objectives, topic selection and ordering, resource selection, pupil activity decisions, strategies for monitoring skills. Tasks here seem to be reflected in the process and content dimensions described by Borich (1977) and outlined briefly in i) above. Brusling (1974) also touches on some of these tasks in his discussion of the dynamic (as opposed to component) skills approach of Pereira and Guelcher (1970). This approach identifies

skills as behaviour with a _purpose_ and is beginning to
echo some of the roles of the teacher described in
i) above.   Brusling sees the planning phase as the stage
at which important decisions are made relating to purpose,
which he sees as choosing between alternative behaviours
for use in the classroom.

Very little seems to have been done in the way of
systematic research into the planning phase of teaching.
One notable exception is the work of Peterson et al (1978)
who described teacher planning as 'a process of selecting
educational objectives, diagnosing learner characteristics
and choosing from alternative instructional strategies in
order to achieve certain learner outcomes' p418.   In this
study 12 experienced teachers taught the same 3 hour
lesson to a different group of students on each of three
consecutive days.   Each teacher was given the same set of
objectives, textual materials and set of slides related to
the teaching topic 'a town in France'.   The teachers'
planning, content and strategies were monitored by use of
a 'thinking aloud' technique - the data being collected by
audio cassette tape recorder.   The five categories for
teachers' statements were: objectives, subject matter,
instructional process, materials and learner, with a
miscellaneous category for statements not classifiable.
Among the main findings of this essentially correlational
study were:

productivity (total statements) decreased systematically
from day one to day three,

the mean proportion of statements related to subject matter was highest followed in order by instructional process, materials, learner and objectives being typically on day 1 - 40%, 25%, 6%, 5%, 4%, leaving 'miscellaneous' uncomfortably high at 20%.

the trend in mean proportions through the days was for concern with subject matter to decrease, whilst other categories showed some increase,

teachers displayed a wide variety in their planning concerns and these differences were highly stable across the days,

significant relationships were found between teacher planning scores and teacher aptitudes (as measured by tests of verbal-ability, reasoning ability, conceptual level and flexibility of closure).

significant relationships were found between teacher planning scores and scores on an eight category interaction analysis instrument, indicating that planning affects subsequent classroom behaviour,

few consistent relationships seemed to exist between teacher planning and student achievement and attitude, perhaps indicating problems with the planning categories and some greater inspection of 'miscellaneous' being needed.

There is room for much careful research here, if a move is to be made, as Brusling (1974) has suggested, 'from training instructional skills towards the training of

instructional design skills'. It is difficult to conceive that these skills do not go hand in hand in the improvement of teaching.

iii) Subject-matter dependence

'...... different researchers in microteaching have utilised various subject disciplines in their experiments. This makes comparisons of research studies difficult, since it is probably that the nature and focus of teaching skills differ across subject disciplines and that microteaching may be more suitable for teachers of some subjects than for others.' Hargie (1982 p76). This tentative hypothesis would seem to have some limited though small measure of support from research, although very few studies have addressed themselves to the differential effects of microteaching across subjects.

Stallings (1977), in a summary of the findings of an earlier research report by Stallings and Kaskowitz (1974), investigated the relationship between classroom processes and pupil achievement in a large scale correlational study. First and third grade maths and reading were the areas studied and the general conclusion reached was that initial entry ability and classroom processes contributed about equally to pupil performance as measured by tests on entering the school system and achievement tests in maths and reading in first and third grades.

Other findings of interest here are summarised in the table below:

SUBJECT	GRADE	IMPORTANT CLASSROOM PROCESSES
MATHS	1	Stimulus/response/feedback sequences
	3	Teacher questioning
READING	1	Number of verbal interactions
		Time spent on task
		Stimulus/response/feedback sequences
	3	Large group methods
		Number of verbal interactions (much less than grade 1)

It would seem then, that at these levels, there are a small number of significant differences between subjects and level of subject.

McDonald (1977) in a study similar in purpose to Stallings (ibid) used 2nd and 5th grade pupils. The main results of the study are presented (fig 4.6A) in the form of positive and negative teacher classroom performance predictors of pupil achievement. Although some concern is felt regarding the definition and precision of terminology in this study, there does seem to be some difference, both across grades and across subjects, in pupil achievement based on classroom teacher performance.

MacLeod, Griffiths and McIntyre (1977) in a study involving 77 education students, investigated the effects of teaching subject on microteaching skills performance. The skills involved were variation, questioning and clarity of explanation. The students were considered in

SUBJECT	GRADE	+ve predictors	-ve predictors
MATHS	2	variety of skills taught, task - involvement, wide range of content	group teaching, variety of instructional activity, variety, of instructional materials, unsystematic questioning
	5	variety of instructional techniques, group teaching	variety of materials
READING	2	variety of instructional materials, group teaching, individual feedback	variety of instructional purpose (teacher centred)
	5	independent work, variety of instructional techniques	variety of instructional materials, variety of materials, time spent organising

FIGURE 4.6A: PREDICTORS OF PUPIL PERFORMANCE
(based on McDonald 1977, p 131)

three almost equal subject groups History, English and Other (modern languagues, science, maths). Frequency count instruments were used to measure student achievement of skills in the teaching of an 18 minute criterion lesson. There were found to be significant subject-specific differences in performance of skills, for example; Other out performed English and History on the skills of variation and clarity, English out performed History and Other on the questioning skill. The authors, however, do not suggest any reasons for this. In an additional report of this research MacLeod and McIntyre (1977) suggest that this might be due to 'subject ideologies'. Whether this can further be considered as a product of initial aptitudes, perceptions of their subject and skill relevance or even a case of attitudes stemming from such factors is very much an avenue of research that could usefully be explored.

One further study reported by Brown and Bakhtar (1983) is worthy of note. In a study of the responses of 258 University lecturers, five clearly distinct styles of lecturing emerged in the subsequent cluster analysis. These styles were labelled and described as oral, visual, exemplary, amorphous and eclectic. When the data was analysed in relation to subject taught, classified into Humanities, Social Sciences, Science and Engineering, and Biomedical Sciences, significant differences were found in the application of the styles across subjects. There were no consistent subject differences in lecture structure along the five patterns suggested: classical, problem-centred, sequential, comparative, thesis. The

main weakness of this study, as Mack (1983) has pointed out, is that it relies on data gathered by teacher self-report means and not by independently observed methods. Nevertheless it does suggest some differences at least in perception from different subject areas which, when added to other findings in this section, makes some consideration of a subject-matter differentiated approach seem appropriate. One further finding here was that style did not change significantly with years of experience - suggesting that lecturers adopt styles early in their careers and maintain them throughout. This would tend to confirm the views held by staff developers, and briefly discussed in Chapter 2, regarding the resistance to change that is at work in Higher Education.

iv) Minute versus mega skills approach

A considerable amount of concern has been expressed in recent years regarding the consideration and practice of minute component skills. Some doubts about this have arisen for a number of reasons and from a number of different directions:

Applebee (1976) in his evaluation of the work of Perrott et al (1975) was critical of the underlying philosophy of the courses being applied, resting as it did on teacher centred, generally applicable isolate d skills specified in advance. He identifies as crucial the integration of such skills into 'more complex, goal-oriented teaching activity'. He further argues for 'a more systematic attempt to relate teaching skills to their contexts-of-use'. The need to choose the appropriate option in a

given instructional context is highlighted in order to achieve less artificial and contrived microteaching encounters. Concern is expressed about practice which is often poor - in order to produce situations where skills can be applied. Unfortunately, no guidance is given about how this might be done - recognising the problem is considered to be sufficient.

Hargie et al (1977) have also 'recognised the problem' of the integration of skills. They describe an approach where skills are gradually built up into clusters that more closely mirror classroom practice. So that there is a gradual build of competence from a single skill application to the integrated application of several skills in what they have called 'mini-teaching'. This, it is claimed, leads to a more effective transfer into the real classroom setting, presumably by avoiding feelings of artificiality and contrived situations described by Applebee (ibid).

Much of this has congruence with the pleas from Shavelson (1976) for research into decision-making and its component skills involving alternative teaching strategies, states of nature (environmental), student learning states, outcomes, utilities and goals. He suggests the use of simulations in order to approximate the classroom and to provide opportunties for these skills to be practised and integrated in the larger skill of decision-making.

This idea of clustering was also applied by Shavelson and Atwood (1977) when they undertook a survey to look for generalisable and stable measures of teacher behaviour.

They clustered the 146 skills investigated in 13 large

scale studies into 12 categories which they called;

teacher presentation, presentation of content, teacher

questions, teacher feedback, motivational skills,

expressive teaching style, student-centred teaching style,

interpersonal behaviour, affective style, following

procedures, classroom management, teacher

individualisation.

McIntyre and MacLeod (1977) were also concerned with the

integration of skills into decision making frameworks.

Their concern was for microteaching to 'provide for the

development and induction of functional and adaptive

cognitive structures' in the teacher.

McKnight (1978) was concerned to classify the skills into

structures along dimensions such as; affective/cognitive,

pre-active/post-active, occasion specific/molar.

Gage and Winne (1975) identified another reason for

grouping skills, referring to the lack of detectable

effects of single minute skills in research studies.

They suggest that this problem can be most easily overcome

by the defining of distinct variables of teacher

performance and the grouping of these into 'patterns of

interrelated teacher behaviour variables'.

Despite all these concerns, little seems to have been done

in the systematic clustering of skills. In fact Allen

(1980) is still only tentatively suggesting that

'James Popham, who originally was one of the strongest

champions of discrete and minute competencies, has now suggested the grouping of these competencies into something called mega-competencies, which suggests that some of the skills of microteaching might be approached in a different way also'. It would seem that not only should skills be carefully selected and defined, but that interrelationships could be explored and clusters formed.

v) <u>Focus on the learner</u>

Soar (1977) is of the opinion that measuring teacher effectiveness by measuring changes in pupils is probably valid where lower level objectives are concerned, but is not valid where higher level objectives are involved or where changes take place over extended periods of time. Basically he sees the difficulty of measuring pupil growth (learning) as more complex and fraught with danger than attempting to measure teacher behaviour. He therefore advocates the measurement of teacher behaviour and its comparison to known good practice, as the more promising approach. Despite such endorsements, there has been criticism of microteaching, referring to the extent that it concentrates on teacher-centred (Brusling, 1974) or didactic (Allen 1980) methods. The call then is for applications and concern that focus on the contribution that the pupil makes to the encounter.

Some aspects of this issue have already been considered. In section 4.3 (ii) pupil ratings were used by some studies (Fortune et al 1965, Wragg 1971) in order to assess the effectiveness of the teacher. In section 4.3 (iv) the increase in pupil or student learning was used in

some studies (Foster et al 1973, Peterson et al 1978,

Yorke 1977a) as a parameter of teacher effectiveness.

Brusling (1974) has pointed out that, by 1972, the summer

school at Stanford had placed emphasis on longer and

continuous micro-teaching contacts between a

student-teacher and his pupil group. The pupils were not

paid but 'real', so micro teaching encounters had to be

planned to be sensitive to the state of knowledge and

needs of the pupils and to take account of true

curriculum requirements.

Wyckoff (1973) used twelve pre-service trainee-teachers

in a study to investigate the skill of stimulus variation.

He detected an age dependent effect on pupil achievement.

Briefly, secondary school pupils' achievement was higher

with stimulus variation whereas elementary school pupils

performance was lower. The practice of this skill with

elementary school pupils would seem likely then to result

in deleterious effects in their learning. It is unwise

to generalise from such limited data, but it illustrates

conveniently the need to practice skills with care where

they are relevant and appropriate.

Griffiths (1973) even suggested the introduction of more

global teaching skills, such as 'empathising' and

'respecting', in order to allow a more active

consideration of the role of the learner.

MacLeod (1977) studied the perceptions regarding their

performance of forty nine teacher trainees involved in

microteaching using an open-ended questionnaire. The

data collected was subjected to content analysis using 45
variables grouped into five main categories concerning
comments about: personal, teacher/teaching behaviour,
pupils/pupil behaviour, lesson, situational. The
questionnaire was administered to the trainees on three
separate occasions (weeks 3, 5 and 7) during the micro
teaching programme. Whilst the largest category for
comment was teaching, which remained fairly constant at
around 50% of all comments, the only category that changed
significantly with time was pupil, which increase from 21%
to 37% of all comments. There would seem to be a
distinct increase in concern for pupils, but whether this
is a generalisable trend as MacLeod suggests seems
unclear. It seems as likely to be a product of the
design and content of the particular microteaching
programme, which has an increasing focus on questioning
skills.

However, for whatever reason, it does represent an
instance of increasing teacher concern for pupil learning
of the sort pertinent to the discussion here.

Palmer and White (1974) investigated seminars in higher
education using live rather than recorded observation
techniques in order to catch student-student interactions
as well as student-leader interactions. The study
investigated the relationships between student personality
and activity in seminars, between types of interaction and
learning outcome, between seminar leaders and outcomes.
Outcomes were measured by pre-post test gains over the
seminar course and personality was measured by Eysenck

Personality inventory A. Interactions were simply coded as L, a leader-student contact, or S, a student-student contact. The only significant relationship found was between student-student contacts and learning gains. Thus it would seem that, in this context, focus on the learner is a vital factor in achieving effective learning by seminar.

Hargie and Maidment (1979) have proposed two reasons for a reluctance to measure pupil achievement in microteaching programmes. The first, that the length of most micro teaching encounters is so short as to make pupil learning assessment a relatively worthless task, may have some validity - although their discussion of remembering rather than learning causes some concern. The second proposition, is that the skills being trained are typically; pupil participation, pupil questions, decreased teacher talk, and as such are not susceptible to assessment by measures of pupil learning, in the form of factual test items. Once again this preoccupation with fact and memory is perturbing. It suggests a naive approach to learning, which the taxonomies of objectives could help to dispel. But more than that, the insinuation is that the practice of the skills does not take place in the context of some subject matter content, with realistic though possibly few learning objectives, aimed at specific target populations (pupils), who have their own particular needs. This would seem to suggest a view of microteaching that is at best dated and at worst founded on a limited and inaccurate knowledge of the theories of learning.

vi) <u>The role of modelling</u>

Wragg (1981) in a review of research in teacher education presents convincing evidence for the value and effectiveness of modelling in the general area of teacher training. The concern here is to consider modelling specifically in relation to micro-teaching. A satisfactory definition of modelling in this context is to be found in Turney et al (1973) - 'a live, written, audio taped, video taped or filmed teaching episode which provides a short but clear example of a specific teaching skill being employed'. The model may be real or it may be exaggerated for impact. However, there is much confusion in the literature between modelling and discrimination training. The intention here is to treat the latter as a more complex technique than simple modelling and to deal with it separately (see section vii below).

There is much to be found in the literature regarding modelling. Indeed Allen and Ryan (1969) identified the purposes of modelling, at that time, as providing: an example to imitate, examples of alternatives, stimulation of discussion, an example with which to compare one's performance. They drew heavily on the early work of Bandura and McDonald - see for example Bandura (1969, 1971), McDonald and Allen (1967). Subsequent reviews of note; Turney et al (1973), Brusling (1974), McIntyre et al (1977), Griffiths (1977), have discussed the general effectiveness of modelling and have identified a number of essential factors in the modelling process. A brief consideration of these factors is appropriate here:

<u>Distinctiveness</u> - also referred to by Allen and Ryan
(ibid) as 'definition' - is the degree to which the skill
is highlighted and distinguishable from normal teaching
'noise'. The main dilemma here is that the skill must
be distinct enough to be perceived by the trainee, but the
situation must not become so artificial that transfer to
the classroom is inhibited. Careful design or selection
of the model and careful use of cueing and other factors
considered below should obviate problems here, without
resorting to extreme measures such as graded models as
advocated by Brusling (1974).

<u>Mode</u> - relates to three main types of model: perceptual
(live, video or film), audio tape, symbolic (written).
A number of early research investigations, for example
McDonald and Allen (1967), Koran J J (1971), have shown
that perceptual and symbolic modelling can be as
effective, especially when the symbolic model is
equivalent to (ie a transcript of) the perceptual.
However Koran et al (1971), in a study of the skill of
analytical questioning, found a perceptual model to be
superior. Bartholemew and Podio (1978) also found a
perceptual model superior to a symbolic model in their
study concerning the skill of 'investigative approach' in
science teaching. This was a composite skill involving
an 18 factor verbal interaction category system. It
would seem that careful consideration is necessary to
select a model that is likely to be effective in the light
of the skill(s) involved. In general skills involving
significant verbal behaviours should be capable of
treatment by symbolic model, whereas increased visual

behaviours would suggest perceptual models to be more
effective. Having both elements in the model may be more
effective still (Griffiths 1977a), but we are moving
perhaps into the realm of cueing (see below) and also
losing economy of treatment by using a sledge hammer to
crack a nut!

Focus - refers to the two possible sources in the model,
teacher and pupil. A study by Koran, Koran and McDonald
(1972) concerning process-oriented and content-oriented
questioning found that focus on teacher alone was less
effective than focus on either pupil alone or both pupil
and teacher. Little work has been done in this area to
allow generalisations to be made. But consideration of
focus in relation to skill could be worthwhile.

Type of Content - concerns the use of either positive or
negative examples, or even both with reference to the
skill. Koran, Koran and McDonald (ibid) found modelling
with positive instances more effective than modelling with
negative instances. Gilmore (1977) confirms these
findings in his study involving the skill of 'broad
questions'. Berliner (1969) found mixed examples less
effective than positive instances alone. The conclusions
here would suggest that simple positive-instance models
are sufficient.

Cueing - Turney et al (1973) presented evidence from a
number of researchers relating to the benefits of cueing
during the modelling process. Cueing can take the form
of recorded commentary, additional printed materials,

verbal emphasis, supervisor interjections, all designed
to focus the attention of the teacher-trainee on the
particular examples of the skill within the model. Such
strategies move towards a model that combines both
perceptual and symbolic modes of modelling and must aid
distinctiveness.

Complementary activity - Allen and Ryan (1969) suggest the
value of modelling in stimulating discussion either
before, during or after tape-viewing. Resnick and Kiss
(1970), Borg et al (1970), MacLeod et al (1977), Wagner
(1973), amongst others have required trainees to be
involved in activities such as answering questions, making
decisions, rating models during the modelling process,
which effectively amounts to complex cueing activity in
some cases or discrimination training in others.
Obviously the degree and extent of cueing and its material
form must be carefully considered in the design of any
modelling procedure.

Trainee aptitude - There is some evidence to suggest that
trainee aptitude both cognitive and affective should be
considered. In fact MacLeod et al (ibid) concluded that
considerable attention should be given to individual
differences among students in their study of the effects
of differential training involving some treatments that
included modelling. However there is little conclusive
evidence regarding this factor. Koran et al (1971) found
some significant aptitude-treatment interactions, but they
were inconsistent with predicted hypotheses. Koran J J
(1971), in a study investigating the skills of eliciting

observation questions and eliciting classification
questions, discovered that entrants with low aptitude in
this skill found symbolic models particularly effective.
Altman and Ramirez (1971) and Perlberg et al (1972) have
tentatively suggested the importance of student attitude
toward modelling and microteaching respectively - it would
be surprising if the attitudinal component of motivation
was not an important factor.

These then are seven factors which require some
consideration in the design of modelling experiences in
microteaching. Other factors, for which no evidence
either empirical or intuitive exists, have been omitted.
They include: characteristics of the model teacher,
length of model episodes, frequency of model-presentation
and relationship between model and practice.

There is some resistance to the use of models, for example
Britton and Leith (1982) describe briefly their preference
for teaching 'situations' rather than component skills.
The criteria for judging performance in the 'situation'
being derived by 'inductive sessions' with the trainees
beforehand. This effectively replaces the modelling
episode, since the inductive session is an effective
learning episode in its own right.

vii) <u>Discrimination</u>

The importance of discrimination in modelling has been
acknowledged for some time, see for example Popham (1966),
Allen and Ryan (1969), Borg et al (1970). Discrimination
training is seen by Turney et al (1973) as a function of
the supervisor in the feedback or observation phase of

microteaching. Wagner (1973), on the other hand, provides a general description of discrimination as 'learning to attend to the relevant dimension and then learning to distinguish between different 'values' within this dimension' p299. She also includes the fundamental skill of recognising instances and non-instances of the relevant behaviours. This accords appropriately with general theories regarding the learning of concepts, see for example Gagne (1970), and also with the cognitive theory and conceptual schemata of MacLeod and McIntyre (1977). There have been many studies that have investigated the factor of discrimination training, many of which have taken a very limited view of such training - seeing it quite simply as a technique linked closely to modelling in the pre-encounter or planning phase of microteaching.

In the study by Wagner (ibid), 78 undergraduates were involved in the skill of student centred teaching which involved six component skills (3 positively related and 3 negatively related). Three treatments were applied. All three groups received a brief written description and were asked to prepare a 5 minute lesson displaying this skill. The D group were then given a description of the six sub-skills and practice with feedback in coding video taped examples. The M group received no such discrimination training but went immediately into a classical Stanford-model microteaching routine. The C group received no further instruction or practice. All three groups then prepared and delivered a 10 minute criterion lesson that was rated by independent observers.

The main finding was that the D group was significantly more student-centred in its teaching than both the M and C groups, but the M and C groups were not significantly different.

Two similar studies, by Peterson (1973) and Kallenbach and Gall (1969), designed to investigate the effectiveness of microteaching compared groups that had microteaching with groups that did not and found no significant differences in performance. In both studies groups began with some discrimination training and it has been suggested, by Hargie and Maidment (1979), that this could indicate the power of discrimination training and even perhaps the weakness of microteaching practice.

Britton and Leith (1982) compared trainees who had a full microteaching experience, as teachers and student-raters in microclasses, with a group who had only had experience in microclass settings as student-raters. In this case students performance was judged by normal teaching practice assessment methods by supervisors not involved in the experiment. The full microteach group out-performed the microclass group both immediately and on final assessment after a two year period.

Goldthwaite (1969) in a similar earlier study, in which groups were strictly; microteaching only, microclass only and control, found that the microclass group actually out performed the microteach group. In this case microclass was the only group that had an element of discrimination in the form of a rating instrument.

MacLeod et al (1977) compared three treatment groups;
microteaching and discrimination training, microteaching
only and a control group without either. Although the
microteach and discrimination group did tend to perform
best on the three clusters under consideration;
variation, clarity, questioning, there were hardly any
significant differences at all between groups on component
skills. Elsewhere MacLeod and McIntyre (1977) have
suggested that the differential effects of the treatments
were 'overwhelmed' by the differences in student aptitude
and subject disciplines. Two other features of this
study are worth consideration in an attempt to explain
their incongruity with other studies. Firstly, all
groups received a considerable skill definition input in
the initial stages, which must have had some influence.
Secondly, the microteach only group received a
considerable opportunity for discrimination training
during the observation-feedback phase, which causes doubt
about the actual degree of differentiation between groups.

Hargie and Maidment (1978) have suggested that 'the
practical element of microteaching could be eliminated,
with greater emphasis being placed on the ability of
trainees to discriminate the relevant behaviours being
trained'. This however would seem to place too
simplistic an interpretation upon the findings. Some
studies are suspect because occasions for discrimination
have been seen as limited to formal opportunities provided
by rating model tapes. Informal opportunities, such as
occur during feedback or during lecture presentations of
skills have been largely ignored in some cases. In most

of these cases the criterion test was a practical teaching
encounter.   It is possible to conceive this criterion
test as being an element of a microteaching cycle - in the
case of some groups it was a second re-teach, in the case
of the control groups it was the teach element.   It might
therefore be rash to dismiss, as unimportant, the element
that is in any case an inherent part of the criterion test
especially when the motivational aspects of such practice
have not been explored.   Once again, the interrelated
nature of the factors within the microteaching context
emerge quite clearly here.   Discrimination must be
considered alongside modelling, practice, skills training
and definition in achieving an economic yet effective mix
of components.

viii) Group Size - typically the number of pupils in the
microencounter was set at four or five.   Allen and Ryan
(1969) pointed out that no convincing research evidence
existed regarding the optimal number of pupils to be used.
Changes in group size have been implemented on the basis
of inference rather than empirical evidence.
Brown (1975) reported the use of 10 or 12 pupils in
order to achieve group dynamics that were closer to
classroom groups.

Hargie et al (1978), in a report of their mini-teaching
variant of microteaching, describe how they gradually
increase the number of pupils from 5 to 25 in order to
bridge from microencounters into the real classroom more
effectively.

We still find Allen (1980) remarking that the issue of the

size of class remains unresolved.   He also refers to the
limited success that microteaching has had in dealing with
small group teaching methods - an apparent paradox.
However it is suggested that this may be more related to
length of encounter than size of group.   The implication
is that small group, and therefore less formal methods,
require longer time scales over which to investigate
interactions and skills.

ix)   <u>Pupils vs peers</u> - The original Stanford code (see section
4.1) stressed the importance of real pupils in the
microencounter.   This was a point of view still held by
Allen (1980) who reiterates 'Real students are preferable
in most settings, so the wisdom of experience would
suggest, but increasingly, peer teaching has become the
dominant form of the microteaching class' p150.   This
flight in the face of experience has been based, in some
measure, on the problems and logistical difficulties of
dealing with large numbers of young children.   There is
however also a basis in research for the acceptable use of
peers in certain circumstances.   Turney et al (1973)
report the work of Peck and Tucker (1971), Steinbeck and
Butts (1968), Levis et al (1973), Wood and Hedley (1968),
Collofello et al (1969), Hoerner (1969) - studies which
all involved the investigation of peer vs pupil micro-
encounters but at different age levels, with varying skills,
subject content and concern for trainees interest and
motivation.

Brusling (1974) reports the work of Johnson and Pancrazio
(1971), Young et al (1971), Nuthall (1972), Brashear and

Davis (1970), Jensen and Young (1972) - studies of similar diversity to those above, but dealing with common aspects of pupil and peer groups in microteaching. A careful consideration of these suggests that the appropriateness of peer microteaching can be considered along four main dimensions; motivation of the trainee, opportunity for accurate pupil focus and interaction (pupil orientation), opportunity for accurate skill presentation and investigation (task validity), opportunity for effective implementation of subject matter (content validity). These dimensions appear to be a product of the level for which training is occurring - primary, secondary, higher. In addition Hargie and Maidment (1979), Perrott (1977), Leith and Britton (1977) have highlighted a further aspect namely type of training - in service or pre-service. Figure 4.7 represents a tentative hypothesis of the relative value of the various dimensions in relation to the contexts identified. The values for a peer group treatment only are given - assuming that a pupil group would score high throughout.

Notable, amongst other factors at work here, is the opportunity for discrimination available in peer micro-teaching considered earlier in section (vii). The value of certain dimensions is also affected by the ability of peers to role-play, although this is a little researched area. The absence of evidence about role-playing in peer microencounters would suggest that practioners agree with the point of view of Garvey (1978), Leith and Britton (1977), who advocate that microencounters should be

TYPE OF TRAINING	DIMENSIONS / LEVEL OF TRAINING	TRAINEE MOTIVATION	PUPIL ORIENTATION	TASK VALIDITY	CONTENT VALIDITY
PRE-SERVICE	PRIMARY	Medium – but decreasing with time	low	low	low
	SECONDARY	Medium – but decreasing with time	medium	medium	medium
	HIGHER	Medium – but decreasing with time	high	high	high
IN-SERVICE	PRIMARY	High	low	low	low
	SECONDARY	High	medium	medium	medium
	HIGHER	High	high	high	high

FIGURE 4.7: RELATIVE VALUES OF PEER GROUP MICROTEACHING IN RELATION TO SELECTED ENCOUNTER DIMENSIONS AND CONTEXTS

subject and task oriented at the real level of the micro-
encounter peers.   On the other hand, they may be ignoring
the problem altogether and adopting a rather laissez-faire
approach to the behaviour expected of the peer-pupils.

Griffiths (1977) has also pointed to the dimension of
feedback within such peer pupil microencounters but
since this is the concern of a separate section(xiii) it
will merely be noted here.

The peer issue is quite complex, particularly when
'hybrid' patterns are taken into consideration.
McIntyre (1977), for example, used an experimental design
that involved collaborating peers and real pupils in an
attempt to investigate possible resource economies.   The
study does however begin to impinge on some of the
interrelationships of dimensions considered here.

x)   <u>Duration of encounter</u>

Allen and Ryan (1969) describe how, in the early work at
Stanford, provision existed for a longer 20 minute
encounter known as the microclass.   This encounter
enabled;   the practice of skills that were more easily
studied in longer sessions, the knitting together of small
skills into clusters, the collaboration of peers in a form
of team teaching.   This approach was used by Perlberg and
O'Bryant (1968) in training new teaching assistants in
engineering graphics with favourable reactions only being
reported.   Allen and Ryan (ibid) also report details of a
workshop on the skill of stimulus variation which involved
10 minute encounters and which was pronounced a unanimous
success by the participants.

Brusling (1974) identifies longer microteaching encounters as reducing artificiality when using real pupils. He reports the work of Wolfe (1970) and Weiss (1972) with the emphasis on microclass as opposed to microteaching, which is particularly appropriate for real pupils in real classrooms undertaking real learning. Beattie and Teather (1972) advocated graded encounters that gradually approached the reality of the normal classroom. This theme has been explored by Hargie et al (1978), who describe mini-teaching – a format that involves the manipulation of variables to gradually approximate to classroom teaching. One of the variables manipulated is time, and encounters increase from 5 minutes to 30 minutes as the programme proceeds. This, they maintain, allows the transfer to real classroom, the integration of skills and the application of classroom decision making. Elsewhere Hargie and Maidment (1979) stress the value of this approach providing real learning for pupils and better integration of realistic and valid subject matter teaching. A more extreme position has been taken by Berliner (1976) in his discussion of the magnitude of the unit of analysis appropriate for evaluating teacher effectiveness. He discusses small skills being grouped into episodes, with episodes being perhaps as long as an hour or a week. Such encounter times can, of course, only be accommodated in real-time teaching with any degree of economy. Nevertheless they would, if treated with respect, have considerable implications for the attempts, in mini-teach and microclass, to approach the real classroom macro-encounter. But this argument

regarding episodes is yet to be adquately interpreted in the microteaching context.

There is still some way to go in aspects of encounter duration. As Allen (1980) has suggested, 'there is a need for experimentation with longer microteaching sessions that would encourage small group and other more informal teaching approaches to be used', p150

xi) Self-confrontation

The issue has been neatly summed up by Fuller and Manning (1973) in the concluding remarks to their mammoth review of this subject - 'self-confrontation now seems to us more promising than we had dared hope and more dangerous than we knew to fear',p512. They see self-confrontation as having a considerable effect on the observable outcomes of encounters: stress, body and voice focus, self-esteem, self-realism, openness, level of activity, performance. These effects are however modified by three sets of characteristics:

a) Trainee characteristics: self attitude, anxiety, self image, capacity to change, dogmatism

b) Treatment characteristics: feedback mode, playback timing, degree of focus

c) Supervisor characteristics: facilitating, discriminating, realistic, noxious.

Suggested is a large number of interacting variables. It seems likely that all these are valid and contributory in the observation phase of the microteaching encounter and Fuller and Manning have many tentative guidelines to

suggest based on their comprehensive review of the literature. However, it is not proposed to enumerate these guidelines here since, as MacLeod (1975) has pointed out, their applicability in the teaching context must be questioned. This doubt arises due to the drawing of conclusions from researchers in a diversity of fields outside teacher education such as psychotherapy and counselling. Much of the research consulted in this study has pointed out the dangers of generalisation within the educational context. Generalisation from without presumably must lead to even greater dangers. 'After all, trainees in teacher education are not psychiatric patients, are not counselees, nor often are they nude marathon group members'. MacLeod (1975 p48). The value of the Fuller and Manning review would seem to rest in their analysis rather in the conclusions drawn. Some more recent evidence does exist in terms of their classification. MacLeod (ibid), quoting research studies by Gilmore and McAleese which measured stress by student interviews and heart rate respectively, concluded that self-confrontation produced no more stress than any other public appearance. He also equated the moderate stress that was generated with a (presumably desirable) level of arousal.

Brown (1975b) found similar results in his work at Ulster where 'only three out of over 500 students have reacted strongly against seeing themselves microteach' p43. MacLeod (ibid) also reported on data collected by open-ended questionnaire, which elicited comments from trainees regarding their concerns during a microteaching

programme (more fully reported MacLeod 1977). The content

analysis showed a rapid drop to a very low level in

preoccupation with the cosmetic effect of focus on body

and voice and a corresponding increase in concern for

pupil behaviours. MacLeod also considered self-realism by

comparing trainees estimates of performance immediately

after viewing the tape of the teach phase with

supervisor's rating of the trainees performance. Trainees

ratings showed a high degree of correlation with

supervisors ratings - as reported more fully by MacLeod

(1977a). Trainees did however, modestly and consistently,

rate themselves slightly lower. MacLeod (1977a) concludes

that 'subjects seem to show a high degree of rationality

and skill in their perceptions of their performance' p222.

Stanton (1978) used the Tenessee self-concept scale to

measure the level of self-esteem of 32 post-graduate

Diploma of Education students before and after a

twelve-week microteaching course. These measures were

compared with those of students who had no microteaching

experience but continued with the normal teacher training

programme of seminars and discussions of problems and

theory. Prior to microteaching there was no difference

between groups, but afterwards the microteaching group had

a significantly higher (more positive) self-concept mean

score than the control group. Stanton sees the influence

of self-concept as extremely powerful, since it determines

whether incoming stimuli are accepted, distorted or

excluded. He stresses the importance of trainee teachers

achieving positive self-concepts from the beginning.

However he does not seem to relate positive self-concept

with the need to be effective as a teacher. Nor does he consider the very experienced teacher who presumably has a high positive self-concept and yet may be relatively ineffective as a teacher.

Brusling (1974) has suggested a concern regarding this problem when he notes that: 'some data indicate that the more mature individual may resist changing himself when subjected to microteaching' p36. This, perhaps, is in keeping with the suggestions of Fuller and Manning (ibid) regarding dogmatism and emphasises the need for positive attitudes towards microteaching as a precursor to successful practice.

Austad (1972) tried to detect relationships between personality characteristics (social warmth, social abrasiveness, ego organisation, introversion-extraversion, neurotic anxiety and social attractiveness) and teaching behaviour by using a microteaching setting. He found no relationships that were greater than would be expected by chance. However there was some tentative suggestion that differential treatments of microteaching component skills might be related specifically to different types of teacher. This theme was to some extent explored by Leith (1982) who investigated three treatments (micro teach, micro class and control) and their effects on trainees classified by anxiety and extroversion. The general findings were that the micro teach and the micro class group out performed the control group as measured by the conventional teaching practice assessment methods employed by the usual teaching practice supervisors.

Furthermore the microteaching introverts out performed the microteaching extroverts and the microclass extroverts out performed the microclass introverts. There were no anxiety effects based on this measure. A further measure of a simple lesson towards the end of the teaching practice was undertaken using a category rating instrument. Some relationships with anxiety emerged from the data here in that it was the _anxious_ introverts who performed relatively badly in the microclass group and the _non-anxious_ extroverts who performed relatively badly in the microteach group.

Fuller and Manning (1973), themselves, emphasise the importance of the role of the supervisor in the situation of self-confrontation and this will be dealt with more fully in the next section.

It would seem that the extreme 'fear' expressed by Fuller and Manning is not shared by other researchers. It is replaced more by a rational concern for self-confrontation problems and an awareness that trainees are likely to react somewhat differently to the self-confrontation experience. This perhaps is one of the genuine regulating effects that the supervisor can contribute in an attempt to individualise the experience.

xii) The role of the Supervisor

Allen and Ryan (1969) identified the responsibility of the supervisor as two fold: 'He must help the trainee develop the ability to perform a skill and he must also help him understand when the skill should be applied' p45.

The role of the supervisor in achieving his

responsibilities is complex.   He may be involved in;   the

initial introduction of skills;   the modelling process,

perhaps as model or in cueing a mediated model;   providing

advice and help in planning;   acting in a variey of roles

in the observation and the feedback phase;   managing the

whole complex logistical operation;   providing ratings of

performance.   There have been many studies of the role of

the supervisor that have each tended to concentrate on one

aspect of his role to the exclusion of others.   Perhaps

the most researched area is that of the supervisor in the

observation-feedback phase.

Borg (1971) cites the work of Acheson (1964) in his

conclusion that the supervisor adds little to the feedback

obtained in microteaching.   He also dismisses the

the supervisor from the modelling phase, since he asserts

that perceptual modelling is more effective than symbolic

modelling involving description by a supervisor, based on

Orme (1966).

Young (1970) and Harrington (1970) both focussed attention

on the effectiveness of peer supervision.   Edwards (1975)

backed up the conclusions of Borg (ibid) in finding no

significant difference when a supervisor was added to

self-instructional materials.   Of course, this may simply

have been a measure of the effectiveness of the self-

instructional materials.

Turney et al (1973) neatly sum up the concern about this

apparent ineffectiveness of the supervisor when they

speculate 'Maybe some of the ineffectiveness can be

explained in terms of poor supervision' p19.   In fact as
Griffiths (1975) has asserted it is what supervisors
actually do when they are there that is really important
not merely whether they are there or not.

In looking at the qualities and style of supervisors,
Fuller and Manning (1973) suggested that they should be
discriminating, reinforcing, facilitating and realistic.
Kise (1971) and Rezler and Anderson (1971) compared
supervisors who gave specific support relating to
identified circumstances and those who gave rather general
vague supportive comments.   Both studies found that
specific focussed styles were more effective.

Belumberg and Amidon (1965), Blumberg (1968) and Blumberg
and Weber (1968) investigated the effects of direct and
indirect supervision.   Direct strategies involved the
supevisor rating, controlling and giving solutions.
Indirect strategies were essentially collaborative.   In
all their studies the value of indirect strategies was
apparent both in the performance of trainees and in their
attitudes.   Griffiths, MacLeod and McIntyre (1977) also
investigated directness/indirectness but, in addition, with
focus on strengths/alternatives combined into a four
treatment study.   They found no significant differences
between treatments on performance.   However in all cases
trainees seemed to want more of the sort of supervision
that they had not had in their particular treatment group.

McIntyre (1977), in a study designed to investigate the
effects of supervisory feedback in groups found that the

presence or absence of a supervisor did not seem

significant in regard to student performance of skills.

This lends further weight to the value of peer group

feedback. However there was strong evidence to suggest

that trainees actually preferred the presence of a tutor

as supervisor. This desire on the part of the trainees

for supervision has been confirmed by other studies;

McIntyre and Duthie (1977), Brown and Gibbs (1973), Levis

et al (1973), Johnson and Knaup (1970).

McIntyre (ibid) reports that in a small pilot study there

were striking inconsistent individual differences between

trainees in the performance of skills. Some students did

better with a supervisor, some students were unaffected,

some did worse. But this study was so small that

generalisations are impossible. It does however bring

into focus the concern for individual differences and

individualisation and is borne out by the work of Clift

et al (1976) who found similar differential effects.

Perlberg and Theodor (1975) investigated the styles of

supervisors and concluded that a supervisor tends to have

a fixed style and moulds trainees to fit into the style.

Trainees generally adapt to the supervisors' style quite

quickly although their perference is for kindly exercised

authoritative patterns. Darr (1973) also found that

supervisors styles were fixed in the short term. She

found no changes in indirect-direct ratio,

support-criticism ratio, supervisor talk-trainee talk

ratio over a four-encounter period as a result of mere

practice.

Chase, Doty and Cotrell (1971) used microteaching techniques to train supervisors - 'micro-supervision'. They found that group and individual micro-supervision were equally as effective in improving significantly the supervisory 'skills' of introduction, body of conference and closure. Douglas and Pfeiffer (1973) were able to show that micro-supervision could shift the style of supervisors from a direct to a more indirect style. It would seem therefore that, although supervisors may be fixed in style, it is possible to change that style through micro-supervision techniques. The need for flexibility on the part of the supervisor would seem desirable from the point of view of good practice and in allowing for individual differences in trainees. A further aspect has been pointed out by Brown (1977a) - 'As the student learns to analyse and improve his skills the supervisor gradually withdraws his support - but not his encouragement .... the supervisor should try to work himself out of a job' p31. This would seem difficult if the supervisor has a rigid and inflexible style.

Much of the work above has been concerned with looking at specific aspects, such as directness/indirectness, of the supervisor's strategies. There have been few systematic attempts to investigate this issue of supervision in a comprehensive way. Brown and McGarvey (1975) report the development of an observation instrument that, unfortunately, was based on current practice at that time. As they state it was based on the premise that 'supervisors do talk most of the time'. As might be expected, then, the instrument is sensitive in the area of

supervisor talk but insensitive for trainee talk. In view of the general trend of findings relating to the value of supervisor indirectness, more emphasis on the quality of trainee contributions would seem advisable.

Probably the most comprehensive attempt to tackle the issue of supervision is that of Turney et al (1982). In their Supervision Development Project, the supervisor is considered to perform six roles; manager, counsellor, instructor, observer, provider of feedback, evaluator. The Project also divides these roles into skills and sub skills and provides materials to assist in the training of these skills. It is beyond the scope of this study to review the work of this Project, but it indicates the possibilities of the systematic approach to supervision.

The function of the supervisor can be seen to be complex. Griffiths (1977b) has suggested four tentative conditions that must be considered for effective supervision: the integration of supervision with other components in the micro-teaching programme; the aptitude of trainees and their stage of training; attitudinal factors of the trainee and his expectations; a clear identification of supervisory variables and skills. There seems little to quarrel with in these conditions implying, as they do, a concern for sensitive trainee-appropriate behaviours. There is however still a long way to go in the achievement of clear and comprehensive guidelines for their application. It would seem, therefore, unwise to dismiss the supervisor on the basis of a number of studies that seem to have weak conceptualisations and inadequate

applications of his role. The poor supervisor can always

be dispensed with, but more information is required

regarding the skills of a good supervisor before we can

with confidence dismiss him.

xiii) Feedback

The question of feedback is no less complex than other

issues already considered. The role of the supervisor in

the feedback phase of microteaching has to some extent

been covered in section (xii), so it will be considered

only briefly here as it interacts with other factors.

There is some lack of consistency, concerning terminology

and treatment of other major factors in feedback, amongst

studies reported in the literature. It would seem

appropriate initially to try to conceptualise these

factors and their interrelationships. There are to be

found identified in the literature 4 major prime sources

of information: supervisor, peer, pupil and the trainee

himself. The information generated by these sources can

be brought to the feedback phase in person through the

form of spoken anecdotal records or by written or taped

media. So we have identified four mediated forms of

feedback: anecdotal, written, audio, video. At the

feedback phase (observe-critique, supervisor conference)

there are a variety of strategies possible to consider the

information which involve mainly variations in

participants and variations in the situational conditions

and arrangements. The participant variations involve

mixtures of trainee, supervisor, peer and pupils. The

situation variations involve the amount and type of

feedback available as well as decisions regarding use of models, cues (focussing) and discrimination instruments. Figure 4.8 shows the various factors and the main interrelationships in the feedback process.

Feedback Sources

The supervisor as a source of feedback has been considered already in section xii).

Peer feedback has received some attention from researchers. It is certainly valued by trainees and makes a useful contribution, see for example Belt (1967), McIntyre (1977), Leith and Britton (1977), Young (1970), Perlberg and Kremer (1972).

Pupil feedback has not received as much consideration as it would appear to merit. The power of pupil feedback in affecting trainee performance has been demonstrated by Wolfe (1970), Shively et al (1970), Tuckman and Oliver (1968). But one of the major problems remains, as pointed out by Morrison and McIntyre (1973), the difficulty of training pupils in order to obtain the fullest possible information. It is not often feasible for example to train pupils in the use of rating scales, whereas in peer group teaching it usually is not only feasible but an essential part of the microteaching programme as in the Leith and Britton (1977) study.

Trainee feedback information is normally transmitted to the observation critique phase in the form of audio or video tapes.

FIGURE 4.8: RELATIONSHIP BETWEEN MAJOR FACTORS IN FEEDBACK PHASE OF MICROTEACHING PROGRAMME

FEEDBACK SOURCES	FEEDBACK MEDIA	FEEDBACK STRATEGIES	
		PARTICIPANT VARIABLES	SITUATIONAL VARIABLES
Supervisor	anecdotal/verbal	TRAINEE ALONE	± variety of information in variety of media
peer	written: observation instruments frequency counts category ratings notes	TRAINEE + SUPERVISOR	from variety of sources
pupil		TRAINEE + PEERS (group)	± focusing/cues
	audio		± models
		TRAINEE + PEERS + SUPER (group)	± discriminating instruments
trainee	video	(± pupils)	number and timing of feedback sessions

Wragg (1971), in a study investigating different kinds of feedback, has suggested that combinations of feedback from a variety of sources may be more powerful than feedback from one source alone.

Feedback media

Most studies concerned with feedback media have concerned the relative merits of audio vs video feedback. Hoerner (1969), Doty (1970), Klingstedt (1971), Gall et al (1971) Clift et al (1976) found no consistent significant differences between media. Leonard et al (1971) found video feedback more effective, whereas Shively et al (1970), Acheson and Tucker (1971), Ward (1970) found evidence in favour of audio feedback.

It seems likely that the comment of Brown (1975b) that; 'the effectiveness of the type of mechanical feedback depends on the nature of the skills being practised' (p40) is still valid. The medium of feedback may be selected on the basis of the relative importance of the visual and aural channels of communication in the context of the skills being trained and the feedback information required.

Participant and situational variables

The participants in the feedback phase will hopefully be chosen for the contribution that they can make. In general little conclusive evidence exists regarding best mix of participants. Olivero (1964), McDonald and Allen (1967) found video feedback with a supervisor marginally more effective than self analysis. Claus (1969), Cameron and Cotrell (1970), Adair and Kyle (1969) found

self-analysis to be equally effective when trainees were
adequately trained through modelling and discrimination
training.   Morse et al (1970) found supervised audio
feedback to be superior to self-analysis of audio tapes
without supervisor.   Breen and Diehl (1970) found video
feedback with supervisor and self-analysis with formal
observation guidance to be equally effective and superior
to informal self-analysis in the skill of fluency.
Perlberg and Kremer (1972) found that peer contribution of
feedback improved performance on more teaching behaviours
than a group who managed without peer feedback.
Procedural guidelines are ill-defined here, but all
feedback would seem to be valuable and valued.

Situational variables have received some attention in the
literature.   Fuller and Manning (1973), Brusling (1974)
have pointed out the importance of _focus_ in the feedback
phase, either through the availability of supervisor and
peer comments and cues or through written materials and
training in observation instruments, or interaction
analysis for example.   Turney et al (1974) have stressed
the importance of comparison of performance to the
original model used in the pre-teach instruction phase.
The timing of the feedback phase does not seem critical
according to studies by McDonald and Allen (1967), Cotrell
and Doty (1971).   Turney et al (1974) have suggested that
this is due to the ability of video tape to provide
instant reinstatement of events due to the accuracy of its
stored record.

It would seem that feedback strategies, sources and media must be carefully selected in the light of the skills under consideration, the aptitudes of all participants and the stage of training that has been reached.   Such choice may be essentially hypothetical, but it is likely to be more effective than leaving matters purely to chance.

xiv)   Re-teach phase

The consideration of the re-teach phase is so intimately connected to the overall microteaching pattern being implemented, that it is essential to begin to give some emphasis here to the components within the structure. This is done by reiterating and consolidating the Stanford micro-teaching pattern already discussed (see figure 4.1).

A comprehensive microteaching pattern used in research and development will typically have the phases of the Stanford pattern, but in addition it will have elements that are designed to assess and rate the trainees and/or the programme itself.   So the more comprehensive model that will be used here will have more phases.   However, since plan sessions have been grouped in with their own particular teach phase the total number of phases, even with the inclusion of pre and post test sessions and skill training sessions, is kept to manageable proportions - see figure 4.9.

The appending of letters to label each phase allows microteaching cycles to be described by a simple literal code.   So the original Stanford model shown in figure 4.1 becomes strictly CDEF.   If we take into account the well-

FIGURE 4.9: A COMPREHENSIVE RESEARCH AND DEVELOPMENT MICROTEACHING CYCLE

A	B	C	D	E	F	E_v	PHASES
Pre-test	Instruction	Teach (includes plan)	Observe (feedback + critique)	Re-teach (includes replan)	Re-Observe (feedback + critique)	Post-test	
Initial 'cold' teach to measure the entry level of trainees, can include: affective cognitive performance measures. may have an associated observe D_A	lectures, discussions, demonstrations, models live or recorded, discrimination training, rating, sign and category instruments	allows the development of affective qualities, the implementation of cognitive and theoretical abilities, the practice of performance skills	can involve: self pupils peers supervisor comparison with model use of rating and other observation schedules, further discrimination training (either formal or informal)	components as for phase C	components as for phase D	can be considered as a further re-teach but with the purpose of evaluation and assessment therefore not usually followed by an observation phase. May take place in classroom and is sometimes a more traditional form of assessment eg. end of term teaching practice assessment. May have an associated observe F_v	Possible Components within Phases

documented fact that an instructional phase took place

before this then it becomes B C D E F.   If the intention

is to use the first teach and the re-teach to assess

changes in performance then we could more accurately code as

B C_a D E_v F.   This coding allows the description of the

variety of phases used, an indication of their prime and

secondary purposes and the particular order within the

cycle.   It is possible then to envisage an almost

infinite variety of cycles - a hypothesis which is amply

borne out by an inspection and coding of the research

literature in the field of microteaching.   A further

result of inspection and coding is the discovery of the

extent to which studies with quite fundamentally different

coded structures are compared and contrasted

unsystematically.

Hopefully the approach here will attempt a more systematic

analysis with some consistent attention give to the

overall pattern within the cycle.

Much of the early research and development work was based

on the classical Stanford model with a BCDEF cycle being

used for each skill sometimes with the addition of A and

E_v usually at the very beginning and end of the programme.

More recently programmes have been described that dispense

with the reteach/reobserve phases (E,F).   Turney et al

(1973), Brown (1975a) have advocated a simple BCD pattern

as being adequate.   Turney has also described a B C_1 D_1

C_2 D_2 pattern, where C_2 D_2 do represent further practice

but with a different topic so not strictly a re-teach.

Brown (1978) has also suggested the possibility of using this five element pattern and has even used a six element pattern A B C_1 D_1 C_2 D_2 on recent courses for example at Loughborough University (January 1984). Hargie and Maidment (1979) described the pattern at Ulster University as being essentially B_1 C_1 D_1 B_2 C_2 D_2 B_3 C_3 D_3 - the BCD groups did not however represent wholly discrete and independent skills. B_2 includes B_1, B_3 includes B_2 and B_1, so there was a cumulative effect as the programme progressed. In effect, then, new elements included an aspect of re-teach of earlier elements. Brusling (1974) in his discussion of the early work at Stanford points out that in the BCDEF cycle, there were often no significant gains from C to E suggesting also the ineffectiveness of the re-teach. He suggests some evidence however that a B C_1 D_1 E_1 F_1 C_2 D_2 E_2 F_2, involving two cycles for the <u>same</u> skill, does lead to an improvement from C_2 to E_2 even if not from C_1 to E_1. One might further hypothesise that it could be that one strong cycle = two weak cycles. Turney (1973) has suggested that the time between teach and reteach is critical for assimilation and internalisation on the part of the trainee. He suggests the optimum period to be between a day and one week. On this basis it is possible to explain Brusling's multi-cycle approach as being simply a time extending tactic, since the one cycle approach normally involves a very short assimilation time (less than one hour).

Other studies have attempted an investigation of the importance of reteach. Clift (1976) looked into the

effect of different numbers of cycles. He compared a

four cycle group (BCDEF CDEF CDEF CDE$_v$) with a six cycle

group BCDEF CDEF CDEF CDEF CDEF CDE$_v$) although it is not

clear whether the cycles were subskills of a larger skill,

further topics using the same skill or even cumulative

skills practice. He found no significant difference

between treatments. It may be that there was an element

of overkill here and it would have been interesting to see

the effect of a two cycle treatment.

Bartholemew and Podio (1978) in a study to investigate the

optimum placement of models in a micro-teaching cycle,

compared the performance of trainees among five

treatments:

i)	BCDE	The instruction phase (B) involved the
ii)	CBDE	use of a video model. The instruction
iii)	CbE	phase (b) was a written form of B.
iv)	CDBE	The treatments involve 'no model' and
v)	CDE	'model' in a variety of placements.

Although this experiment was not specifically designed to

investigate reteach efficacy, it is interesting to note

that the only treatments where significant gains were made

from C to E were (ii), (iii) and (iv). This study, which

was undertaken with experienced science teachers, seems to

stress the importance of instruction even with experienced

staff. Any one teach _after_ a significant instructional

phase is sufficient to detect competence (or diagnose

weakness). Treatment (i) could have been restricted to

simply BC since DE produced no increase in performance -

although D is probably necessary for motivational reasons.

Treatment (v) was ineffective, because no significant

instructional phase is included at all. In (ii), (iii),

(iv) E is a useful criterion performance to display skills

already internalised. It would also in this case

diagnose weaknesses in some trainees. Further reteaches

are only likely to yield improvements where there is

significant room for improvement and where some

instruction precedes the reteach.

Hargie (1980), in a study designed to consider the

evaluation of a microteaching programme, was able to

consider the effect of reteach. This arose accidentally

due to logistical difficulties causing the cancellation of

some reteach sessions. The effects are not all that

clear since interference from other variables is

inevitable. The treatment groups thus had an $ABCDEFE_v$

cycle for some skills (stimulus variation and questioning)

and an $ABCDE_v$ cycle for others (explaining and

reinforcement). The main findings are that in the

reteach condition significant gains were made from C to E_v

whereas in the no reteach condition no significant gains

were made from C to E_v. This suggests an important

positive reteach effect. However there are, on close

inspection, some complicating factors in addition to the

fact that validity is suspect due to the variation of

skills:

a) The initial C performances in the reteach conditions

   were lowest indicating weak B phases.

b) The initial C performances in the no reteach

   conditions were relatively high indicating

improvements would be hard work.

c)   It does seem possible, as Hargie suggests, that there
     was a definite instructional bias in the D and F
     phases in the reteach condition.   Whereas in the
     no reteach condition the instructional bias in D was
     either weak or incapable of improving an already
     relatively high initial C performance.

This discussion of reteach in terms of structure of
microteaching cycle, timing of reteach and relationship
with major instructional phases is at best tentative and
limited to but a few studies.   However, it does begin to
address itself to the multiplicity of factors and the
interrelationships inherent in considerations of this
nature in the microteaching context.

(xv)   Long Term effects

Brown (1975b) lists six correlation studies that show
that microteaching performance is correlated with
subsequent teaching practice ratings.   These school
practice ratings were in some cases obtained
approximately a year after the microteaching experience.
Of course this merely tends to show that trainees scoring
highly on microteaching also rate highly on teaching
practice, but this effect does seem to persist over time.

Some studies have however compared microteaching groups
with control groups.   Kallenbach and Gall (1969) and
Kissock (1971) found no significant difference between
microteach and control groups.   In the Kallenbach and
Gall study the trainees were rated on teaching practice 9

months later. In the Kissock Study a retention test was administered 4 weeks after the completion of the microteaching programme. Borg (1971), in the evaluation of his mini courses, gave a form of retention test four months after completion of the programme and found that no significant loss in skill performance had occurred. This result was confirmed by Perrott (1975) in her application of Borg's mini courses in the British context.

Leith (1982) also found that microteaching effects persisted over a prolonged period (2 years) as measured by teaching practice supervisors giving both global assessments and lesson ratings on agreed criteria. The experimental design, involving a microteaching group, a microclass group and a control group, showed that micro encounter groups continued to significantly out perform the control group on the final teaching practice assessment. The evidence, though sparse, does seem to suggest that microteachng skills persist and become a part of the trainees repertoire.

xvi) <u>Evaluation</u>

Berliner (1977) has summed up the main problems in evaluating teacher effectiveness as; doubts about reliability and validity of tests, measuring multivariate outcomes, allowing for appropriateness of teacher behaviour, lack of stability of teacher behaviours, individual differences in teachers and students, subject matter effects. It is not possible to consider all these problems here, but it will help to understand that these problems also have a bearing on evaluation in micro

teaching - but on a smaller scale.

The sources of evaluative data are similar to the sources of feedback considered earlier (section xiii), since there is quite clearly an evaluative element within the feedback process. Thus we have four main sources of evaluation data; the trainee, the supervisor, the peer and the pupil/student. The sources that are used depend most definitely on the purposes of the evaluation, which must be quite explicit. Borich (1977) has identified four distinct stages in the microteaching cycle at which data may be collected; pre-operational, immediate process, intermediate process and product stages. This classification is similar to the grouping of variables under the headings of presage, context, process and product by Dunkin and Biddle (1974). It has the advantage however of being more specifically related to the microteaching context. These sources and stages are shown in Figure 4.10. In addition to the consideration of source and stage, the choice of measuring instrument is indicated. Also of concern are the high and low inference characteristics of measures and the effects of learning domain. These then are the major factors that emerge from a study of the literature.

Lawrence (1974) in a survey of some two hundred performance based teacher education modules found that the most common causes for concern, regarding their quality, were:

measuring procedures and criteria that seemed inconsistent with the skills being trained (2/3 of modules).

FIGURE 4.10: MAJOR FACTORS IN THE EVALUATION OF MICROTEACHING PROGRAMMES

SOURCES OF EVALUATIVE DATA	STAGE OF DATA COLLECTION	DATA COLLECTION INSTRUMENTS
TRAINEE	PRE-OPERATIONAL: entry level. Can include measures of personality, attitude, experience, aptitude.	SIGN SYSTEMS: include unit, interval, one-zero, time and predominant activity sampling.
SUPERVISOR	IMMEDIATE PROCESS: involves classroom observation during the encounter	CATEGORY SYSTEMS: include natural, instantaneous, point, static sampling
PEER		RATING SCALES: includes checklists, likert scales, semantic differential scales.
	INTERMEDIATE PROCESS: immediate post-encounter measures, essentially global in nature.	CRITERION TESTS: closely related to objectives and based on performance standards
PUPILS/STUDENTS	PRODUCT: concerns stable effects in trainee and learning effects in pupil/student	NORM-REFERENCE TESTS: usually standardised and related to population samples
		HYBRID SYSTEMS: often developed specifically for identified purpose.

high

INFERENCE

low

performance

cognitive

affective

DOMAINS
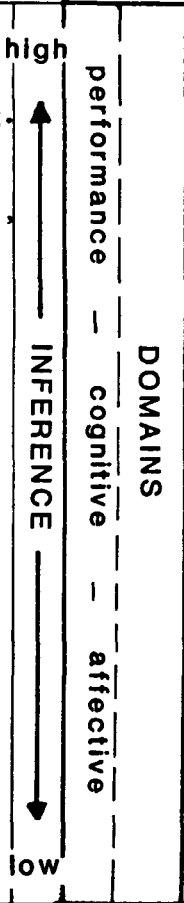
no specific criteria for evaluation of teaching skill

(approx ½ modules).

measurements covered less range than expressed in the

objectives (½ modules).

training and assessment activities not consistent with

the teaching skills being trained (1/3 modules).

Gage and Winne (1975) make a plea for more objective

approaches to the evaluation of effectiveness in

Performance based teacher education programme.

Berliner (1977) makes a strong plea for a multivariate

approach involving both measures of achievement and

attitude of the pupil/student. He is also concerned for

the 'qualitative dimension' (p150) involving the study of

teachers' value judgements regarding appropriateness of

skills. This he sees as essential in a study of the

information processing and decision making skills of the

teacher. He also asserts the need to use a multiplicity

of measuring instruments and methods in order to achieve

intercorrelations that might help to define the construct

that is being measured more precisely.

Scriven (1977) places most emphasis for evaluating

teaching on the pupil/student estimates, learning

gains and assessment by subject matter experts.

Applebee (1976) in his evaluation of Perrott's (1977)

application of the work of Borg (1971) is critical on

the basis that:

'The method as well as the outcome of instruction needs to be studied to ensure that the instructional package is an efficient as well as an effective instrument' (p42). He echoes Berliner's (ibid) concern for the appropriate and effective application of skills rather than merely packing them in to give considerable frequency counts. This is a viewpoint that has significant implications for the measuring instruments used, particularly in the process stages.

Borich (1977) enumerates 6 guidelines for the 'appraisal' of teaching:

- Criterion tests should be preferred to norm referenced tests.

- Process and product behaviours should be measured.

- Performance measures should be consistent with planned objectives.

- Objectives taught must be consistent with planned objectives.

- Shorter appraisal periods are to be preferred

- Adjusted gains should be used for measuring pupil growth.

These guidelines certainly incorporate some of the main points raised by the researchers cited.

Soar (1977) has pointed out the difficulty of trying to measure long term, higher order objective achievement by testing pupils/students. He proposes that, in this case, the concentration on measures of teacher behaviour is probably valid.

These are some of the factors and variables that must be carefully considered in achieving a systematic and valid approach to evaluation. There is however a contrary point of view, that is perhaps best summed up as a subjective approach to evaluation. Typical of this school of thought is Gregory (1982) who proposes that, since 'objective evaluation of microteaching programmes is rarely practicable, a series of questions is posed as the basis for subjective appraisal' p123. He then poses eight major subjective questions - the sort of questions to which it is possible for the teacher to provide self-satisfied, inertial answers. In fact, just the sort of subjective self-evaluation that microteaching programmes are designed to modify.

This author is of the opinion that a fundamental law of teacher education is to practice what one preaches. As such, the systematic and objective approach, with its concern for formative and summative evaluation that carefully considers sources and instruments, will guide decisions in this study. Subjective consideration can be given as an inherent and easily tapped source within a more rigorous objective attempt at evaluation.

xvii) <u>Composition of the microteaching cycle</u>

The issues that have been discussed so far have dealt with the individual elements or stages within the microteaching cycle. Some brief consideration was given to the pattern within the cycle in section (xiv), where the coding of the elements (see Figure 4.9) allowed for easier discussion of the re-teach issue. For convenience and consistency that

coding will be maintained here.

Allen and Ryan (1969) identified issues 'related to the timing and sequencing of events' p113. They felt that such issues required investigation. The issues were summed up in a diagram (see Figure 4.11) reproduced here, but with letter coding consistent with Figure 4.9. Some of these individual issues have been explored and have been discussed earlier in this chapter. However there is surprisingly little research on optimal patterns of the microteaching cycle.

Applebee (1976), in discussing Borg's minicourse model, noted that the model 'has never been submitted to the rigorous R & D cycle which is insisted upon for the specific course materials' p39. He regretted that alternative and possibly less expensive versions of the course were not compared in order to achieve a more efficient version.

Hargie (1982), in his plea for a more evaluative approach to research in microteaching, points out that 'no coherent theoretical model for microteaching has been experimentally evaluated'. So the most that can be achieved here with regard to sequence and pattern is a synthesis of conclusions drawn from earlier sections.

In the search for an optimal pattern it would seem essential that such a pattern should be minimal. The excesses of some studies, which involve endless strings of BCDEF DEF DEF... DEF DEF and find no significant difference when one small element is omitted, must be
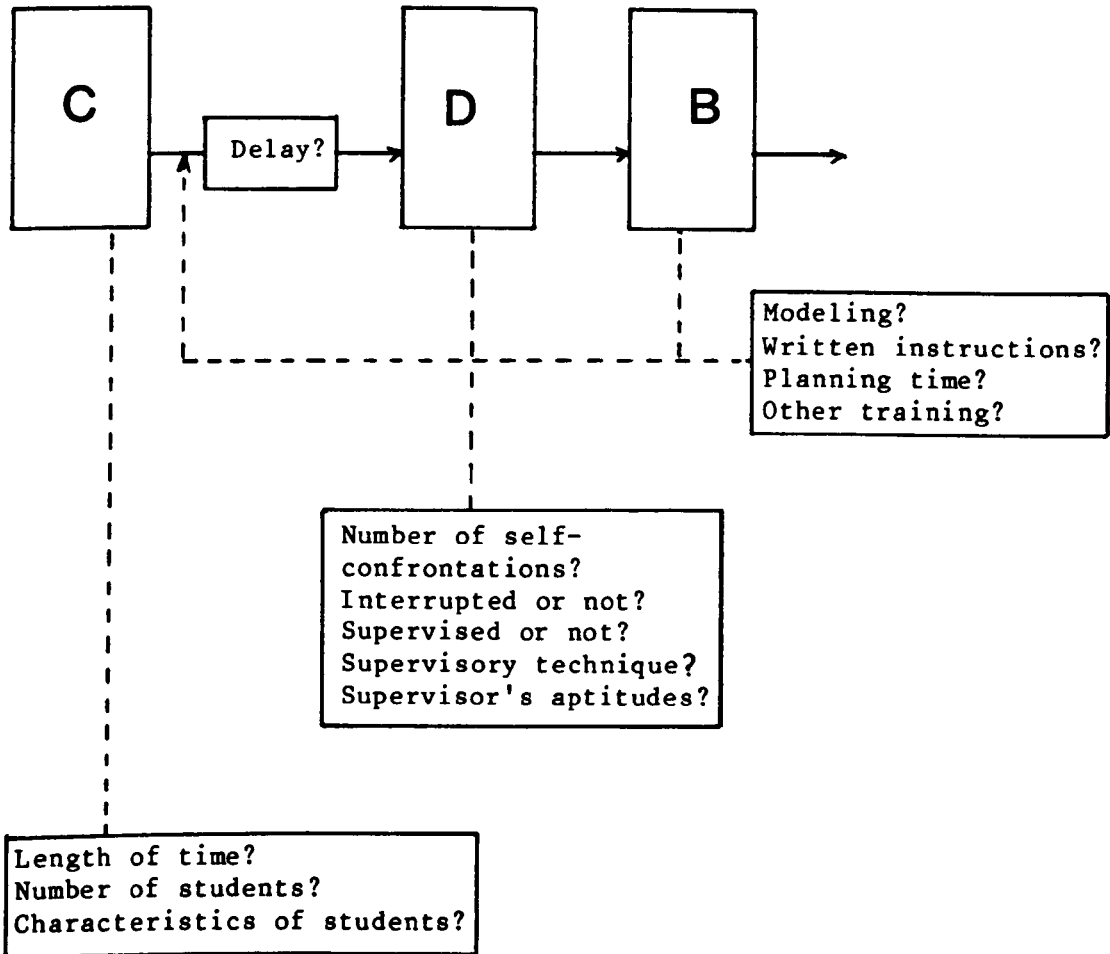
FIGURE 4.11: OPTIMIZING THE TRAINING VALUE OF MICROTEACHING
(Allan & Ryan 1969, p 113)

avoided.   In Fig 4.11A, the comprehensive cycle of

4.9 is considered and patterns for research and teaching

purposes emerge.   In the case of a microteachng curriculum

development, (A) BCD represents the validated form of

ABCD (Ev).

In the case of complex clustering or integration of skills

then a more realistic minimal research cycle would be:

A B_1 C_1 D_1 B_2 C_2 D_2 ..... (E_v) leading to a validated

(A) B_1 C_1 D_1 B_2 C_2 D_2 .... cycle.

It is assumed here that B_1, B_2 etc refer to component

individual skills or sub-skills which are trained,

combined and integrated into larger relevant classroom

skills as the programme progresses.

It should be possible to devise materials, strategies and

techniques that will effectively train skills based on

these minimal cycles.   Any extension of the cycles

should be viewed seriously and only undertaken when all

other solutions such as improvement of materials,

redefinition of activities, reassessment of strategies,

have been considered.

4.5   The Microteaching Model

There is some confusion in the literature, as to the precise

nature of microteaching models.   There are to be found models of

two distinct types:

Cyclical models - that are concerned with the pattern and order

of elements within the microteaching cycle.

Conceptual models - that are concerned with identifying the

salient factors in the microteaching encounter and displaying

		necessary for measurement of entry level either
A		for evaluative purposes or diagnostic purposes

	B	essential, assuming instructional objectives are to be achieved with a group of identified trainees

		C	necessary for allowing demonstration of skills learned, useful for evaluative, diagnostic and motivational purposes.

| | | | D | not strictly essential if B strong enough useful for motivational purposes essential when B weak for extra instruction |

| | | | | E | useful only when substantial instruction undertaken in D it then serves function of C |

| | | | | | F | only necessary if E necessary, when it serves same function as D |

| | | | | | | E_v | necessary for terminal criterion measure, mainly for research purposes, C or E may serve same purpose otherwise |

(redundant
if B is
strong)
OMIT

A   B   C   D (E_v)
                          may be necessary
                          to check out
                          value of D

Minimal research Cycle

(A) B   C   D

may be
necessary
for diagnostic
purposes

Minimal teach Cycle

**FIGURE 4.11A: SELECTION OF ELEMENTS FOR A MICROTEACHING
                  CURRICULUM**

their interrelatedness schematically.

Cyclical models have already been considered in 4.4 (xvii) and
so conceptual models will be dealt with here.

A recent model of classroom teaching often referred to is that
of Dunkin and Biddle (1974). This model identifies variables
under the four main headings; presage, context, process
and product - see Figure 4.12. This model, whilst being
valid and of a comprehensive nature, suffers from an over-
emphasis on presage and context and a lack of detail in the
process phase. It, therefore, seems to have some serious
deficiencies in the the microteaching context.

Dunkin and Biddle do however qualify the process phase further
and identify variables of four distinct classes falling into
four models:

trait model - variables are exclusively teacher-based and
include for example teacher praise, acceptance, criticism, talk,
questioning, vagueness, use of abstract thought, structuring.

interaction model - variables are concerned with sequences of
interaction between teacher and individual pupils. Included are
reinforcement, appropriateness, reciprocation, redirection,
episode structuring.

social system model - considers teacher and pupil qualities and
group states and involves such variables as with-it-ness,
smoothness, group structures, group function, pupil role,
warmth.

Curriculum model - is concerned with innovation in the classroom
that involves new media, new strategies, new lesson formats that
cause changes in the practice of teacher and/or pupils.

FIGURE 4.12 : A MODEL FOR THE STUDY OF CLASSROOM TEACHING
(Dunkin & Biddle, 1974, p.38)

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PRESAGE VARIABLES

Teacher
Formative
Experiences

Teacher
Training
Experiences

Teacher
Properties

Social class
Age
Sex
. . .

University
attended
Training-
program features
Practice-
teaching experi-
ences
. . .

Teaching
skills
Intelligence
Motivations
Personality
traits
. . .

PROCESS VARIABLES

THE CLASSROOM

Teacher
Classroom
Behavior

Observable
Changes in
Pupil Behavior

Pupil
Classroom
Behavior

CONTEXT VARIABLES

Pupil
Formative
Experiences

Pupil
Properties

Social class
Age
Sex
. . .

Abilities
Knowledge
Attitudes
. . .

School and
Community
Contexts

Classroom
Contexts

Climate
Ethnic composition
of community
Bussing
School size
. . .

Class size
Textbooks
Educational
television
. . .

PRODUCT VARIABLES

Immediate
Pupil Growth

Long-Term
Pupil Effects

Subject-matter
learning
Attitudes to-
ward subject
Growth of
other skills
. . .

Adult person-
ality
Professional or
occupational
skills
. . .

A model for the study of classroom teaching.

Whilst the diagrammatic model may be of limited use, this classification of process variables into distinct models may have some value in helping to compare approaches and methods from past studies.

Brown (1975a) developed a model of teaching based on Argyle's social skill model which has the advantage of placing the emphasis on the interaction between teacher and pupil in the context of the classroom - see Figure 4.13. He went a stage further and developed this model into a teacher _training_ context (see figure 4.14). However in making this development the pupil was somehow lost in the metamorphosis - a decided disadvantage in the light of current thinking (see section (v)). On the positive side the introduction of theoretical rules begins to focus on means as well as processes. The model does however, in spite of its robust simplicity, seem to lack aspects of concern that have emerged in recent years as evidenced by the issues discussed in section 4.4. A more recent model by Hargie and Maidment (1979) concentrates essentially on the interactive nature of the microteaching encounter, but perceives the global skill under consideration as consisting of a hierarchy of subordinate skills represented by a concentric circular pattern (see Figure 4.15). The complex nature of this model, as evidenced by the need to show its separate components in an initial expanded form, seems a high price to pay for the subdivision of global skills. There also seem to be some omissions and inconsistencies between diagram and textual description with reference particularly to the _future_ behaviour of the pupil and the past behaviour of the _teacher_. This model seems to add little to Dunkin and Biddle (ibid), other than a complex and somewhat inaccurate interactive phase.

An expanded model of teaching

T = Teacher
P = Pupils
X = Material to be learnt (concepts, facts, values, skills)
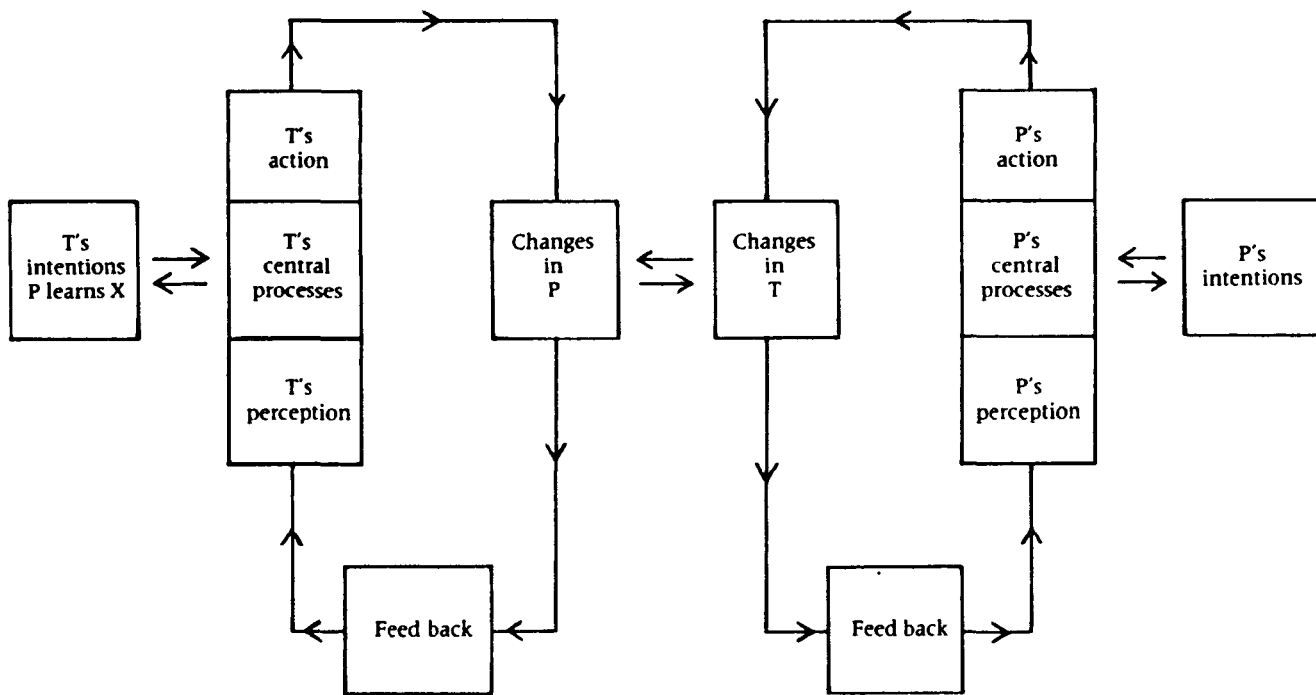
FIGURE 4.13 : AN EXPANDED MODEL OF TEACHING
(Brown, 1975a, p.8)

A model for the discussion of teacher training

ST = Student teacher
P = Pupils
X = Material to be learnt
Y = Skills that ST is intended to learn
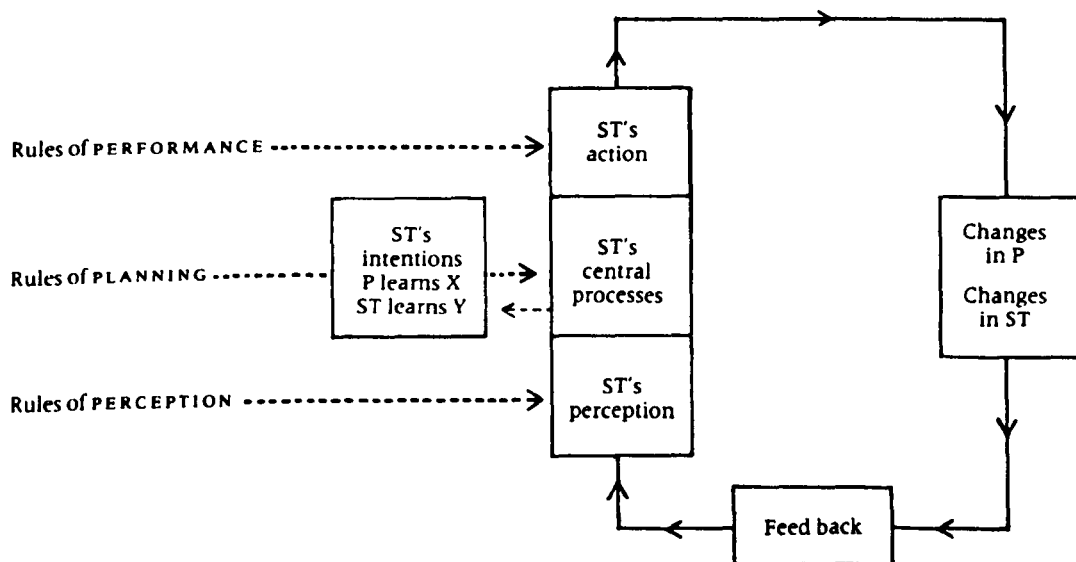
FIGURE 4.14 : A MODEL FOR THE DISCUSSION OF TEACHER TRAINING
(Brown, 1975a, p.9)

The integration of the teacher-pupil interaction is so intimate that the possibility of clarification of factors within is lost.

There have been a number of attempts at descriptive verbal models of the microteaching encounter. Notable amongst these has been the work of MacLeod and McIntyre (1977). In this model the trainee is seen to have entering conceptual schemata that are highly stable. These entering schemata may be changed by effective instruction and experiential learning into new schemata that are evidenced by changed teaching behaviours. The trainees' concepts and perceptions are changed through instruction, whereas principles and evaluative skills are learned through the combining of instruction with observed practice. They further suggest the decision-making aspect of the teachers role. Though it is conceived as essentially information processing - where the richness of stimuli reaching the teacher is simplified and generalised into a recognisable construct related to the cognitive structures and past experiences of the teacher. This matching by simplification and comparison is (it is suggested) a strategy by which decisions can be made quickly in the heat of the classroom.

McKnight (1980) describes the work of Snow and of Shavelson which also deals with the teacher as a decision maker. Snow's paradigm, see figure 4.16, shows a decision making loop and the critical stages in the decision making process along with the various aptitudes of the teacher that bear on such decisions. Shavelson's paradigm see, figure 4.17, extends Snow's work by the inclusion of two additional steps and an interrelationship between current decision and teacher aptitudes. The reason for this adaptation is to allow for the teacher to attend
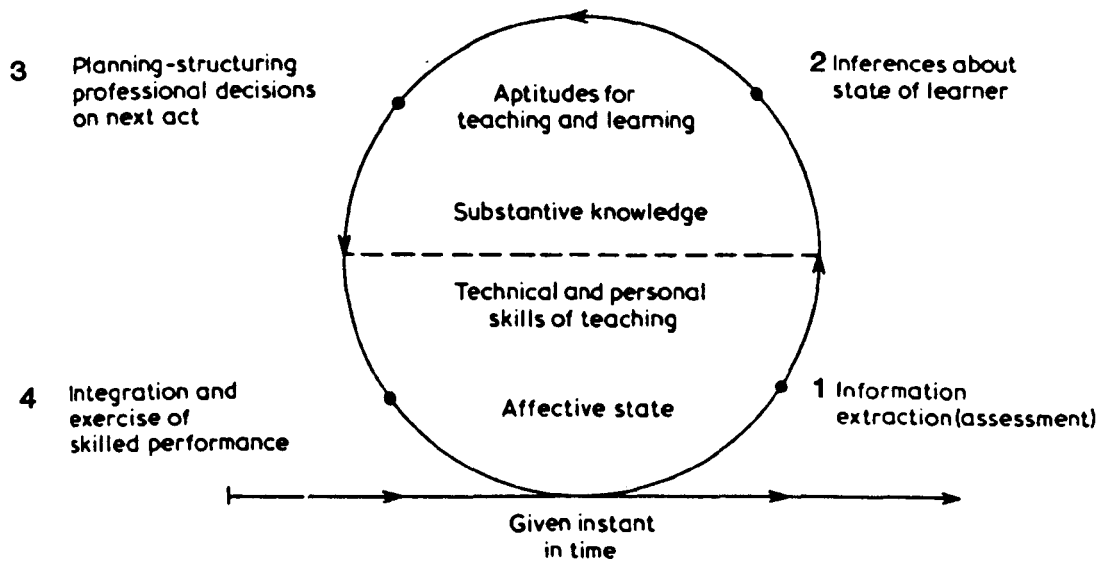
The temporal course of teacher-learner interaction (Snow, 1968).

**FIGURE 4.16: THE TEACHER AS A DECISION MAKER
              (Snow 1968)**

5 Professional
decisions
on next act

4 Inferences about
state of learner

3 Hypothesis generation

2 Information
extraction

6 Exercise of
skilled
performance

1 Cue attendance

Class
begins

Given instant
in time

Temporal course of teacher-learner interaction (based on Snow, 1968).
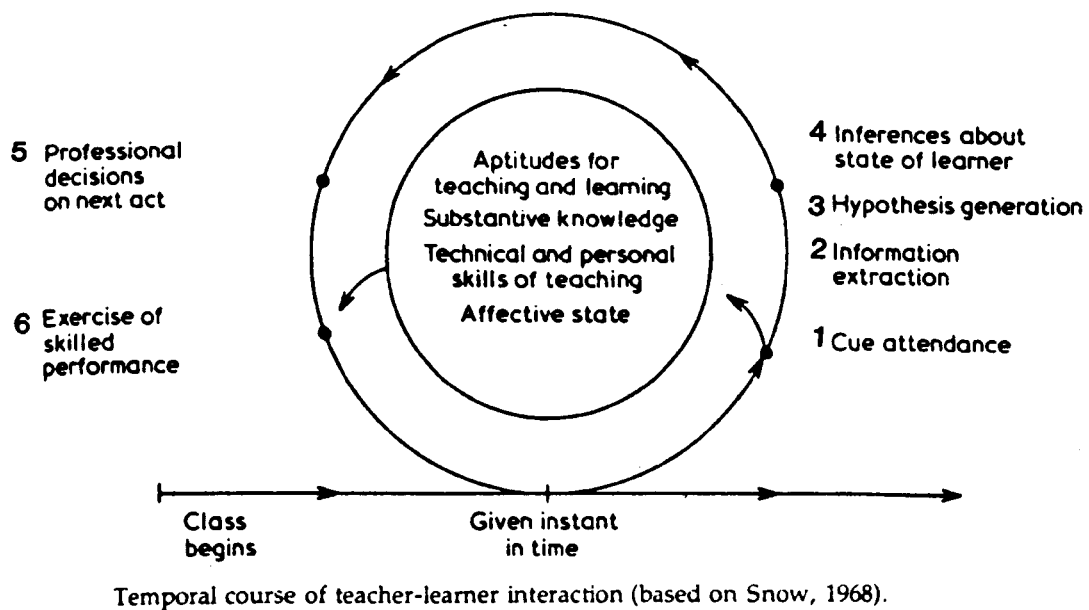
FIGURE 4.17:   THE TEACHER AS A DECISION MAKER
                (Shavelson 1973)

selectively to incoming stimuli and to select _appropriately_ between alternative strategies. In other words decision making includes reasoning for appropriateness on the part of the teacher.

Clark (1980) in his investigation of teacher thinking has drawn a contrast between the decision making of Snow and of Shavelson and the information processing approach of MacLeod and McIntyre. He suggests that the minute and detailed decision-making is perhaps more appropriate in the planning phase of microteaching, whereas information processing is the expedient to which teachers must resort in the milieu of the classroom.

The value of these decision making models is not in their comprehensiveness. They do only relate to one feature of the classroom process - but their exponents claim that this feature represents an all embracing framework within which other component skills are located. Fundamental is the concept of appropriateness - frequency counts can measure inappropriate use of skills which is not reflecting good practice.

In the search for a simple contemporary schematic conceptual model of microteaching it seems inevitable that the complexity of the process must lead to some degree of compromise. In this study the prime concern must be with the curriculum and its evaluation. This concern for an open and robust teacher training based model leads us inevitably to the earlier work of Brown (see figures 4.13 and 4.14). A reworking of model 4.14 in the more comprehensive style of model 4.13, with the addition of an evaluation dimension, leads us quite naturally to the model proposed as the guide for this study - see figure 4.18. This model would seem capable of describing the process relating to

minute, mega, global and decision-making skills training. It does not define particular skills, but then neither do any other generalised models. It has however sacrificed the detail of presage and context variables contained in the Dunkin and Biddle model (figure 4.12). However a particularly broad definition of evaluation - that encompasses context and presage as well as process and product - alleviates this apparent deficiency.

The model does place emphasis appropriately, whilst remaining essentially simple and open.

4.6 Summary and Guidelines

Some indication of the wide range of applications of micro-encounter work has been given. The wide range of skills has been discussed and current thinking about skills, skill clusters and global skills has been explored. The effectiveness of various patterns of microteaching has been examined along with a large proportion of the recent and current issues. A coding scheme has been developed for discussing microteaching cycles and a conceptual schematic model has been suggested. Arising out of this chapter and its sections is a number of more specific guidelines that can shape the programme to be developed in this study. Much of the research has not been concerned with in-service higher education. However it is possible to identify, in the light of this author's experience, sound general principles that should be carefully considered in the context of this study. The guidelines are necessarily briefly expressed, but the relevant section(s) where further detail can be found is appended in each case.

A microteaching programme for use with in-service higher

education tutors should:

G1 Be soundly based in existing or developing theory 4.4 (i)

G2 Give appropriate emphasis to the planning phase 4.4 (ii)

G3 Consist of skills that are carefully defined and linked together 4.2.2, 4.4 (iv)

G4 Use skills that take into account the subject matter, 4.4 (iii), this level of application 4.4 (iii) and the characteristics of the students 4.2.2.

G5 Consist of skills that are integrated to approach true classroom performances 4.4 (iv)

G6 Give some credence to the appropriateness of teacher behaviour and the decision-making/information processing role 4.4 (iv), 4.5

G7 Give more emphasis to the behaviour and performance of the learner 4.3 (ii), 4.4 (v)

G8 Relate to learning situations that are as close to the real concerns of the learner as possible 4.4 (v).

G9 Use appropriate models for the instruction phase or a form of inductive session to identify the pertinent features 4.4 (vi).

G10 Include a strong element of discrimination training 4.4 (vii)

G11 Consider carefully the role and contribution of peers 4.4 (ix)

G12 Involve encounters of a duration that is appropriate for the skills under consideration 4.4 (x)

G13 Give careful consideration to the degree to which the agitative effects of self confrontation should be mitigated or even magnified 4.4 (xi)

G14 Be aware of the differential effects of self confrontation on tutors of varying personalities, backgrounds, aptitudes and disciplines 4.4 (xi)

G15 Take account of the need to establish favourable attitudes on the part of tutors at a very early stage 4.4 (xi)

G16 Carefully and accurately define the complex role of the supervisor 4.4 (xii)

G17 Use as much feedback from as many sources as is practicable. 4.4 (xiii)

G18 Define carefully the feedback strategies and conditions 4.4 (xiii)

G19 Be based on an essentially minimal, and therefore most efficient, microteaching cycle 4.4 (xvii)

G20 Use evaluative data from as many sources and of as many types as is practicable - both formative and summative 4.4 (xvi)

G21 Have a carefully selected pattern and sequence of elements that is highly relevant and tactfully evaluative 4.4 (xvii)

These guidelines, whilst seeming small in number, are significant in their content when considered alongside the sections from which they are drawn.

CHAPTER 5

Theories of Instruction

CHAPTER 5 - THEORIES OF INSTRUCTION

The original aim of this chapter was to attempt to base the microteaching programme firmly and soundly in current learning theory. At a very early stage it was apparent that learning theory was such a vast field of knowledge that some attempt would have to be made to attenuate and condense the research required in order to keep to a scale that was feasible for this study. Appropriately enough, an inspection of more recent literature sources on learning theory finds a growing concern for what are variously known as: 'theories of instruction' (Snelbecker 1974, Hilgard 1964), 'Models of teaching' (Joyce and Weil, 1980), 'teaching styles' (Entwistle 1981), theories of teaching (Gage, 1972).

Bruner (1966) stated the need for a theory of instruction as a change of emphasis from the essentially 'descriptive' theories of learning to 'prescriptive' and 'normative' theories of instruction that can guide the teacher. He further asserted that 'a theory of instruction must be concerned with both learning and development and must be congruent with those theories of learning and development to which it subscribes' p40. It would seem then that the study of theories of instruction closely mirrors many contemporary learning theories and perhaps has more relevance, being prescriptive, to the course development in this study and the needs of in-service staff in their role as teachers.

For further discussion on the relationship between learning theory and instructional theory reference should be made to Snelbecker (1974), Gage (1972) for example. In this chapter the major aims will be to:

1. Identify and describe current theories of instruction.

2. Discuss the potential strengths and limitations of the theories of instruction.

3. Consider the applicability of the theories in two main contexts within this study.

    i) to guide <u>development</u> of the microteaching programme

    ii) to guide the 'planning' phase <u>within</u> the microteaching programme.

4. Make decisions regarding the selection and role of instructional theories within this study.

The chapter is divided into four sections that equate closely with the aims above:

5.1   Review of theories of instruction

5.2   An appraisal of the theories of instruction

5.3   The role of instructional theory in microteaching

5.4   Summary and guidelines

This chapter is congruent mainly with Stage 4: Knowledge base D of the Model for Instructional design described in Chapter 1, but it also has implications for Stage 5: Knowledge base E and Stage 6: Knowledge base F.

5.1 <u>Review of Theories of Instruction</u>

In reviewing theories of instruction, it becomes apparent very quickly that there are almost as many theories as theorists. This problem has been tackled by most authors by grouping theorists into 'schools'. This, however, raises further problems of classification and so we find different authors categorising the same theorist in different schools. For example Gagne has been placed variously in the behaviourist school, the cognitive school and is seen by others as an eclectic as discussed later in this chapter. In an attempt to gain some degree of understanding of the relative positions of theories, schools and theorists, a selection of sources on theories of instruction was consulted. The classification that emerged is shown in Figure 5.1, and it is this table that will serve as the basis for the discussion here.

There are then four major schools: Behaviour Modification, Cognitive, Humanistic and Eclectic. There is also some broad measure of agreement on the theorists within these four broad schools. The one major exception perhaps being Gagne, who is placed in different schools by different authors. He is also placed in different schools by the same author - Joyce and Weil, and this perhaps indicates the essential key. Gagne (1976) has said that all learning theories are essentially 'partial theories' (p41) and his approach depends very much on the task at hand. Thus, in his consideration of instructional strategies, he is prepared to draw from all schools as the needs of the task dictate.

The <u>behaviour modification</u> school relies heavily on the notion of learning as a change in the behaviour of the learner -

FIGURE 5.1: A CLASSIFICATION OF THEORIES OF INSTRUCTION AND MAJOR THEORISTS

SOURCES / Theories of Instruction		Snelbecker 1974	Gage 1972	Entwistle and Hounsell 1975	Gage 1976	Entwistle 1981	Joyce and Weil 1980
Behaviour Modification		Skinner B.F Bandura A Keller F.S	Skinner Bandura	Skinner Kellar	Skinner Hull	Skinner	Skinner Gagné Bandura Wolpe J Pavlov
Cognitive	Task Analysis	Miller G.A Gagné R.M Briggs L.J Bloom B.S Glaser R		Gagné	Gagné		
	Cognitive Construct	Bruner J.S Piaget J Ausubel D.P Torrance E.P	Ausubel Gagné	Ausubel Bruner Pask G Marton F	Ausubel Bruner Piaget	Bruner	Ausubel Bruner Gagné Piaget Taba H
	Information Processing	✓	Ryans D.G	Lindsay P.H Norman D.A Broadbent D.E			
Humanistic	Personal Social interaction Romantic	Rogers C.R Maslow A.H Combs A.W	Smith Bo Ryans	Maslow Rogers		Maslow Rogers	Rogers Torrance Dewey J
Eclectic	Principles of Learning Integrationist Modern Interactive	Bugelski B.R (Gagné)	✓	Roueche			

behaviour that must be both observable and measureable. The

specification of precise behavioural learning objectives and

the evaluation of instruction in terms of these objectives is

seen as vitally important. Other charactistics of this

approach are the provision of reinforcement, active learning,

responding and immediate knowledge of results.

The cognitive school is more concerned with how the learner

processes information, forms concepts, solves problems. In

other words, it is concerned with the way learners think and

the internal operations that take place as the learner copes

with information. The process of learning and instruction

assumes more importance here than it does in the behaviour

modification school. Included in this cognitive school are

a considerable range of theorists who may be grouped under

the task analysis, cognitive construct and information

processing headings. Typical, within the task analysis group,

is the work of Gagne (1970) and Gagne and Briggs (1979). They

suggest a 'systems' approach to instructional design that

involves an analysis of the learning task and the matching of

instructional strategies to the types of learning identified.

This approach has much in common with the behaviour modification

school in that reinforcement, objectives and evaluation loom

large. However the types of learning involved reflect the

views of the cognitive as well as the behavioural psychologists.

The cognitive construct group includes Bruner (1966, 1975) who

is concerned for the learner as an active participant in the

process of acquiring and transforming information - a viewpoint

that has led to the advocation of discovery and guided discovery

methods. Also included is Ausubel (1975) who has suggested

the importance of advance organisers for the effective

assimilation of new learning material into existing cognitive structures. The information processing group is concerned to describe the learner (and for that matter the teacher) as a system for input, storage, process and output of information. There is some confusion here regarding the use of the term information processing. Joyce and Weil (1980) use the term to describe the whole range of cognitive theories of teaching. Snelbecker (1974) used the term to describe theorists concerned with the use of computer models. Entwistle (1981) uses the term in the context of a descriptive model of memory - a narrow view of learning. However, whatever these differences, information processing is firmly rooted in the cognitive school.

The humanistic school is concerned with the development of the whole person. It sees the learner as not merely a memoriser of facts nor an acquirer of cognitive skills, but more importantly a discoverer of himself and a developer of his own affective self. The learner has considerable control over events and the teacher's role becomes more of a facilitator. Learning should be experiential rather than merely cognitive, therefore the learner must be actively involved in all aspects of the instructional operation. For a more complete account see Rogers (1975).

The eclectic school involves theorists who draw principles from a range of different theories of learning and instruction. It has already been suggested, earlier in this chapter, that Gagne's task-analysis approach is essentially eclectic in nature. The interactive or integrative approach of Roueche (1975) is also eclectic in nature and represents an attempt to

reconcile the cognitive and behaviourist stances. Snelbecker (1974) has also described the eclectic Principles of Learning approach of Bugelski which involves four major principles, three corollaries and some fifty-nine related suggestions to the teacher. All of these are culled widely from amongst theories of learning and instruction and, where possible, based on empirical research. Davies (1976) also advocates a 'modern' approach which is essentially an eclectic attempt to reconcile the extremes of the behaviourist and humanist approaches. There seems to be a concerted move towards the breaking down of artificial barriers between the schools. There seems less tolerance of entrenched positions and rigid application of doctrinaire theories. What is being advocated is the sensitive application of these 'partial' theories of instruction to the extremely complex and comprehensive task facing the teacher in his work with students.

5.2 An Appraisal of the Theories of Instruction

The Behaviour modification theory of instruction

Davies (1976) in his discussion of the 'Classical' approach to the curriculum is describing effectively a behaviourist approach. He identifies seven stages:

1. Analyse the curriculum into its constituent parts

2. Synthesize the parts into self-contained topics

3. Identify behavioural objectives for each topic

4. Order the topics into an optimal learning sequence

5. Determine the best way of teaching the sequence

6. Implement the programme in the classroom

7. Evaluate the learners' success.

Joyce and Weil (1980) identify a number of valuable contributions that this approach can make including the development of: 'academic skills, social skills and self management skills' (p347) as well as 'psychomotor skills, complex problem-solving skills, and even at times therapeutic and interpersonal training' (p377). Snelbecker (1974) suggests that the essentially inductive approach in this school means that advocates feel that this approach can be 'utilised with all instructional problems ..... they indicate no explicit limitations as to educational objectives, clientele or type of educational situation' (p404).

There have been over the years a number of criticisms of the behaviourist approach. These can be broadly summarised as:

a) control - rests too much with teacher, too little with student

b) dehumanising - fails to account for individuality and uniqueness of the human being

c) too scientific - lacks warmth and humanity

d) limited - in that only concerned with measurable

behavioural objects, therefore neglects higher cognitive

and affective domains

e) ill-founded - since based on experimentation with animals

in laboratories.

McKeachie (1975) argued persuasively that the behaviourist

approach also failed to take sufficient account of the factor

of _motivation_ in the learning situation.

Snelbecker (1974) concludes that 'behaviour modification's major

influences on instructional theory may be better delineation of

educational objectives and instructional methods and more

routine inclusion of evaluative research procedures ....' (p407)

Joyce and Weil (1980) observe that they 'perceive current

discussions as more reasoned and also more eclectic, with

acknowledgements of useful aspects of behavioural thinking....

....While many of the disputed issues remain, there is a

growing recognition in education and in clinical/psychology of

the value of behavioural models'.   (p338)

Combs (1982), a leading member of the humanistic school, accedes

that 'Teachers at any level will often be seeking objectives for

which behavioural psychology can provide important guidance and

the potential contributions of behavioural thinking ought to be

part of a mature teachers personal theory of teaching' (p36).

He continues to state however that it will, by itself, not be

enough.   It will not be sufficient to deal with objectives

concerned with 'generalised attitudes, feelings, emotions or

values'.   He thus concludes with the humanist stance but allows

a role for the behaviourist.

There seems to be, then, an accepted role for the behaviour modification theory in the educative process.

The Cognitive theory of Instruction

The cognitive group of theorists is the largest and the most diverse. Joyce and Weil (1980), who refer to this group as the information-processing family, identify seven distinct models within the group. There seems little point in discussing at great length the classification of sub-groups within this group. There is little general agreement amongst sources that have been referred to regarding classification and terminology. The task analysis sub-group, that attempts to rationalise the principles inherent in the behavioural and cognitive schools, seems worthy of differentiation. Also the information processing sub-group, in the sense that it deals with aspects of memory, seems a coherent and generally well delineated sub-group.

The particular concern of the cognitive group is with the acquisition of concepts, inductive thinking, inquiry training, memory, problem solving and cognitive growth according to Joyce & Weil (1980). Snelbecker (1974) also stresses the conceptual and inquiry training focus of the cognitive approach. Gage (1972) suggested that the cognitive approach was related to objectives falling within the cognitive domain and as such referred to such skills and abilities as: recall of facts, definitions, laws and principles; analysis; synthesis; evaluation; translation; interpretation. Berliner and Gage (1976) see the cognitive learning theorists concerning themselves with the organisation of information and its

meaningfulness involving; 'definitions, concepts, principles, evidence, logic, illustrations, instances.' (p12).

Gagne (1976) emphasises; verbal information, intellectual skills, cognitive strategies, which are broadly equatable in his terms to; facts, concepts and rules, problem solving. He points out the preoccupation with verbal information as an aspect of the 'information-processing theory' that he is describing. He obviously sees information-processing as a sub-group within the cognitive field. Entwistle and Hounsell (1975a) have suggested the potential for cognitive theory to help with the development of 'critical thinking' (p188), which they equate with the 'contextual relativistic reasoning' of Perry (1975). The above references give an indication of the role and scope of the cognitive group of theorists. There have been however some criticisms of this approach.

Snelbeaker (1974) has identified four major criticisms:

i)   the use of broader and often ambiguous objectives,

ii)   the lack of an empirical basis for much of the educational practice advocated,

iii) imprecise and often conflicting definition of terms,

iv)   lack of agreement of advocates within this group.

Entwistle and Hounsell (1975a) have suggested some lack of account for individual differences - although Piagetian developmental stages are acknowledged. This, they contend, does not take account of intellectual development beyond adolescence, nor as it develops over time in higher education contexts. Gage (1972) points out a potential operational weakness of particular emphasis on the view of the teacher as

an information processor. The role of the teacher as problem-solver, decision-maker, hypothesis-tester and inquirer may be feasible in the preactive and post-active phase of teaching. However 'the uncontrived character, speed and uncontrollability of teaching moves in the interactive phase make the formulation of teaching as information processing seem ...... metaphorical, not to be taken literally'. (p97)

In a field as broad as this cognitive group, such generalised criticisms can be unjust to sub-groups. However criticism in education may not always be rational, occasionally it can be downright emotional.

The Humanistic theory of Instruction

Snelbecker (1974) has pointed out that the humanistic approach arose as a reaction to other psychological approaches to learning and not as a coherent and homogeneous approach inspired by educational psychology or learning theories. As such, it consists of an aggregration of theorists with similar philosophical points of view but with differing stances regarding learning and instruction.

Prominent amongst this group are Rogers, Combs and Maslow. Rogers (1975) has identified independence, self-reliance and creativity as important aspects of this approach. Above all though he values 'learning of the process of learning' (p155). Maslow (1975) sees the 'discovery of identity' and the 'discovery of vocation' as all important (p162). The learner should be looking within himself in order to derive a set of values. Combs (1982) sees the approach as exploring 'such personal matters as human awareness, experience, the place of perceptions, values, beliefs, feelings, emotion, choice, will,

self-actualisation, self-transendence, expanding consciousness,
being and becoming'.

In the achievement of these goals, Rogers sees the teacher's
role as that of a 'facilitator'. Combs sees the teacher as
arranging the processes (which are more important than the
outcomes) of learning in co-operation with the learners in
what he calls 'Open systems' (as opposed to 'closed systems')
with an emphasis on problem-solving.

Joyce and Weil (1980) identify ten teaching models grouped into
two 'families' which they label the 'personal family' and the
'social family'. Both families are essentially humanistic in
approach. The personal family is concerned with personal
development, self-awareness, creativity and creative problem
solving. The social family is concerned with interpersonal and
group skills, collaborative problem-solving, decision-making
skills and personal and social values.

The humanistic approach completes the continuum of control. At
one extreme is found the operant conditioning tradition of an
extreme Skinnerian approach where the learner operates in a
tightly controlled mode. At intermediate positions are located
the partially eclectic approach of Gagne, the guided discovery
of Bruner and other cognitive approaches. At the other extreme
is the humanistic approach with, at its most extreme, complete
freedom for the learner to choose objectives, methods and
processes, with outcomes being to some extent incidental.

Criticisms of the humanistic approach include such points of
view as:

i)   Principles are derived from psychotherapy research

and theory rather than from learning and instructional

processes.

ii) It is more to do with philosophy than education and

instructional theory.

iii) Assertions are philosophically based not empirically

tested.

iv) Terms are not operationally and consistently defined.

v)   Objectives are broad-based and ill defined.

One final general criticism by Entwistle (1981) is worth

noting here ...

'Each opposed view of education is, in part, an expression of

the theorist's own preferred way of thinking. He may be

describing little more than which type of learning he himself

would find most beneficial. And if we enthusiastically

endorse one or other extreme method of teaching, the same may be

said of us. Somehow the approach to teaching must take into

account the variety of styles of learning among the learners,

not just the preference of the teacher' (p231).

This leads appropriately to a consideration of the final theory

of instruction.

The Eclectic approach to Instruction

It seems probable that the eclectic approach arose in response

to extreme positions taken by other theorists. It is often the

case that adherents to certain theories are more extreme than

the original theorists. It is also generally accepted that the

main theories _are_ partial theories and that, as a result, any

comprehensive approach must draw from the varied viewpoints

described earlier. Thus, an eclectic approach will be

concerned with all the goals and objectives expressed in the
other three theories.   The purpose will be to blend learning
experiences and teaching strategies to achieve identified
educative purposes.   As such, the eclectic approach cannot be
called a theory, it is more likely to be a collection of
principles derived from fields of educational research,
learning theory and psychological research.

Recent sources, such as Joyce and Weil (1980), Davies (1976),
Entwistle (1981), in echoing Gage (1972) and Hilgard (1964) seem
to favour teacher versatility in being able to adopt styles
and methods inherent in all the instructional theories
discussed.   But more than that, they seem to advocate the idea
of 'appropriateness' as suggeested by Davies (1976 p38).
Snelbecker (1974) equates eclecticism with a systematic
approach involving four major steps: 'identify the desired
educational objectives ......;   establish criteria for
measuring the goals .....;   conduct a careful analysis of the
different tasks required by students who attain the end
objectives....;   identify the different environmental
stimuli and other conditions which seem to influence student
learning .....' p447.

Criticisms of this approach include:

i)   lack of sufficient empirical evidence (- however this
      is likely to be no worse than the orignal theory).

ii)   lack of internal consistency - due to the diverse
      sources from which principles are drawn.

iii) problems of integrating and differentiating different
      ideas.

iv)   problems of determining priorities between conflicting

principles.

v)   the approach is particularly susceptible to personal

bias in selecting principles;   one cannot remain

absolutely neutral.

There seems little difference between criticisms here and in

the other instructional theories.   However, there remains the

overriding quite beguiling advantage of the possibility of a

balanced and comprehensive approach to instruction.

5.3 The role of Instructional theory in microteaching

There would seem to be two quite distinct contexts in a microteaching programme to which instructional theory can and has made a contribution;

i)   Programme development - theory can assist with the rigorous and consistent development of a coherent and valid programme.

ii)   Instructional phase - the theoretical underpinning and strategies for assisting trainees in planning for their teach phase can usefully reflect current instructional theories.

The two contexts may be illustrated usefully by considering some applications from the literature.

i)   **Programme development**

As MacLeod and McIntyre (1977) have pointed out, the original work at Stanford was 'supported by an explicit theoretical rationale, that of behaviour modification' p112. Borg (1971) continued the behavioural emphasis in his minicourses, though he identified their emergence as a 'Research and development cycle' (p18). Thus he implied a more rigorous and systematic approach particularly in evaluation.

MacLeod and McIntyre (ibid) make a plea for the inclusion of a strong cognitive aspect within microteaching that would include aspects of information processing (particularly teacher decision-making).

Applebee (1976), in his critique of the British application of Borg's minicourses (Perrott et al 1975), pointed out that there was an element of eclecticism in the underlying

model, but criticised the limited and dated component
skills approach.   He makes a plea for a move towards the
appropriate and effective use of skills rather than mere
crude counts of their occurrence, which surely implies a
strengthening of the cognitive aspects of microteaching.
He concludes by suggesting that more rigour and a more
systematic approach are necessary than is apparent in the
Minicourse approach.   He is also disappointed that the
eclectic approach has only resulted in a view of teaching
that is, in his opinion, 'too simplistic' (p43).

The concern with discrimination training (discussed in
detail in section 4.4 vii) has also implied a move towards
more cognitive aspects in microteaching.   Wagner (1973)
in particular referred to cognitive discrimination
training, though she implied the linking of cognitive
aspects with affective and behavioural objectives.

Brown (1977b) in his plea for 'understanding and action'
(p59) was also implying a cognitive as well as a
behavioural aspect to effective staff training.

There has been much debate between the behaviourists
and the cognitive and humanist theories.   Gage and
Winne (1975), in their discussion of Performance based
Teacher Education (PBTE), point out the essentially
systematic and behavioural nature of this approach.
However they maintain that PBTE is reconcilable with
theories of learning and instruction other than merely the
behaviourist view.   This stance is supported by McDonald
(1974) who sees the debate as merely a concern for 'simple
performances, complex performances and all their

combinations and interrelations'.

Perlberg et al (1979) advocate an eclectic combination of what they identify as the progressive academic and humanistic movements into a competency based teacher education model.

Meyer (1979) described the development of minicourses, some of which involved microteaching, based on a systems approach that involved eleven steps:

determination of need

formulation of aims

formulation of objectives

survey of resources and strategies

selection and sequencing of resources and strategies

development of materials

first trial

formative evaluation

modification

further development

summative evaluation

The minicourses are also dependent on behavioural theory and a strongly linear arrangement of 'input-process-output' cycles which, it is claimed, represent stimulus- response chains. Also added to this rationale are some 24 eclectic 'conditions of learning' that are also 'carefully applied' in guiding the 'principles of teaching' implemented on the minicourses. The basis for selection of these twenty four conditions is not too clear other than that they have 'been demonstrated to be effective, especially in regard to adult

education programmes' p33. In a report on the
effectiveness of these course, Meyer and Jenkins (1979) had
only managed to look at affective and self-report opinions
of the courses, despite the fact that the courses began in
1972. There remains then some inconsistency between the
systematic course rationale and the quality of the
evaluative effort.

More recently, Clark (1980) and Hargie (1982) have
continued the plea for an essentially cognitive approach
that takes into account 'appropriateness'. Clark suggests
(and Hargie seems to concur, though using different
terminology) two models of the teacher that may illuminate
the move towards cognitive considerations; the decision
maker and the information processor. These models are
seen as complementary to the behavioural approach and a
logical outgrowth of research approaches that emphasise
teacher behaviour' (Clark, 1980, p41).

There is then a detectable drift away from the classical
behaviourist approach in programme development towards
approaches that include either carefully defined cognitive
abilities or sets of eclectic principles chosen widely from
cognitive and humanist theories.

ii) Instructional Phase

Typically, earlier microteaching programmes involved the
use of behavioural models as the instructional phase - see,
for example, Borg (1971). Such models became cued either
by the tutor or within the model, as the value of
discrimination training became recognised. This began
the move towards cognitive rather than mere imitative

behaviours in the instructional phase. Training in the use of interaction and other observation systems, as advocated by Brown (1977b) for example, strengthened the cognitive aspect still further by adding more rigour and consistency. In addition, Brown (1978) identified seven steps in designing effective explanations which represent an eclectic though essentially cognitive attempt to guide trainees planning. The approach here, although attributed elsewhere, has much of a task analysis approach as advocated by theorists such as Gagne (1970), Gagne & Briggs (1979). Hargie and Maidment (1979), also seem to suggest an affinity with cognitive theorists and hierarchies of learning, in their identification of hierarchies of teaching skills. Hargie (1982) goes further in stressing the importance of the development by trainees of 'conceptual strategies' and 'cognitive contingencies' that they can use in an effective 'problem-solving' approach to teaching (p80).

The 24 conditions of learning identified by Meyer (1979) had some impact on the instructional phase within his minicourses. As well as a number of behavioural teaching principles are to be found: 'to foster democratic decision making'; 'focussing on evaluative rather than judgemental aspects'; 'participants planning and sharing responsibility for the organisation of learning activities'; 'an interactive team of participants and course leaders'; 'co-operation, democratic decision-making, group identification and group problem-solving'. These principles owe much to the humanistic tradition and theory

of instruction.

Britton and Leith (1982) have described how in their
studies... 'model performances were eschewed.   Instead,
criteria were developed in inductive sessions with students
who applied them in evaluation of teaching performances and
critiques of tapes' p27.   This can be seen as a move away
from a behaviourist approach towards a cognitive/humanist
teaching strategy.   Further support for this drift towards
the cognitive approach is to be found amongst a number of
research studies into students' learning styles.   These
studies suggest two distinct styles labelled variously as;

holistic - atomistic by Svensson (1977)

holist   - serialist by Pask (1976a)

deep   - surface by Marton and Saljo (1976)

internal/meaning - external reproducing by Entwistle and
Ramsden (1983)

The holistic style is concerned with comprehension,
understanding, divergent thinking, critical thinking and
general aspects of cognition.   The atomistic approach
represents the opposite pole and is more concerned with
shallow appraisal, rote learning, convergent thinking
perhaps more behavioural than cognitive in approach.
The general finding that the holistic style is more
successful in Higher Education than the atomistic style
makes the inclusion of a cognitive approach in the
instruction and planning phases seem absolutely essential.
For a fuller account of learning styles in Higher Education
Entwistle and Ramsden (1983) is recommended.

5.4 Summary and Conclusions

There has emerged a number of major factors that influence the
particular instructional theoretical stance that is to be taken
in this study:

i) Current practice in instructional theory - which has been
    shown in section 5.2 to be in favour of a more eclectic
    approach, that takes account of cognitive and humanist
    stances as well as the behaviourist view.

ii) Current microteaching practice - which has begun to stress
    the need for a strong cognitive element within
    microteachng - see section 5.3 (i), in order to complement
    the original essentially behaviourist approach.

iii) Subject and task-specific considerations - the nature of
     different subjects and different tasks within the same
     subject are being suggested as strong reasons for needing
     versatile approaches in instruction (see section 5.3 (ii)).

iv) Student individual differences - differences in the
    background and study preferences of students suggest the
    need for an element of student choice and intervention in
    instruction (see section 5.3 (ii)).

v) The nature of this research programme - the research,
    development and evaluative nature of this study suggests
    a rigorous and systematic approach in order that valid and
    quantifiable results can be achieved.

vi) The microteaching model - developed in Chapter 4 suggests a
    systematic though eclectic approach to the various stages
    and learning considerations implicit in the planning,

performance and monitoring of the microteaching programme.

vii) <u>The Model for Instructional Design</u> - which is guiding
(see chapter 1) the structure of this study represents a
systematic and essentially eclectic approach.   Such an
approach would seem both appropriate and congruent in the
curriculum design as well as in the instructional phase of
the microteaching programme.

The approach that will be adopted to guide both the
Programme development and the Instructional phase will be
systematic though eclectic.   Briefly, it will mirror the
approach advocated by Meyer (1979) see section 5.3 - but
for more rigorous and detailed descriptions see Gagne and
Briggs (1979) or Davies (1971), whose work is summarised in
Figure 5.2.   This approach is in the Task Analysis
tradition - a blend of the behaviourist and cognitive
theories and ,as such partially eclectic.   There remains,
then, only the need to include the appropriate application
of humanistic principles in order to achieve a more
comprehensive eclectic approach.

CHAPTER 6

The Curriculum Development

CHAPTER 6 - THE CURRICULUM DEVELOPMENT

This chapter describes the process by which the main components of the curriculum have been identified. Once again the general task is one of an analysis of a broad field of knowledge and the synthesis of material appropriate for a contemporary curriculum within the constraints of a short course for tutors in Higher Education.
The main aims of the process are:

1. A consideration of the functions and settings of the tutorial.

2. The identification of tutor skills within the tutorial setting.

3. The selection of skills appropriate for treatment in the context of this research project on microtutoring.

4. The design of instruments for the detection and measurement of the selected skills.

The chapter is divided into four sections that equate with the aims outlined above: 6.1 The functions of the tutorial.

6.2 The skills of the tutorial encounter.

6.3 Selected skills for microtutoring.

6.4 Instruments for microtutoring skills.

This chapter is congruent with stages 5 and 6 : knowledge bases E and F of the Model for Instructional Design described in Chapter 1 that is guiding this project.

6.1 The Functions of the Tutorial

Traditionally,the tutorial has been used in the Universities for some considerable time for the discussion of student essays. More recently other functions of the tutorial have been identified in the context of Higher Education.

Beard (1972) identified the tutorial as a lecture follow-up device as probably the most important function. The tutorial is seen as providing an opportunity for questioning content and answering problems that arise during the lecture programme. This function was echoed by Rudduck (1978). Beard also stressed the importance of the tutorial for such learning activities as; promoting understanding, developing critical thinking, decision-making, developing oral skills and changing attitudes.

Adderley et al (1975) particularly emphasised the tutorial as a means of problem solving especially in the context of the project. This is closely connected with Beard's view of the tutorial as a mode for learning the skills of problem solving. Whereas Maxwell (1979) and Wright (1982) highlighted the problem solving as a remedial strategy with a strong element of counselling involved. Boud (1981), Wilson (1981) and Wright (1982) have all stressed the tutorial method as a means of developing independent, self-directed or autonomous learning.

There would seem to be five main functions for the tutorial mode:

1. Traditional essay-based tutorials.

2. Lecture follow-up tutorials.

3. Skill development tutorials for skills such as ; critical thinking, oral skills, problem solving and self-direction.

4. Remedial problem solving, including aspects of counselling.

5. Developmental problem solving, as in projects and research.

Since this research project was concerned with the development of a **short** course, it was necessary at an early stage and continually throughout to limit the scope and content to manageable proportions. It was decided that this microtutoring course would concentrate essentially on one-to-one tutorial work typically in the context of encounters relating to project work, assignments and research. In this respect categories 3 and 5 above assumed prime significance in the development of the curriculum for the course on tutoring skills.

In summary then, the general aims of the course relate to the development of tutorial skills in the context of one-to-one encounters typically concerned with student assignments, project work or research.

The encounters are further constrained by focussing on the development of the student's skills in such areas as critical thinking, problem solving and self-direction.

The course deals with the pedagogic and logistical problems inherent in such encounters, but **does not** concern itself to any great extent with aspects of social and psychological counselling, since much has already been done in this area - see, for example, Ivey and Authier (1978), Brammer (1979) or Ivey (1980) for detailed and comprehensive treatments.

6.2 The Skills of the Tutorial Encounter

In identifying the skills appropriate for consideration within the tutorial encounter it was decided to review skills in the related fields of microteaching, microcounselling and microsupervision with a view to the selection and transfer of skills into this new context of microtutoring. In carrying out this review, it quickly

became apparent that some form of classification was necessary in order to adequately deal with the range and diversity of skills that were emerging. A comprehensive treatment of microsupervision (the training of supervisors of practice teaching) by Turney et al (1982) suggested the following broad headings initially for the grouping of skills; managing, counselling, instructing, (providing) feedback and evaluating.

Relevant sources were analysed and the skills suggested grouped under these broad headings. No attempt was made at that time to obtain detailed definitions of the skills, since many sources had either ill-defined skills or no definition at all. It was felt more appropriate to simply classify the skills as accurately as definitions would allow in order to achieve an overall picture and subsequently to carry out a selection and accurate definition of those skills selected for the purpose of this research.

The results of the review are summarised as follows :

microsupervision sources ... in figure 6.1

microteaching sources ...... in figure 6.2

microcounselling and other general sources ... in figure 6.3

As a result of this analysis, it was decided that the most promising broad areas for further analysis were instructing, feedback and evaluation. These headings seemed to contain the most appropriate skills in the light of the constraints and specific contexts necessarily imposed on this research study. However before continuing further with the development of skills it became apparent that it would be imperative to address two additional issues that had emerged during the analysis of sources. These issues might usefully be considered under the headings 'structure' and 'dimensions':

FIGURE 6.1 : SUMMARY OF SKILLS FROM MICROSUPERVISION SOURCES

SOURCES / MAIN SKILL AREAS	TURNEY ET AL 1982	BROWN & McGARVEY 1975	DOUGLAS & PFEIFFER 1973	PERLBERG & THEODOR 1975	CHASE ET AL 1971
MANAGEMENT	planning motivating			task oriented encouragement	purpose sequence
COUNSELLING	relating responding helping troubleshooting	accepting responding	accepting reflecting supporting praising	pleasantness allow student expression	relieve tension encourage
INSTRUCTING	presenting questioning problem-solving conferencing	suggesting questioning analysis	giving info. questioning suggesting	clarity simplicity practical advice	originate contract suggest review
FEEDBACK	recall performance interpret			positive rewards polite criticism	constructive crit reinforce
EVALUATING	communicating decision-making finalise				student self-evaluation

FIGURE 6.2 : SUMMARY OF SKILLS FROM MICROTEACHING SOURCES

SOURCES / MAIN SKILL AREAS	TURNEY ET AL 1973	KISSOCK & IYORTSUUN 1982	BROWN 1983	GRIFFITHS 1975	KREMER & PERLBERG 1979
MANAGING	motivation		review purpose strategy outcome	goal negotiation	promoting-participation
COUNSELLING					
INSTRUCTING	explaining questioning	presenting question-cognitive question-affective reacting	explaining questioning problem setting problem solving	manipulate depth of focus	giving info,opinion & direction questioning problem set & solve
FEEDBACK	reinforcement				
EVALUATING					

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FIGURE 6.3 : SUMMARY OF SKILLS FROM MICROCOUNSELLING AND GENERAL SOURCES

SOURCES MAIN SKILL AREAS	IVEY 1978 & 1980	BRAMMER 1979	BOUD 1981	MAXWELL 1979	MAIN 1980	HILLS 1979a
MANAGING	encouraging	structure planning	motivate purpose autonomy set climate	objectives		purposes
COUNSELLING	attending influencing reflecting	listening reflecting	student self- concept alert to feelings	establish rapport listening patience	relating listening understanding	alternatives
INSTRUCTING	express content question direction	informing questioning problem solving decision making		facilitating questioning problem solving	assisting exploring	identify issues summarising within
FEEDBACK		interpreting confronting	past experience performance	reinforcement task focus	focussing	progress feedback focus on alternatives on new plans
EVALUATION	summarise	summarising	evaluation cooperation	of progress		of purpose summarising at end

Tutorial structure - some sources, notably Chase et al (1971)
Brammer (1979) Maxwell (1979) Hills (1979a) and Main (1980)
stress the importance of structure within the tutorial encounter.
Others, for example Turney et al (1982) and Brown (1983), imply a
consideration of structure in the skills that are to be found in
their management category. Figure 6.4 provides a summary of the
structural phases advocated by these sources.

On the basis of the emergence of this issue, it was decided that
tutorial structure should be an aspect of the tutorial encounter
for inclusion in the curriculum.

Tutorial dimensions - many sources identify 'skills' that are
not specific events but which tend to be always present to a
greater or lesser extent. Such a 'skill' might better be considered
as a variable within the encounter - an example is student self -
direction already referred to in function 3 of section 6.1 above.
These larger variable skills, that often seemed to be detected and
measured by observation of the smaller more specific skills, were
quickly distinguished by use of the term **dimension.** A summary of
the dimensions that emerged from the analysis of sources is to be
found in figure 6.5

Of these dimensions, the following were chosen for further close
consideration in respect of this curriculum :

    cognitive level

    student centredness

    student control

    student autonomy

    student self-direction

    tutor directness

    tutor indirectness

FIGURE 6.4 : SUMMARY OF SRUCTURAL PHASES BY SOURCE

SOURCES / PHASES	CHASE ET AL 1971	MAXWELL 1979	MAIN 1980	HILLS 1979a	BRAMMER 1979
ONE	Introduction	Opening	listening exploring	Starting: identify purpose & issues	preparation & entry clarification
TWO	Body of Encounter	Middle (implied)	relating understanding	Maintaining: alternatives, focussing & summarising	structure relationship exploration
THREE	Closure	Closing	focussing assisting	Closing : feedback on progress & new plans	consolidation plan/contract summarise

DIMENSIONS \ SOURCES	BOUD 1981	BROWN & McGARVEY 1975	SMITH 1971	BLUMBERG & WEBER 1968	DOUGLAS & PFEIFFER 1973	GRIFFITHS 1975	KISE 1971	KREMER & PERLBERG 1979	IVEY 1978, 1980	BERLINER 1976	WRIGHT 1982
student autonomy	✓										✓
student control		✓									
student centred								✓			
student self-direction											✓
tutor general/specific						✓	✓				
tutor support/critical						✓					
tutor direct				✓	✓						
tutor indirect				✓	✓						
tutor non-direct					✓						
tutor warm/cold		✓							✓		
tutor centred								✓			
tutor fluency								✓			
tutor concreteness									✓		
tutor genuineness									✓		
tutor appropriateness										✓	
cognitive level			✓					✓			
affective level			✓								

FIGURE 6.5 : SUMMARY OF TUTORIAL DIMENSIONS BY SOURCE

tutor control

tutor critical/supportive

tutor general/specific

tutor appropriateness

tutor centredness

It is not proposed at this stage to attempt an accurate definition of each of these dimensions. It would seem more appropriate, since such definitions rely on more specific component skills, to consider them alongside the rational selection of both skills and dimensions in section 6.3 below.

6.3 Selected skills for microtutoring

There were two distinct contexts in which skills were analysed and selected for the tutorial encounter. Firstly skills were considered in the context of **structure** and secondly they were considered both as individual observable events but more importantly as indicators of dimensions by means of a skills/dimensions matrix.

6.3.1 Structuring skills

It was decided that a carefully chosen set of components that might be expected to form a well structured tutorial should be identified and defined. The phases and components already identified from the sources in figure 6.4 could perform a useful basis, but the aim here was to provide a more comprehensive, well-defined and as a result more easily observable set. By this means observation and analysis of the structure of tutorial encounters would prove more reliable, consistent and valid. The schemes suggested in figure 6.4 were replaced by a single set of nine distinct tutorial components:

1. Reviewing - past goals, decisions, progress.

2. Purpose - of this encounter.

3. Structure - of this encounter.

4. Problem - statement, discussion, exploration.

5. Alternative solutions - identification and consideration.

6. Specific solution - description and planning.

7. Summarising - essentially intra-encounter.

8. Contracting - essentially extra-encounter progress.

9. Evaluating - results, progress, plans.

The order was selected as being the most likely sequential order of components in a tutorial,but it was acknowledged at this stage that iterative subcycles of components might occur. It was decided that order should not be a major consideration, but that the occurrence or omission of components would be of prime importance as would the treatment of these components. It was also acknowledged that the particular purpose, nature and duration of a tutorial could affect significantly the deliberate inclusion or omission of components by the tutor (or student).

6.3.2 The skills/dimensions matrix

The broad areas of skills that were selected for further study were instructing, feedback and evaluation. After further detailed study of the sources and the different definitions and interpretations placed on these skill areas, it was decided that there were five main macro skills involved in these three areas that might usefully be separated out for analysis: attending, questioning, instructing, feedback and summarising.

Further analysis and research of major sources, particularly Turney et al (1982), Kissock and Iyortsuun (1982), Ivey (1978), Brown and McGarvey (1975), Douglas and Pfeiffer (1973), Blumberg and Weber (1968),was undertaken to identify the observable events or micro - skills that would be indicative of the five macro skills.

One further main departure from previous practice that was thought
to be of the utmost importance for this study was that the student
was to be given equal weighting with the tutor. This was felt to be
essential since the tutorial, especially in the context of this
study, is viewed as a collaborative encounter between tutor and
student and not merely a scaled down lecture from the tutor. Many
studies and applications of microteaching (perhaps quite rightly)
focus on the performance of the teacher. This study would focus on
the performance of both the tutor and the student as they are so
intimately interwoven and interconnected in the tutorial encounter.
The microskills identified for each of the five macroskills were,
as appropriate, expressed in both tutor and student terms resulting
in the following comprehensive list :

attending   – tutor posture, student posture

                   tutor eye contact, student eye contact

        '   tutor supportive utterances

                   student supportive utterances

                   tutor paraphrases, reiterates

                   student paraphrases, reiterates

                   tutor asks for clarification

                   student asks for clarification

questioning – tutor asks for information

                   tutor asks for opinions

                   tutor asks for suggestions/advice

                   tutor asks for clarification or probes

                   tutor prompts

                   tutor pauses (response inducing)

                   tutor asks open question

tutor asks closed question

student asks for information

student asks for opinions

student asks for suggestions/advice

student asks for clarification

question is at level of: knowledge

comprehension

application

analysis

synthesis

evaluation

question is in affective domain

instructing - tutor gives information/explanation

tutor gives directions

tutor gives opinions

tutor makes suggestions

student gives information/explanation

student gives directions

student gives opinions

student makes suggestions

feedback - tutor reinforces,accepts,praises,agrees

tutor criticises (-ve),rejects,confronts

tutor evaluates,assesses,judges

student reinforces,accepts,praises,agrees

student criticises (-ve),rejects,confronts

student evaluates,assesses,judges

summarising - tutor summarises content,process or progress

student summarises content,process or progress

The number of microskills being more than could reasonably be dealt with in this study and short course, it was decided to construct a matrix of these microskills and the dimensions already identified at the end of section 6.2. The matrix would allow the connection of skills with pertinent dimensions and should enable the final and appropriate selection of dimensions and their component skills for this study. The initial matrix is included at figures 6.6 and 6.7. The original twelve dimensions identified in section 6.2 for further closer inspection were collapsed into a representative set of eight dimensions as indicated in the matrix.

Inspection of this matrix led to the following decisions regarding the final selection of skills and dimensions :

i) The two dimensions cognitive level and appropriateness were obviously quite distinct from each other and from the other dimensions - it was decided to treat these separately in order to deal with them adequately and also to give variation in the curriculum, since the remaining dimensions were quite similar in their component skills.

ii) The macroskill attending was omitted altogether since its concern in a1 and a2 with high inference visual data was considered to be somewhat at odds with the low inference verbal data implied in the other macroskills. It was also noted that microskills a3 and a4 were covered within feedback whilst a7 and a8 were included in questioning. It was not thought appropriate to have duplication in a scheme that was already far more extensive than was required.

iii) The microskills q1,q2,q3 registered identically on the first six dimensions and were therefore combined for observation purposes.

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	MICROSKILLS	TUTOR DIRECTNESS	TUTOR INDIRECTNESS	TUTOR CONTROL	STUDENT CONTROL	TUTOR CENTREDNESS	STUDENT CENTREDNESS	COGNITIVE LEVEL	APPROPRIATENESS
ATTENDING	a1 posture		✓		✓		✓		
	a2 eye contact		✓		✓		✓		
	a3 tutor supportive		✓		✓	✓			
	a4 student supportive			✓			✓		
	a5 tutor paraphrases		✓		✓	✓			
	a6 student paraphrases			✓			✓		
	a7 tutor asks clarify		✓		✓	✓			
	a8 student asks clarify			✓			✓		
INSTRUCTING	i1 tutor informs	✓		✓		✓			
	i2 tutor directs	✓		✓		✓			
	i3 tutor opinions	✓		✓		✓			
	i4 tutor suggests		✓	✓		✓			
	i5 student informs				✓		✓		
	i6 student directs				✓		✓		
	i7 student opinions				✓		✓		
	i8 student suggests				✓		✓		
FEEDBACK	f1 tutor reinforces		✓	✓		✓			
	f2 tutor criticises	✓		✓		✓			
	f3 tutor evaluates	✓		✓		✓			
	f4 student reinforces				✓		✓		
	f5 student criticises				✓		✓		
	f6 student evaluates				✓		✓		

DIMENSIONS

FIGURE 6.6 : INITIAL SKILLS-DIMENSIONS MATRIX

MICROSKILLS	TUTOR DIRECTNESS	TUTOR INDIRECTNESS	TUTOR CONTROL	STUDENT CONTROL	TUTOR CENTREDNESS	STUDENT CENTREDNESS	COGNITIVE LEVEL	APPROPRIATENESS
q1 T asks information		✓	✓		✓			
q2 T asks opinion		✓	✓		✓			
q3 T asks suggestion		✓	✓		✓			
q4 T asks clarification		✓		✓	✓			
q5 T prompts		✓		✓	✓			
q6 T pauses		✓		✓	✓			
q7 T asks open question		✓	✓		✓			
q8 T asks closed qu.		✓	✓		✓			
q9 S asks information				✓		✓		
q10 S asks opinion				✓		✓		
q11 S asks suggestion				✓		✓		
q12 S asks clarification			✓			✓		
q13 Q is knowledge							✓	
q14 Q is comprehension							✓	
q15 Q is application							✓	
q16 Q is analysis							✓	
q17 Q is synthesis							✓	
q18 Q is evaluation							✓	
q19 Q is affective							✓	
s1 tutor summarises	✓		✓		✓			
s2 student summarises				✓		✓		

FIGURE 6.7 : INITIAL SKILLS-DIMENSIONS MATRIX

iv) Similarly since q4 and q5 were dimensionally equivalent,they were combined together.

v) It was decided to omit q7 and q8 since they added nothing new that would not be detected by other q categories, unless one was particularly interested in the rather narrow area of open vs closed questioning.

vi) For reasons already expressed in (iii) above, q9,q10 and q11 were grouped into a single category.

vii) The set of q13 to q19 were to be dealt with separately under the cognitive level dimension.

viii) In the macroskill instructing, i1,i2,i3 were combined due to their equivalent dimensional profile and so were i5,i6,i7.

ix) The microskills within the macroskills of feedback and summarising were seen to be sufficiently discrete for there to be no possibility for collapsing them.

This careful selection of skills and collapsing of categories, as described above, resulted in the final matrix indicated at figure 6.8, which was relevant to the six dimensions indicated. It was decided at this stage to carry forward this matrix as the basis for the design of observation instruments for the consideration of this set of six dimensions and the component skills contained therein.

Cognitive level, whilst located in the questioning dimension by sources inspected, was obviously seen to be a function of all verbal activity within a tutorial encounter and could not be combined with other dimensions. Similarly appropriateness was seen to be a function of every cognitive decision that the tutor made,or appeared to make, in the encounter and, being quite distinct, would need to be treated separately. Separate observation instruments for cognitive level and appropriateness would be investigated.

MICROSKILLS	TUTOR DIRECTNESS	TUTOR INDIRECTNESS	TUTOR CENTREDNESS	STUDENT CENTREDNESS	TUTOR CONTROL	STUDENT CONTROL
			DIMENSIONS			
Q1 T asks information,opinion,suggestion		✓	✓		✓	
Q2 T asks clarification,probes,prompts		✓		✓	✓	
Q3 Tutor pauses(response inducing)		✓		✓	✓	
Q4 S asks information,opinion,suggestion		✓		✓		✓
Q5 S asks clarification,probes,prompts		✓	✓			✓
I1 Tutor informs,directs,opines	✓		✓		✓	
I2 Tutor suggests,proposes		✓	✓		✓	
I3 Student informs,directs,opines		✓		✓		✓
I4 Student suggests,proposes		✓		✓		✓
F1 Tutor reinforces		✓	✓		✓	
F2 Tutor criticises	✓		✓		✓	
F3 Tutor evaluates	✓		✓		✓	
F4 Student reinforces		✓		✓		✓
F5 Student criticises		✓		✓		✓
F6 Student evaluates		✓		✓		✓
S1 Tutor summarises	✓		✓		✓	
S2 Student summarises		✓		✓		✓

FIGURE 6.8 : FINAL SKILLS—DIMENSIONS MATRIX

6.4 Instruments for Microtutoring Skills

The main principle that guided the design of instruments was the wish to present a range of instruments that would illustrate the differences between high inference subjective judgements and low inference objective measures. In this respect, the plea by Berliner(1976) that '......the qualitative dimension, dealing with value judgements about appropriate use of skills, must enter into our observations of teaching.'(p.7) was being taken into account. Also pertinent was the contention that ·'the use of both high-inference and low-inference measures in future studies may be most advantageous'- Rosenshine and Furst (1971,p.58). The principle was applied in the design of instruments for the consideration of structure as well as the skills and dimensions of the tutorial.

6.4.1 The Structure Instruments

The Structure Questionnaire at Appendix A was designed as a relatively insensitive subjective instrument. It includes the nine components developed in section 6.3.1 with the addition of a tenth catch-all category for events that do not impinge upon the pedagogic purpose of the encounter. This questionnaire was designed to be completed by an observer or participant after the encounter and relies on an amount of hindsight. The design of the instrument allows, in the first column A, for the identification of components that are redundant in specific contexts. The second column B allows the existence of a component within the encounter to be registered. Column C allows a value judgement to be made regarding the quality of the tutor's treatment of each component. The simple numerical values associated with the columns allow the calculation of a

Structural Index in the form of a percentage. The main features of the derivation of this Index are :

i) YES...YES....V.Good gives a maximum score of (1+1)x5 = 10 for the component/phase

ii) YES...NO..... —— gives a score of (1-1)x- = 0 for a necessary phase which is not found in the encounter

iii) NO....YES.... —— gives a score of(-1+1)x- = 0 for an unnecessary phase which is detected in the encounter

iv) NO....NO indicates an unnecessary phase which has been excluded, this phase is struck out, leaving the total number of phases reduced by one.

The score for any phase can therefore range from 0 to 10, but it is possible for a phase to be struck out altogether. The Structure Index can range from 0% to 100%, the higher the score the better the judgement regarding the tutor's performance. It was felt to be important to keep the instrument as simple as possible, so detailed definitions of phases were developed and outlined on a separate sheet attached at Appendix B. It was hoped that these phase definitions would adequately identify a comprehensive and mutually exclusive set of components within the structure of a tutorial encounter. The evaluation of the instrument would be one function of its initial application in the short course later. **The Structure Observation and Analysis Sheet** at Appendix C was developed to illustrate how a low inference, more objective analysis of structure might be achieved. This instrument was designed to be filled in whilst viewing the actual encounter or a videorecording of it. The following features were carefully and deliberately incorporated :

i) The general design owes much to the traditions of microteaching and interaction analysis amply catalogued by Simon and Boyer(1975).

ii) The categories were identical to the structure questionnaire.

iii) Some amplification of category was given within the instrument to facilitate its completion 'on the run'.

iv) Equal prominence is given to tutor and student in all categories.

v) Since it seemed likely that course members would be inexperienced an 8 second interval sampling was decided appropriate after careful initial trials by the author. Interval was found to be much easier to cope with than point sampling and 8seconds was found to be an interval that allowed for some uncertainty on the part of the observer without completely losing touch. The coarseness of the sampling would lead to a lack of sensitivity but it was decided that this would be used as the stimulus for a course discussion of the selection of appropriate sampling intervals.

This instrument allows a more systematic and objective observation of structure that can be used to reinforce the judgements made in the structure questionnaire. It allows an accurate assessment of the time spent on each phase and an initial crude analysis of tutor vs student involvement.

6.4.2 The Skills Instruments

In addition to providing a contrast between low and high inference instruments, it had been decided that instruments for a number of different dimensions should be developed. For this aspect of the course four distinct instruments were designed:

1 **The Skills Questionnaire** at Appendix D was designed as a subjective high inference instrument that samples opinion on three

dimensions - tutor directness, appropriateness and general quality.
A marking scheme is provided and the classification of the items by
D,A or Q indicates their dimensional base. A high index in each
dimension indicates a high quality,highly appropriate encounter
with a highly direct (tutor-led) style. Low indices indicate
entirely the opposite. Like the structure questionnaire, this
instrument is intended for completion retrospectively by the
observer with all the attendant problems that this makes for
accuracy and objectivity.

2 **Tutoring Skills Observation and Analysis Sheet** at Appendix E was
designed to carefully log specific events in a tutorial encounter
that would monitor the dimensions of directness, centredness and
control.

Directness is a feature of the tutor's style or approach and is
defined as; tutor behaviour which tends to limit or restrict the
student's freedom to express ideas and feelings. This paraphrases
the definition offered by Douglas and Pfeiffer(1973) and is
consistent with applications by Blumberg and Weber(1968),Brown and
McGarvey(1975)

Centredness is defined quite crudely by Kremer and Perlberg(1979)
as the ratio of teacher to pupil talk. Whilst remaining unhappy
about this definition and its obvious lack of attention to the
focus of verbal exchanges, it was decided not to redefine it beyond
a change of context i.e. tutor talk:student talk

Control was redefined to indicate the extent to which the tutor or
student is controlling the **encounter**. This represents a significant
extension beyond the concept described by Blumberg and Weber(1968)
of supervisor controlling trainee. It also embraces what Douglas
and Pfeiffer(1973) referred to as non-direct influence.

Contributions by the tutor in some categories are identified as still leaving control with the student. Similarly some contributions by the student are seen to infer that the tutor is still in control. In fact control, as indicated here, is suggested as closer to a more refined definition of centredness than that being used for reasons explained above.

The instrument is based directly on the final matrix at figure 6.8, with the following carefully selected features:

> equal prominence for tutor and student
>
> some category amplification to assist with speed
>
> point sampling as a contrast to interval sampling
>
> a finer more sensitive frequency of 5sec.

3 Cognitive Level Observation and Analysis Sheet at Appendix F is based in the work of Kremer and Perlberg(1979),Kissock and Yortsuun(1982), Kerry(1984) and Brown and Edmondson(1984).Their work in turn was based on the taxonomy developed and described by Bloom(1956). In this case, it was decided to collapse Bloom's original six categories into just four as follows:

> knowledge .... knowledge
>
> comprehension .... comprehension
>
> application)
>
> analysis) .... problem solution
>
> synthesis)
>
> evaluation .... evaluation

The use of the problem solution category, based on the work of Brown and Edmondson, allows the combining of the three categories that would seem likely to cause the most difficulty in classification. It avoids the extreme collapse into low/high suggested by Kerry leaving a system that seems both workable and

has meaning. Category descriptors are included for ease of use and equal weighting is given to tutor and student. The request/provide classification allows a crude measure of directness to be incorporated, but more importantly it aids the detection of tutor attempts to raise the cognitive level through questioning even if those attempts are unsuccessful.Some consideration was given to the use of cognitive units as described by Smith(1971). It was decided that this might overcomplicate matters with beginners and, after initial experimentation by the author, a 10 sec.interval sampling was selected. The merits of time vs cognitive units, moves or ventures was reserved for discussion in the course. The stance, in any case,is that the sampling unit is not in any way sacrosanct and should be selected as appropriate for the particular circumstances under consideration. Finally,the categories were assigned a numerical values 1,2,3,4 reflecting their cognitive levels.This allows a mean cognitive level to be computed(between 1 and 4) for the encounter as a whole and for the student and tutor components separately.

4 Appropriateness Observation and Analysis Sheet is included at Appendix G and represents an attempt to address the dimension of appropriateness described by Berliner(1976); '...events have led us to reassess our strong behaviourist stance in the study of teaching. We still regard frequency counts as very useful information. But we feel quite strongly that the qualitative dimension, dealing with value judgements about appropriate use of skills must enter into our observations of teaching.'p.7. This instrument was developed to allow such a consideration of skills beyond the simple computation of mere frequency counts of their occurrence.

Since the concern is for the appropriateness of the tutor's decisions, only tutor initiatives are recorded. Sampling is done on an event or cognitive move basis rather than on time, in order that the instrument is sensitive to tutor decision making and contrasts with instruments already described above.In early trials it was decided that a decision node would coincide with :

    i. a point at which the tutor decided to begin to speak

    ii. a point where the tutor's initiative changed classification

    iii. a pause where the tutor seemed to decide not to speak

It was realised that, even when the student is speaking, the tutor may be making conscious decisions not to interrupt. However, such decision nodes are impossible to register on an instrument such as this and so it was decided to merely note this as a limitation of this instrument.

Appropriateness involves the recording of the tutor initiative taken at each decision node and a qualitative judgement relating to that decision. Since it was impossible to carry out all this recording in real time, the instrument was designed in two discrete parts that allowed the qualitative judgement to be made for each initiative on a second pass over the recorded encounter. Each initiative is rated in the context of what is known about the encounter objectives, the dimensional profile being aimed for, the relative stage of student development and the phase reached within the encounter. Quite simple arithmetic allows the calculation of the appropriateness rating that can range from -100% (totally inappropriate) to +100% (wholly appropriate).

This set of seven instruments was thought to provide sufficient variety to allow the illustration and discussion of issues as well as the measurement of structure, skills and dimensions within the tutorial encounter. The development of the instruments had also helped to identify and clarify additional contextual issues for inclusion in the course. Of particular concern are:

a) high inference and low inference measures

b) subjective and objective judgement

c) qualitative and quantitative measures

d) interval, point and event sampling

e) fine and coarse sampling

f) the limitations of pure frequency counts of skills.

These instruments and issues were carried forward from this curriculum development phase to the course design process described in the next chapter.

CHAPTER 7

The Course Design

CHAPTER 7 - THE COURSE DESIGN

This chapter considers the emergence of an initial course structure and content guided by the principles discussed and developed in earlier chapters.

The main stages in this process were:

1. A consideration of the principles and guidelines developed.

2. The identification of the objectives for the course.

3. The design of an overall structure for the course.

4. The identification and development of specific course elements.

5. Initial proposals for assessment and evaluation procedures.

The chapter is divided into sections that cover these major stages as follows:

    7.1 The underlying principles

    7.2 The course objectives

    7.3 The structure and elements of the course

    7.4 Assessment and course evaluation

The chapter is mainly concerned with aspects of stages 6 and 7 : knowledge bases F and G of the Model for Instructional Design that is guiding this project and that is described in Chapter 1.

7.1 The Underlying Principles

The specific principles that have influenced particular aspects of the course design are referred to as they occur naturally within the appropriate sections of this chapter.

It is not proposed in this section to undertake a detailed reiteration of principles and guidelines already considered and developed earlier. It is merely intended to indicate briefly the major sources of data within this thesis that have influenced the course design most closely. Of particular note in this general respect are the following:

i) The guidelines for staff development courses at end of Ch.2. - referred to as Guidelines 2a.........2h for brevity in the following chapters.

ii) The model (fig.4.18) and the guidelines for microteaching programmes at end of Ch.4. - referred to, for brevity, as Guidelines 4G1..........4G21 in this and subsequent chapters.

iii) The conclusions and the major influencing factors itemised at end of Ch.5. - referred to as Factors 5i....5vii for brevity in this and subsequent chapters.

iv) The instruments developed within and the issues identified at end of Ch.6. - referred to as Issues 6a.......6f for brevity in this and subsequent chapters.

7.2 The Course Objectives

7.2.1 General Objectives for the Course

Four general objectives (or aims) were identified as a basis for the course design :

1. Course members will consider and discuss the structure of and the skills involved in the tutorial encounter.

2. Course members will explore and evaluate instruments designed for the observation and evaluation of tutorial structures and skills.

3. Course members will practise and develop selected skills in simulated and actual tutorial encounters.

4. Course members will critically appraise and develop their own tutorial skills with some degree of objectivity.

The fundamental concern in the creation of the course objectives was to reflect the behaviour of the analytical, evaluative and self-developing professional.

The general objectives were also constructed with a concern for the process of learning as well as the outcomes. This is very much in the spirit of Davies (1976),'... general objectives are concerned with both the quality of the experience as well as with its end result. General objectives tend to be more expressive, evocative and thematic than specific objectives.' p.121.

A further principle applied in their construction was the concern to achieve a careful combination of higher order objectives. The general objectives were designed to exhibit a range of the human capabilities described by Gagne and Briggs(1979) especially under their headings of 'intellectual skills' and 'cognitive strategies', p.43. Intellectual skills are further subdivided into five sub-categories; discrimination, concrete concepts, defined concepts, rules and higher-order rules. Cognitive strategies are described as the organisation and the application of the above intellectual skills in the systematic solution of novel problems.

Each of the four general objectives was seen to involve a range of intellectual skills and in particular objectives 3 and 4 involved a considerable application of more sophisticated cognitive strategies.

7.2.2 Analysis of General Objectives

An analysis of each general objective identified the main learning

capabilities involved as follows:

Objective 1 - some cognitive strategies involved in undertaking an

initial discussion of a new area of learning

- new concepts involved in the structural phases of the

tutorial encounter

- new concepts involved in the skills and dimensions of

the tutorial encounter

Objective 2 - new concepts involved in the understanding of the

conventions of observation instruments

- rules associated with the completion of observation

instruments and associated skills

- complex discriminations associated with the category

and classification structure of instruments

- evaluation and appraisal skills falling within the

realm of cognitive strategies

Objective 3 & 4 - essentially concerned with cognitive strategies

involving ; problem analysis,solution implementation,

solution evaluation

This analysis of the general objectives allowed an initial

identification and listing of a range of what Gagne & Briggs (1979,

Chapter 7) have referred to as specific performance objectives.

7.2.3 Specific Performance Objectives

The inventory of specific performance objectives was derived from

the analysis of the general objectives as follows:

Objective 1 : PO1 - contributes to the initial identification of

structural phases in the encounter

PO2 – contributes to the initial identification of the skills of the encounter

PO3 – contributes to the initial identification of the dimensions of the encounter

PO4 – classifies events within encounters accurately according to their structural phase

PO5 – classifies events within encounters accurately according to the underlying skill displayed

PO6 – classifies events within encounters accurately according their dimensional contribution

Objective 2 : PO7 – assesses observation instruments with respect to their degree of high/low inference

PO8 – assesses observation instruments with respect to their degree of subjectivity/objectivity

PO9 – assesses observation instruments with respect to their quantitative/qualitative nature

PO10– assesses observation instruments with respect to the fineness/coarseness of the sampling

PO11– assesses observation instruments according to the appropriateness of the interval/point/event sampling strategy employed

PO12– assesses observation instruments according to the appropriateness of frequency count strategy

PO13– completes observation instruments accurately for the assessment of tutorial structure

PO14– completes observation instruments accurately for the assessment of tutorial skills and the measurement of tutorial dimensions

Objectives 3 & 4 :

PO15- plans and performs a tutorial encounter with due regard to appropriate structural strategies

PO16- plans and performs a tutorial encounter with regard to the implementation of skills for the achievement of a predetermined dimensional position/shift

PO17- evaluates tutorial encounters in terms of their appropriateness with respect to criteria such as; student needs,encounter objectives,location of encounter in overall programme

These general and specific performance objectives were also used to influence the components and structure of the course design.

7.3 The Structure and Elements of the Course

Initially a sequence of instructional/learning events was devised that was congruent with the underlying principles developed in earlier chapters and which reflected the objectives outlined above. The events were given a notional timing and an indication of their derivation from the principles and specific performance objectives — see figures 7.1, 7.2, 7.3.

The sequence of instructional events was converted into a schedule for the course,which is included at Appendix H. The course outline timetable was designed to follow closely the sequence of instructional events with a number of minor modifications:

i. Events 5 and 10 each had in addition the use of a model tape, indicated on the course outline as 'tutorial simulation',which is described in more detail below.

EVENT	DESCRIPTOR	TIME (mins)	Principles & Objectives
1	Pre-course briefing and plan for initial encounter.	30	2a,2b,fig4.18,4G2 4G19,5iv,5v,5vi
2	Initial microtutorial encounter in groups of approx.6	60	2d,2e,fig4.18,4G8 4G12,4G13,4G19,
3	Discuss with group the idea of tutorial structure and elicit common sense ideas regarding structural phases.	15	2f,4G9,4G15,4G17, 5i,5ii,5iv. PO1
4	Present structural models from research literature and model underpinning this course.	15	2d,2e,4G1,4G3,4G6 4G16,5ii PO4
5	Present and discuss instruments for observing structure with emphasis on interval sampling, qualitative/quantitative, low/high inference measures, subjective/objective measures.	30	2b,2f,fig4.18,4G1, 4G3,4G10,5v,5vi,6a 6b,6c,6d PO4,PO7,PO8,PO9, PO11,PO12
6	Assess initial encounter for structure - individual activity.	60	2b,fig4.18,4G6, 4G10,5vi PO4,PO13,PO17
7	Report back and feedback session on structures findings to group.	30	fig4.18,4G6,9,11, 4G14,17,18,20,5ii PO17

FIGURE 7.1:   DERIVED INSTRUCTIONAL EVENTS FOR THE COURSE

EVENT	DESCRIPTOR	TIME (mins)	Principles & Objectives
8	Discuss with group the skills of tutorials to elicit common sense ideas from the group.	15	2f,4G9,4G15,4G17, 5i,5ii,5iii,5iv PO2
9	Present and discuss inventories of tutorial skills from research literature and the definitive model underpinning this course.	30	2d,2e,4G1,4G3,4G5 4G6,4G7,5ii,5iv PO5
10	Present and discuss the skills instruments with emphasis on fine/coarse sampling, point sampling, limitations of pure frequency counts.	30	fig4.18,4G1,4G3, 4G4,4G5,4G6,4G7, 4G10,4G20,5ii,5v 6d,6e,6f PO5,10,11,12
11	Assess initial encounter for skills - individual activity.	60	2b,fig4.18,4G6, 4G10,5ii,5vi PO5,PO14,PO17
12	Report back and feedback on skills findings and conclusions to group.	30	fig4.18,4G11,4G12 4G17,4G20,5i,5ii PO17

FIGURE 7.2: DERIVED INSTRUCTIONAL EVENTS FOR THE COURSE

EVENT	DESCRIPTOR	TIME (mins)	Principles & Objectives
13	Introduce and discuss dimensions and their relationship to skills	15	2f,4G5,4G6,4G9, 4G15,5i,ii,iv PO3
14	Present dimensions from research literature and discuss relevance of skills instruments already used.	30	2d,2e,4G1,4G3,4G5 4G6,4G7,4G8,5ii, 5vi PO6,PO17
15	Consider dimensions instruments with emphasis on event sampling and the relevance of particular dimensional positions / tutor styles.	30	fig4.18,4G3,4G5, 4G6,4G7,4G8,4G10 5ii,5iii,5v,5vi,6d PO6,PO11
16	Briefing and plan for second encounter with consideration given to structure, skills and a related dimensional shift.	30	2a,b,e,fig4.18,4G2 4G6,4G19,5ii,5iv, 5v,5vi PO15,PO16
17	Second encounters in groups of approx.6.	90	2d,e,4G8,12,13,19, 4G21,5v,5vi PO15,PO16
18	Assess second encounters for structure,skills and selected dimensional shift/style - individual activity.	60	2b,2e,4G6,4G10, 4G18,5ii,5v,5vi PO4,5,6,13,14,17
19	Report back and feedback on second encounters to group.	30	4G11,12,17,20,5i 5ii PO17
20	Course evaluation and proposals for further applications in real encounters - group & individual.	30	2b,e,g,4G5,8,17, 4G20,21,5iv,5vi PO15,PO16,PO17
21	Further work on an individualised basis for course members own self development.	Iterative	

FIGURE 7.3: DERIVED INSTRUCTIONAL EVENTS FOR THE COURSE

ii. To limit contact time, events 6,11 and 16 were planned to be undertaken as independent study between formal sessions.erials

The final planning operation was the identification of materials and resources for the implementation of the instructional events. The initially identified materials and resources are summarised briefly in figures 7.4 and 7.5.

The instruments and questionnaires have already been described in Chapter 6, with the exception of the Course Evaluation instrument which is described in section 7.4.

The 'Tutorial simulation - model' tape was a role - played tutorial encounter created for the course. The main purpose was to provide a model to illustrate all the structural phases in an 8 minute encounter, with a relatively student - centred approach on the part of the tutor. It was also envisaged that this might prove a useful resource for additional discrimination training in structures and in skills should this be necessary.

The preset automatic timers were designed and made for use on the course. The timers are simple electronic bleepers, with earpieces, that can be set to repeat at any interval from 1 to 10 seconds. This effectively frees both hands, both eyes and one ear to allow maximum concentration on the encounter. This was thought to be a potentially invaluable aid in initiating course members quickly into the complexities of applying observation instruments.

EVENTS	MATERIALS AND RESOURCES
1	Course outline (Appendix H) Pre-course briefing (Appendix I)
2	Blank videotape for each course member
4	Summary of Brown (1983) tutorial stucture inventory Structural phases developed for this course (Appendix B)
5	Structures questionnaire (Appendix A) Structure observation and analysis sheet (Appendix C) Tutorial simulation - model tape
6	Tapes recorded at event 2 Copies of structures instruments Access to playback equipment and preset automatic timers
9	Summary of Brown (1983) inventory of tutorial skills Summary of Turney et al (1982) tutorial skills inventory Skills inventory for this course

FIGURE 7.4: IDENTIFIED COURSE MATERIALS AND RESOURCES

EVENTS	MATERIALS AND RESOURCES
10	Skills questionnaire (Appendix D) Skills observation and analysis sheet (Appendix E) Tutorial simulation – model tape
11	Tapes recorded at event 2 Copies of skills instruments Access to playback equipment and preset automatic timers
14	Skills observation and analysis sheet (Appendix E)
15	Cognitive level observation & analysis sheet(Appendix F) Appropriateness observation & analysis sheet(Appendix G)
18	Tapes recorded at event 17 Copies of structure, skills and dimensions instruments Access to playback equipment and preset automatic timers
20	Course evaluation instrument (Appendix J)

FIGURE 7.5:   IDENTIFIED COURSE MATERIALS AND RESOURCES

7.4 Assessment and Course Evaluation

There is much to be found in the literature on the twin concerns of assessment and evaluation. In general assessment and evaluation are seen as inextricably interwoven, with some authors seeing assessment as a subset of evaluation and others taking the contrary point of view. It seems likely that this has arisen due to the expansion of the definition of assessment from the more traditional 'assessment of students' to an all-embracing assessment of students, teachers, teaching and courses.

In this study, for purposes of clarity, assessment was concerned with the measurement of student learning and represented one aspect in the total process of course evaluation.

It is not proposed here to attempt a comprehensive review of the history, emergence and development of the various schools of thought in this complex area of knowledge. It is considered more appropriate to describe the principles that have guided this study within the context of the description of the decisions that were made regarding assessment and evaluation.

Many authors, see for example Rowntree 1977, Knapper 1980, Clift and Imrie 1981, Harris and Bell 1986, have advocated a commonsense approach to the consideration of assessment and evaluation. Such an approach implies the consideration of the fundamental questions; why evaluate?, what to evaluate?, how to evaluate?, and when to evaluate? It is these questions that were instrumental in planning the evaluation of this study and which will be used to organise the following description.

7.4.1 The purpose of evaluation

A useful and comprehensive analysis of the purposes of evaluation is to be found in Mehrens and Lehman (1984). Evaluation is considered under four major headings: Instructional, Guidance, Administration and Research. The two headings Instructional and Research were seen to be relevant to this study and the first of these is further subdivided into evaluation of ; learning outcomes, teaching, curriculum, learning diagnosis, differential assignments, grading and motivation.

The primary concern in this study was with the development of an effective short course and through this an evaluation of the relevance of the microtutoring skills and dimensions. It was decided that evaluation should focus on the Research heading and on the categories of learning outcomes, teaching and curriculum within the Instructional heading. Furthermore, evaluation strategies were required to assist both in the development of the course and in providing data regarding its effectiveness in meeting the stated objectives for the course. This implied an equal concern for both formative and summative modes of evaluation in devising appropriate strategies.

7.4.2 The Targets for Evaluation

In considering the targets for evaluation it was necessary to integrate the needs of the Instructional and Research aspects of the study.

Research needs:

It was considered important to classify the nature of this research study in order to achieve an accurate and consistent perspective of the strategies and degree of rigour that would be needed during implementation. As indicated in Chapter 1, it was decided that the

study was essentially in the tradition of the Case Study, since a true control group experimental design was unlikely to be feasible. However the preexperimental aspect implied in the detecting and measuring of levels and shifts in tutorial skills and dimensions of course members necessitated a rigorous assessment of student skills upon entry and at completion of the course. The instruments already discussed in Ch6 were seen to be crucial in this process.

Instructional needs:

Knapper(1980) has identified a number of general criteria for educational evaluation; student learning and skill performance, student attitude and attitude change, cost effectiveness, time, efficiency, functional effectiveness.

Harris and Bell (1986) have identified the purposes of assessing students as; testing for mastery, affecting motivation, prediction of potential, diagnosis of learning, diagnosis of teaching, learner classification.

Considering these sources alongside Mehrens and Lehmann (1984) already discussed, the following initial general targets for the evaluation of the Instruction were identified ; student learning, the teaching, the curriculum, student attitudes to the course, time and efficiency. With student learning interpreted appropriately, then this set of targets effectively subsumed the Research targets above.

7.4.3 Methods for Evaluation

Before making decisions regarding appropriate methods and techniques for evaluation, it was necessary to consider what Harris and Bell (1986) have called 'modes of assessment'. These are issues which figure prominently in the literature on evaluation also and which influence the stance and style of the evaluative process. An

appropriately edited set of modes are itemised and described briefly below and the particular position that was adopted in this study regarding each mode is attached:

Formal - Informal ; formal evaluation is planned and obtrusive,

informal evaluation occurs more by chance and

is more impressionistic and subjective.

This study will employ formal evaluation extensively and informal evaluation sparingly.

Objective - Subjective ; objective evaluation is firmly based on

the achievement of clearly defined objectives,

subjective evaluation is concerned more with

matters of opinion, feelings, points of view.

This study will use both objective and subjective methods, as appropriate for the evaluation of the course.

Criterion - Norm measures ; criterion referenced measures assess

student's performance in relation to defined

levels of competence,

norm referenced measures effectively compare

the student's performance with other students.

This study will use criterion referenced measures wherever possible in preference to norm referenced measures.

Formative - Summative ; formative evaluation is concerned with the

monitoring of course processes and sub-goals as

an in-course, on-going process,

summative evaluation is product related and is

concerned with course effectiveness measures.

This study will use formative and summative methods appropriately.

Process - Product ; process evaluation focusses on such matters as

> the manner in which the student engages with

> the course, course materials and peers,

> product evaluation is concerned with the more

> concrete outputs such as assessed learning.

This study will attempt to evaluate process as well as product.

Teacher - Learner judged ; effectively the concern here is with the

> source of opinions,judgements and data that is

> informing the evaluation.

This study will collect data from both learners and teacher.

These modes are in no way mutually exclusive. It is possible to see

considerable overlap occurring in such categories as; process and

formative, product and summative, objective and criterion, informal

and subjective, subjective and norm, formal and objective.

In making final decisions regarding the specific components of an

evaluation schedule for this study one major concern was to

reconcile and integrate the principles developed in this section

(7.4) with both the objectives outlined earlier in this chapter and

with the microtutoring model (figure 4.18).

A further concern was not to allow the evaluation burden falling on

the students to unduly distort the course. This was achieved by

carefully integrating evaluation components within the fabric of

the course and by limiting the amount of formal evaluation as much

as possible.

The resulting evaluation schedule (figures 7.6, 7.7, 7.8) was based

closely on and represents an extension of the table of Derived

Instructional Events (figs. 7.1, 7.2, 7.3). This allowed evaluation

FIGURE 7.6: COURSE EVALUATION SCHEDULE

| EVENT | DESCRIPTOR | EVALUATION EVENTS | Focus | MODE EMPHASES | | | | | SOURCE: | |
				Formal Informal	Objective Subjective	Criterion Norm	Formative Summative	Process Product	student	tutor
1	Pre-course briefing and plan for initial encounter.	a.Tutor obs.encounter b.Course eval.instr.	fig.4.18 + Research	I F	S S	- -	F S	Proc. Prod.		T S
2	Initial microtutorial encounter in groups of approx.6	Tutor obs. w.r.t. initial brief	fig.4.18 + Research	I	O	C	F	Proc.		T
3	Discuss with group the idea of tutorial structure and elicit common sense ideas regarding structural phases.	Tutor observation of commitment of students.	PO1	I	S	-	F	Proc.		T
4	Present structural models from research literature and model underpinning this course.	a.Tutor observation b.Course eval.instr.	PO4	I F	S S	- -	F S	Proc. Proc.		T S
5	Present and discuss instruments for observing structure with emphasis on interval sampling, qualitative/quantitative, low/high inference measures, subjective/objective measures.	a.Tutor observation student reactions and contributions b.Course evaluation instrument	PO4,PO7, PO8,PO9, PO11,PO12	I F	S S	- -	F S	Proc. Proc.		T S
6	Assess initial encounter for structure - individual activity.	a.Student rating b.Tutor rating	PO4,PO13, PO17 + Research	F F	O O	C C	F+S F+S	Both Both	S	 T
7	Report back and feedback session on structures findings to group.	a.Tutor observation b.Initial comparison of st/tutor ratings	PO17 fig4.18	I F	S S	- C	F F	Proc. Prod.		T T

FIGURE 7.7: COURSE EVALUATION SCHEDULE

EVENT	DESCRIPTOR	EVALUATION EVENTS	Focus	Formal Informal	Objective Subjective	Criterion Norm	Formative Summative	Process Product	SOURCE: student tutor
				MODE	EMPHASES				
8	Discuss with group the skills of tutorials to elicit common sense ideas from the group.	Tutor observation of student commitment	PO2	I	S	-	F	Proc.	T
9	Present and discuss inventories of tutorial skills from research literature and the definitive model underpinning this course.	a.Tutor observation		I	S	-	F	Proc.	T
		b.Course evaluation instrument	PO5	F	S	-	S	Proc.	S
10	Present and discuss the skills instruments with emphasis on fine/coarse sampling, point sampling, limitations of pure frequency counts.	a.Tutor observation student reactions and contributions ..	PO5,PO10	I	S	-	F	Proc.	T
		b.Course evaluation instrument	PO11,PO12	F	S	-	S	Prod.	S
11	Assess initial encounter for skills - individual activity.	a.Student rating	PO5,PO14, PO17,	F	O	C	F+S	Both	S
		b.Tutor rating	+Research	F	O	C	F+S	Both	T
12	Report back and feedback on skills findings and conclusions to group.	a.Tutor observation		I	S	-	F	Proc.	T
		b.Initial comparison st/tutor ratings	PO17 fig4.18	F	S	C	F	Prod.	T
13	Introduce and discuss dimensions and their relationship to skills	Tutor observation of student commitment	PO3	I	S	-	F	Proc.	T
14	Present dimensions from research literature and discuss relevance of skills instruments already used.	a.Tutor observation		I	S	-	F	Proc.	T
		b.Course evaluation instrument	PO6,PO17	F	S	-	S	Prod.	S

FIGURE 7.8: COURSE EVALUATION SCHEDULE

EVENT	DESCRIPTOR	EVALUATION EVENTS	Focus	MODE EMPHASES					SOURCE:
				Formal / Informal	Objective / Subjective	Criterion / Norm	Formative / Summative	Process / Product	student / tutor
15	Consider dimensions instruments with emphasis on event sampling and the relevance of particular dimensional positions / tutor styles.	a.Tutor observation student reactions and contributions b.Course evaluation instrument	PO6,PO11	I F	S S	- -	F S	Proc. Proc.	T S
16	Briefing and plan for second encounter with consideration given to structure, skills and a related dimensional shift.	a.Tutor observation second encounter b.Course evaluation instrument	fig 4.18 PO15,PO16 +Research	I F	S S	C -	F S	Proc. Proc.	T S
17	Second encounters in groups of approx.6.	Tutor observation w.r.t.briefing for second encounter	fig 4.18 PO15,PO16 Research	I	O	C	F	Prod.	T
18	Assess second encounters for structure,skills and selected dimensional shift/style - individual activity.	a.Student rating b.Tutor rating	fig 4.18 PO4,5,6, PO13,14,17 +Research	F F	O O	C C	F+S F+S	Both Both	S T
19	Report back and feedback on second encounters to group.	a.Tutor observation b.Final comparison st/tutor ratings	PO17 fig 4.18 +Research	I F	S S	- C	F S	Proc. Prod.	T T
20	Course evaluation and proposals for further applications in real encounters - group & individual.	a.Course evaluation instrument b.Tutor observation	PO15,16,17 fig 4.18 Research	F I	S S	- -	S S	Both Both	S T
21	Further work on an individualised basis for course members own self development.	Iterative cycles of Events 16,17,18,19							

to be scheduled and combined wherever possible within course events and ensured that evaluation was congruent with the objectives from which these instructional events had been directly derived. An indication of the main emphasis for each mode was attached in order to further focus and limit each event.

The schedule as drafted represented a comprehensive and potentially exhaustive survey of the processes and outcomes of the course and some reservations were felt regarding the possibility of monitoring all events.Nevertheless this was left to be resolved during trials.

The Course Evaluation Instrument (Appendix J) that is referred to throughout the Schedule complements the rating instruments outlined in chapter 6 and is one final aspect of the evaluation that requires further clarification. This questionnaire was designed to allow course members to give final open reactions to the course and also to give end-of-course controlled responses to a number of key issues relating to the delivery and outcomes of the course. Issues included in the questionnaire were as follows:

a. general reactions to the course........ qu.2,10,12,15,22,29,31

b. course relevance....................... qu.3,32

c. course duration........................ qu.4,7,33

d. course aims............................ qu.1,5

e. tutor performance in teaching.......... qu.14,21,23,25

f. tutor performance in feedback.......... qu.18,27,30

g. instrument acceptability............... qu.11,20,26

h. theoretical aspects.................... qu.6,17

i. practical aspects..................... qu.16,19

j. theoretical/practical balance......... qu.8,9,13

k. relevance of simulation............... qu.24,28

The questionnaire was constructed to conform to generally accepted practice, see for example Cohen and Manion 1980, Harris and Bell 1986, Slavin 1984, Youngman 1979a. Statements were designed to be short, simple, unambiguous, unidimensional and unbiased. The total instrument was designed to be completed quickly and to sample opinion of issues more than once in an attempt to check consistency of response.

To maximise reliability and validity the instrument was modelled closely on existing established instruments particularly the North East London Polytechnic Student Feedback Questionnaire reported in Ramsden (1975) and Course evaluation questionnaires found in Gibbs and Haigh (1984).

A six point rating scale was for each item used in order to avoid as far as possible tendencies towards neutral responding. A single design of closed item construction was adopted for ease of completion and of analysis, with the addition of an open ended section for further diagnostic purposes and for student satisfaction.

Each student response is scored +3,+2,+1,-1,-2 or -3 according to the level of satisfaction implied by the response. Student reaction will be located clearly on a range from high +ve to high -ve.

Conclusion

The course was then carried forward for implementation through a set of instructional events firmly based on performance objectives derived from the general course objectives. An evaluation schedule had been developed that was itself firmly and consistently based in the instructional events, the model of microtutoring and the research purposes that were underpinning this study.

CHAPTER 8

Results and Conclusions

CHAPTER 8 - RESULTS AND CONCLUSIONS

This chapter will describe the implementation of the short course through two small scale pilots and two field trials, the first of which was inconclusive due to extraneous logistical problems. At each stage observational data, both qualitative and quantitative, will be referenced to the evaluation schedule described in Chapter 7 and summarised in figures 7.6,7.7 & 7.8. This will allow the stage by stage conclusions that were reached regarding the effectiveness of the course components to be described. Amendments resulting from this essentially formative process of evaluation will also be described at each stage.

The results from the summative evaluation, mainly pertinent to the field trials, will be presented and conclusions will be drawn in relation to; the overall evaluation of the course and, in particular, the objectives/hypotheses outlined in Chapter 1.

Finally suggestions will be made regarding further possibilities for research and development connected to this area of study.

The Chapter is organised into the following sections:

8.1   Pilot 1

8.2   Pilot 2

8.3   Trial 1

8.4   Trial 2

8.5   Summary of results and conclusions

8.6   Proposals for further research and development

This chapter is congruent with Stage 8 and Knowledge base H of the model, described in Chapter 1, that is guiding this study.

8.1 Pilot 1.

The short course was implemented with six members of staff of Leeds Polytechnic. Five of the staff were new to Leeds and, of these five, three were engaging in first teaching appointments. The disciplines represented by the group were; Mathematics,Modern Languages, Design, Accountancy and Management(X2).

Due to postal problems, 3 members had not received the pre - course briefing documentation and were unable/reluctant to engage in the initial encounter. This matter was not pressed since it was felt to be crucial to retain positive attitudes of course members, by sensitive tutor decisions, at this stage of a first pilot.

The main evaluative emphasis of this pilot was in the formative mode, so it is considered appropriate to indicate the main significant observations with reference to the Evaluation schedule described in Chapter 7. Figure 8.1 indicates the main findings,with those events that yielded no adverse or constructive criticism omitted as satisfactory at this stage.

The end of course evaluation at event 20 raised the following items in discussion:

a. consensus was that the course had achieved its broad, limited aims, a typical comment being -' I would have continued happily in complete ignorance of what was involved in tutorials, and quite inefficiently.'

b. implementation in real situations was problematic, since course members were not currently involved in one-to-one tutorials.

c. simulation methods used in the course were thought to be an effective alternative to real encounters.

d. suggestion that case studies/models of poor practice could be introduced during group contact time.

EVENT	DESCRIPTOR	EVALUATION OBSERVATIONS
1	Pre-course briefing and plan for initial encounter	General consensus that scale of student project should be indicated in brief. Microtutor should be allowed a chance to brief 'student' regarding the broad context of the encounter before start.
6	Assess initial encounter for structure	Tutor rating of initial encounters is included at figure 8.2.
7	Report back and feedback session on structures findings to group	Broad agreement regarding classification of events within the encounter. Some confusion and difficulty found with alternative solutions/specific solution categories. ·
11	Assess initial encounters for skills	Tutor rating of initial encounters is included at figure 8.3.
12	Report back and feedback session on skills findings to group	Categories were judged more difficult to grasp than structures categories. Difficulty in differentiating categories. Suggestion that response-forcing should also be both tutor and student oriented. 5 sec. point sampling was felt to lead to some significant loss of detail. Some consensus in favour of interval sampling being more accurate.
16	Briefing and plan for second encounters	Need for a briefing document was evident in order to make explicit the decisions that have to be made by the microtutor in planning for second encounter.
18	Assess second encounters for structure, skills & dimensional shift/style	Tutor ratings of: structure are included at figure 8.2 skills & dimensions at figure 8.3 Due to lack of sufficient equipment, student assessment of tapes was carried out in own time.
20	Course evaluation and further proposals	The course evaluation instrument was not yet available, group discussion was used.

FIGURE 8.1: FORMATIVE EVALUATION DATA - PILOT 1

e. suggestion that project topics could be located in areas of general interest/knowledge to avoid subject matter problems.

f. more contact time opportunity to appraise their own recorded encounters as a group was requested

g. response to suggestion that skills and dimensions might be combined into one session, thereby leading to economies in time, was favourable.

h. opportunity for both tutor and student to gain access to tapes and playback equipment between course sessions had created some difficulty.

i. there seemed a definite need for a second encounter briefing document and the Course Evaluation Instrument.

Conclusions and action taken from PILOT 1

Event 1 —modify initial brief to include an indication of scale of ' encounter and allow microtutor to brief 'student' before encounter begins regarding context only, see Appendix N.

Event 6 —draw up more detailed definition of structure phases, see Appendix B for outcome and draw attention to possible confusion here during course delivery.

Event 12 —take more care over introduction of skills instrument and description of categories,

leave response-forcing silence as is to avoid further complication of instrument for little gain,

retain 5 sec. point sample since it has generated and can illustrate precisely the debate required.

Event 16 —construct a briefing document for second encounter, see Appendix L.

Event 18 –amend course programme to allow for assessment of second

encounters in own time, see Appendix M

Event 20 –introduce Course Evaluation Instrument, see Appendix J.

Item b –limit the study to in-course achievement, but offer the

opportunity for real encounter analysis for the future.

Item d –there is evidence to suggest that models of poor pratice

should be eschewed in favour of models of good practice,

see Chapter 4, section 4.4 vi) on the role of modelling

for a fuller account – no action taken.

Item e –simulation needs to be as close to reality as possible,

persevere with brief's subject orientation, reinforce the

novice student aspect for particular attention in the

context briefing.

Item f –try to maximise effectiveness of feedback, but resist

adding extra events to the course at this stage.

Item g –since each formal contact session had been completed well

within the time allocated, it was decided that this along

with changes proposed for Event 18 could lead to the

contraction from 4 sessions to 3 sessions – reprogramme

the course for three sessions, see Appendix M.

Item i –already considered at Event 16 and 20 above.

Fig 8.2 –whilst the emphasis at this stage was mainly concerned

with formative evaluation, it was thought that a general

consideration of the overall performance of the course members

would give some useful initial summative data for course

confidence. The data obtained from the structures questionnaires

and instruments is summarised at fig 8.2.

The questionnaire results (the structure indices) show a definite

improvement from initial to second encounter, albeit through an

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FIGURE 8.2: SUMMATIVE EVALUATION DATA (STRUCTURE) - PILOT 1

essentially subjective measure. This suggested better structural quality in second encounters.

The relative frequencies graphs are a summary of the Structure Observation and Analysis Sheets. The standard deviation of relative frequencies of an encounter can take a value between 0 and 31.6 where these values represent the two extreme cases:

all phases register at 10%   ...... S.D. = 0

one phase at 100% others at 0%   ...... S.D. = 31.6

Obviously the greater the range of structural phases, the lower should be the S.D. However this measure is not perhaps as sensitive as is required, since it is overly influenced by a high scoring phase and little influenced by low scoring phases. So for example, although Debbie has increased her phase coverage from 5 to 8, the S.D. has in fact **risen** from 15.2 to 18.4. It might be that a cruder mean phase rate might be more appropriate for this study and this will be considered again later. For this pilot it was decided that the breadth of phase coverage in second encounters was disappointing and that phase coverage would be emphasised in the briefing document for the second encounter - see Appendix L.

Fig 8.3 -the data obtained from the Skills Questionnaire and the Skills Observation and Analysis Sheet is summarised at figure 8.3. It should be noted that all course members elected to attempt to influence the dimensions of directness/control/centredness.

Shifts that have occurred between initial and second encounters are generally in the right direction and give some cause for confidence. There is, in addition, a suggestion of consistency between the measure of tutor directness on the Questionnaire and the measure of tutor indirectness on the Observation and Analysis instrument, which is encouraging at this stage.

MEASURES			INITIAL ENCOUNTER						SECOND ENCOUNTER					
			JANE	VICKI	DEBBI	WENDY	URSULA	ANDREW	JANE	VICKI	DEBBI	WENDY	URSULA	ANDREW
SKILLS QU'AIRE	QUALITY INDEX %		50	62	52	–	–	–	67	62	60	60	60	57
	APPROPRIATENESS INDEX %		52	57	29	–	–	–	62	62	52	43	48	38
	TUTOR DIRECTNESS INDEX %		67	52	81	–	–	–	57	48	48	52	62	62
SKILLS OBSERVATION & ANALYSIS SHEET	TUTOR INDIRECTNESS %		28.7	53.6	0	–	–	–	61.4	54.2	52.9	30.1	18.3	29.3
	STUDENT CONTROL %		25.0	36.4	8.5	–	–	–	48.3	51.4	30.9	28.8	22.1	24.8
	STUDENT CENTREDNESS %		25.0	30.3	10.6	–	–	–	49.4	42.4	27.8	29.8	17.7	25.7

FIGURE 8.3: SUMMATIVE EVALUATION DATA (SKILLS & DIMENSIONS)-PILOT 1

The above amendments to the programme and action points for course delivery were implemented in Pilot 2

8.2 Pilot 2.

The short course, with amendments from Pilot 1, was implemented at Leeds Polytechnic with four members of staff. Three staff were new to the Polytechnic and, of these three, one was taking up his first teaching post. The disciplines represented by the group were Maths, Sociology and Education(X2).

One member was unable to attend the beginning of the first session and missed the first encounter. Another member,due to a broken arm, was unable to complete the course, missing the second encounter.

An amended three-session course programme was implemented on this occasion,see Appendix M. In comparison with the original course programme at Appendix H, the formal course contact time was reduced from approximately 10 hours to 7.5 hours with a corresponding notional rise in independent study time from 2.5 hours to 4 hours.

Few difficulties were experienced with process and formative evaluation of this pilot. The amendments implemented did much to alleviate the issues raised in Pilot 1. There were nevertheless new strategically important outcomes from observation and discussion described below relative to the events to which they relate.

Event 7 (feedback on structures)

There was a lively discussion on the relevance of particular structural phases in particular sets of tutorial circumstances. For example, 'how relevant is the Review phase in an initial encounter at the beginning of a project?' All phases were agreed to have a function in all encounters, although a function may be minimal in some cicumstances and may vary in importance considerably through a series of encounters. Course members did however feel strongly that

to devote time, in such short encounters, to a phase concerned with Structure of the encounter was counterproductive. It was decided to treat the Structure of Encounter phase as essentially irrelevant in short encounters for the purpose of this study and in later summative evaluation and analysis. Thus, although the number of phases discussed was to remain at ten, for purposes of calculation and interpretation of data only nine would be considered.

Event 17 (second encounters)

No particular strategy had been adopted up to this point for the allocation of students to microtutors. All course members had role played reasonably cooperative students, although somewhat inhibited usually by a lack of in-depth knowledge of the subject discipline of the project under discussion. This pattern was disrupted here in one encounter, where the student decided independently to role play a particularly uncooperative student. Since the student role was so exaggeratedly uncommunicative, it was immediately apparent that extreme student effects could potentially eradicate any effects for which the microtutor was striving. It was decided that student effects must be controlled as much as possible in order to allow more true and accurate microtutor effects to predominate. This was to be achieved by ensuring that a microtutor had the same 'student' for each encounter and by suggesting to 'students' that they should avoid adopting extreme roles.An attempt at a reasonably cooperative though not very knowledgeable 'student' was agreed to be both appropriate and capable of achievement in these circumstances.

One further 'student' effect that was considered at this stage was that of student learning. It was realised that some microtutor effects may be enhanced by the learning that micro students had achieved by engaging in the course. It is arguable that student

Key to phases:
1 Review   2 Purpose   3 Structure   4 Problem   5 Alt.Solutions
6 Sp.Solutions   7 Summary   8 Contract   9 Evaluation   10 Social

COURSE MEMBER	STR. INDEX	S.D.	INITIAL ENCOUNTER Relative frequencies 80% 60% 40% 20% 0	P H A S E	SECOND ENCOUNTER Relative frequencies 0 20% 40% 60% 80%	S.D.	STR. INDEX
HELEN	22	16.8		1–10		18.2	52
VIV	33	14.0		1–10		8.6	56
ALISON	38'	10.3		1–10		–	–
COLIN	–	–		1–10		13.6	44

FIGURE 8.4: SUMMATIVE EVALUATION DATA (STRUCTURE) – PILOT 2

MEASURES		INITIAL ENCOUNTER				SECOND ENCOUNTER			
		HELEN	VIV	ALISON	COLIN	HELEN	VIV	ALISON	COLIN
SKILLS QU'AIRE	QUALITY INDEX %	57	52	60	–	67	62	–	55
	APPROPRIATENESS INDEX %	52	38	33	–	67	57	–	67
	TUTOR DIRECTNESS INDEX %	62	67	76	–	57	71	–	57
SKILLS OBSERVATION & ANALYSIS SHEET	TUTOR INDIRECTNESS %	31.5	54.1	35.9	–	32.6	38.0	–	23.6
	STUDENT CONTROL %	28.4	22.4	20.4	–	26.2	26.6	–	30.1
	STUDENT CENTREDNESS %	27.0	24.5	19.9	–	23.3	19.4	–	30.1

FIGURE 8.5: SUMMATIVE EVALUATION DATA (SKILLS & DIMENSIONS)-PILOT 2

learning will colour encounters in real tutorial situations and that a true collaborative effect is a part of the tutor's purpose. Nevertheless, this was seen to be a potential weakness of the current experimental design. However it was not considered possible at this stage to make the considerable fundamental logistical changes that would be necessary to control for such an effect. In addition, this was not altogether unexpected and was seen to be simply one of the unavoidable consequences of the strategic decisions made and described in Chapter 1.

Summative evaluation - Structure

The data from Structures instruments is summarised at figure 8.4. With such a small and incomplete set of data, it was not considered possible to attempt to reach any significant conclusions. However the following observations were considered pertinent:

a. the problem with S.D. as a measure, identified in Pilot 1, recurs again in the case of Helen.

b. mean phase frequency would again seem more valid.

c. structural index scores are encouraging.

Summative evaluation - Skills and Dimensions

The data from Skills instruments is summarised at figure 8.5. Once again it did not seem appropriate to attempt to draw conclusions from such a small sample. However, some observations seemed in order :

i) Viv's apparent failure to achieve a positive shift in tutor indirectness was most likely caused by the extreme student role play described under Event 17 above.

ii) there seemed to be some consistency again between the subjective rating of tutor directness from the Questionnaire and the more objective measure of indirectness from the skills

observation instrument.

Course Evaluation Instrument

This instrument was introduced at the end of this pilot for the first time and, although essentially summative, it was thought appropriate to consider general aspects of the pattern of data emerging at this stage. A summary of the data obtained from this instrument is included at figure 8.6.

General observations regarding the data collected were :

i) Since individual item totals could range from +12 (satisfaction) to -12 (disatisfaction), no negative item totals was encouraging.

ii) Since individual course member totals could range from +99 (wholly satisfied) to -99 (wholly disatisfied), no negative course member totals was also encouraging.

iii) Item 4 was particularly influenced by a course member whose open response indicated a preference for an intensive one-shot course, rather than a multi-session course spread over several weeks.

iv) Item 27 was particularly influenced by the lowest total course member(+13), whose open response indicated the opinion that the course was not seen to be particularly relevant to her present and anticipated ongoing work.

More detailed analysis at this stage, with such a small sample, was considered likely to be misguided.

The course was now considered to be in a sufficiently refined state to undertake a field trial. The conditions extant from this pilot, particularly relating to allocation of students to microtutors and to redundant Structure phases, were carefully noted for field trial implementation.

1. The aims of the course were clearly stated.

2. The course was very interesting.

3. The course was relevant to professional needs.

4. The course was spread over too long a time period.

5. The course enabled me to fulfill the aims.

6. The course was altogether too theoretical.

7. The length of the course was appropriate to aims.

8. Sufficient time was devoted to aspects of theory.

9. Practical work was given sufficient emphasis.

10. The course was intellectually demanding.

11. The practical instruments presented difficulties.

12. The course was very stimulating.

13. There was an appropriate mix of theory and practice.

14. I learned a lot about tutorial skills from the course.

15. The course opened my eyes to the scope within the topic.

16. The practical work briefings were adequate.

17. The theoretical aspects/bases were straightforward.

18. There was sufficient tutor feedback.

19. The course allowed adequate practice with instruments.

20. The instruments were difficult to interpret.

21. The introduction of tutorial 'structure' was effective.

22. The course allowed a thorough research into the topic.

23. The introduction of tutorial 'skills' was effective.

24. Simulating tutorials restricted the value of the course.

25. The introduction of tutorial 'dimensions' was effective.

26. With practice, the instruments became easy to use.

27. There should have been more discussion of results.

28. Role playing the student was a valuable experience.

29. The course was too complicated.

30. The tutor gave a sufficient level of support throughout.

31. The course was too ambitious for an introduction.

32. The course has provided a sound basis for my future work.

33. More could have been accomplished in the time available.

ITEM	COURSE MEMBERS				ITEM TOTAL
	A	B	C	D	
1	+3	+1	+3	+2	9
2	+2	+2	-1	+1	4
3	+2	+2	-1	+1	4
4*	-3	+1	0	+2	0
5	+2	+1	+1	+1	5
6*	+1	+2	-1	+2	4
7	+3	+1	+1	+2	7
8	+1	+1	+1	+1	4
9	+1	+2	+1	+1	5
10	+2	+2	-1	-1	2
11*	+3	+2	+1	+2	8
12	+1	+2	-1	+1	3
13	+3	+2	+1	+1	7
14	+2	+2	-1	+1	4
15	+1	+2	-1	+2	4
16	+3	+2	+1	+1	7
17	+3	+2	+1	+2	8
18	+3	+2	+1	+1	7
19	+1	+1	+1	-1	2
20*	+1	+2	-1	-1	1
21	+3	+3	+1	+1	8
22	+1	-1	+1	+1	2
23	+3	+3	+1	+2	9
24*	+3	+3	+1	+2	9
25	+1	+3	+1	+1	6
26	+2	+1	+1	+1	5
27*	+1	+1	0	-2	0
28	+1	+3	-1	-1	2
29*	+3	+1	+1	+3	8
30	+3	+1	+1	+1	6
31*	+3	+1	+1	+2	7
32	+1	+1	-1	+1	2
33*	+3	+1	+1	+2	7
TOTAL	63	55	13	35	166

FIGURE 8.6: COURSE EVALUATION INSTRUMENT DATA – PILOT 2

8.3 Field Trial 1

The course was implemented at Liverpool University with students attending an in-service course leading to the award of Certificate in Teaching Primary Health Care. The course recruits practising professionals in the medical and paramedical fields - a typical course including doctors, nurses, health educators, inspectors and administrators. The aims are to improve course members' skills in teaching, curriculum development, and implementation of educational policy.

Course members were qualified and mature professionals, with a commitment to education and training and with considerable responsibilty and influence. This course intake was seen to be generally compatible with typical new staff recruitment to, for example, the Department of Health and Applied Science at Leeds Polytechnic.

The course recruits a high proportion of overseas students, but entry to the course stipulates fluency in written and spoken English as well as some teaching experience. It was however thought that there might be some communication problems and that some care would be needed in course delivery to alleviate possible difficulty. The Tutorial Skills Workshop Course was offered as an optional extra on the Certificate course with a limit on the number to be recruited set at twelve - in the event eleven opted for the course. In view of logistical difficulties concerned with time-tabling and travelling it was agreed that the course would be designed on the basis of two extended sessions of formal contact to be equivalent to the three session pattern of Pilot 2.

The course programme is included at Appendix P.

The course was split into two groups for the first encounters in order complete them quickly. The first session went according to plan with considerable commitment and enthusiasm shown by the course members and with few anticipated communication problems in evidence. Tapes were left with course members for viewing prior to the second session, which created some problems for tutor ratings. This was overcome by tutor appraisal of tapes being undertaken on the morning before the second session.

The second session, however, suffered from considerable disruption due to its position at the very end of the course and the resulting interference caused by the personal arrangements, particularly of overseas course members. The outcome was that only three course members were able to participate fully in the second session and complete a second encounter. Consequently, since the data is so incomplete, it is not appropriate nor is it intended to undertake a comprehensive analysis here of the data that was obtained. It was decided that summative data relating to the three members who were able to complete the course would be carried forward and combined with the next field trial (also at Liverpool). Comments here will be confined to the following general observations relating mainly to formative evaluation:

a) The opportunity for course members to undertake exhaustive quantitative analysis of tapes between encounters was limited. The most that could be realistically expected being a qualitative appraisal.

b) It did not prove possible for tutor rating of all tapes on all instruments to be completed in one morning before the second session. It seemed appropriate to concentrate at that point only on the qualitative, subjective instruments in accord with what seemed

to be the likely and feasible emphasis from the students. The more objective and quantitative tutor feedback would need to take place, individually, after the second session.

c) Once again course members were particularly beguiled by the dimensions of directness/control/centredness and saw them as more relevant, at this stage of their development, than cognitive level and appropriateness. In view of the pressure on course time, it was thought that a more prescriptive approach in directing members to dimensions could be taken. It was decided to suggest that the directness/control/centredness dimensions should be addressed by all students. These dimensions could then be the main focus for the course and the dimensions of appropriateness and cognitive level would be used as additional examples that need not be considered in as much depth at this stage.

The observations above and the experience gained were carried forward into the next field trial. The data obtained from the three course members who completed was carefully processed for inclusion with the data from the next trial.

8.4 Field Trial 2

This trial was carried out at Liverpool University with the next Certificate in Teaching Primary Health Care intake. Fourteen members opted for the Tutorial Skills Workshop. One member, however was not prepared to take part in the videotaped encounters, possibly for a mixture of personality and cultural factors. She was not pressed and continued to attend the course as an observer.

The course was implemented in an identical manner to Trial 1, but with due regard to the formative issues that arose from that trial. Only general observations regarding the trial and data will be made

here. The more exhaustive analysis and discussion of the results, in the context of the objectives and hypotheses, will follow in section 8.5 below

Summative Evaluation - Structure

The summary of data obtained from the Structures instruments is included in the table at figure 8.7. Particularly of note are the following observations;

a) all students made gains in their Sructure Index rating, the actual gains ranging from 15 to 55% - mean gain = 31.6%,

b) the gain per cents (actual gains expressed as a % of possible gains) of Structure Index range from 23 to 66% - mean gain %=41.75%

c) the mean phase coverage increased from 6.2 to 7.3, but this was less encouraging, since three course members registered reduced coverage on second encounter. An inspection of totals registered by all course members for the individual phases on initial and second encounters indicated in the table below, shows the poor contribution of Phase 2 (Purpose) and Phase 8 (Contracting) - Phase 3 (Structure) had been extinguished as a result of decisions from the Pilots.

PHASE	1	2	4	5	6	7	8	9	10
INITIAL ENCOUNTER TOTALS	4	9	13	9	13	12	2	9	10
SECOND ENCOUNTER TOTALS	13	4	13	11	13	12	5	13	12

Phase 8 is a rather formal phase that may not always prove appropriate to an encounter - a strong Summary (Phase 7) often providing a satisfactory alternative. However, the dismal showing of Phase 3 is much more serious. Since Purpose deteriorated markedly **after** Pilot 1 with the introduction of 'student' briefing

FIGURE 8.7: SUMMATIVE EVALUATION DATA (STRUCTURE)-FIELD TRIALS

STUDENT	INITIAL ENCOUNTER			SECOND ENCOUNTER			GAINS			$(\text{GAINS})^2$			GAIN %
	S.I.	PC	S.D.	S.I.	PC	S.D.	S.I.	PC	S.D.	S.I.	PC	S.D.	S.I.
A	9	6	17.5	64	9	11.3	55	3	-6.2	3025	9	38.44	60
B	16	7	19.5	42	5	19.2	26	-2	-0.3	676	4	0.09	31
C	18	6	10.8	47	7	11.4	29	1	0.6	841	1	0.36	35
D	36	6	15.9	51	7	11.7	15	1	-4.2	225	1	17.64	23
E	22	7	16.1	60	7	12.1	38	0	-4.0	1444	0	16.00	49
F	24	7	19.5	58	9	11.3	34	2	-8.2	1156	4	67.24	45
G	22	4	16.4	49	8	13.3	27	4	-3.1	729	16	9.61	35
H	20	7	17.1	56	7	13.0	36	0	-4.1	1296	0	16.81	45
I	36	6	15.0	60	8	11.5	24	2	-3.5	576	4	12.25	38
J	40	6	18.8	62	8	12.0	22	2	-6.8	484	4	46.24	37
K	29	6	14.3	76	9	7.7	47	3	-6.6	2209	9	43.56	66
L	24	7	20.6	42	5	17.1	18	-2	-3.5	324	4	12.25	24
M	18	7	19.1	51	7	11.6	33	0	-7.5	1089	0	56.25	40
* N	20	7	17.3	47	6	17.8	27	-1	0.5	729	1	0.25	34
* O	36	5	16.5	71	8	12.8	35	3	-3.7	1225	9	13.69	55
* P	22	5	14.7	62	7	17.0	40	2	2.3	1600	4	5.29	51
SUMS	392	99	269.1	898	117	210.8	506	18	-58.3	17628	70	355.97	668
MEANS	24.5	6.2	16.8	56.1	7.3	13.2	31.6	1.1	-3.6				41.75

KEY : S.I. = Structure Index from Structure Questionnaire
PC = Phase Coverage i.e. number of phases identified
S.D. = Standard Deviation of phase relative frequencies
* indicates students brought forward from Trial 1

by the microtutor, it seems likely that the brief has in effect taken the Purpose phase out of encounters. This could be obviated either by a more carefully limited briefing or by recording the briefing as part of the observation and analysis process.

d) the increased phase coverage is also reflected by the decrease in mean Standard Deviation of phase relative frequency from 16.8 to 13.2. A student's on-task time for each phase, as measured by the Structures Observation and Analysis Sheet, is expressed as a % of total on-task time. The % obtained for each phase is the phase relative frequency and each encounter will have its own unique pattern of relative frequencies. The S.D. for such a nine phase distribution can take a value between the extremes of 33.3 (representing 8 phases at 0% and 1 at 100%) to 0 where all nine phases are at 11.1%. In general, a decrease in S.D. will indicate an move towards equalisation of phases. It should not be implied that complete equalisation of phases is to be the goal – it seems likely that acceptable encounters may have some heavily emphasised phases. S.D is useful for indicating the trend and it should be taken in conjunction with other indicators to achieve an fuller interpretation. For example, student B has a decreased phase coverage yet the lower S.D. indicates a more equalised treatment across phases. On the other hand, student O has an increase in phase coverage but the S.D. has increased indicating that more time has been concentrated in fewer phases.

In summary, the data in figure 8.7 indicates a general increase in phase coverage, coupled with a general move towards equalisation of on-task time across phases and with considerable overall increases in the more subjective and qualitative Structure Index.

Summative Evaluation - Skills and Dimensions

The summary of data obtained from analysis of Skills instruments is included at figure 8.8. The overall picture, as illustrated by the 'gains' columns, is one of very nearly universal and usually quite considerable gains in all the dimensions considered. The ratings are the product of three quite distinct measuring instruments, as indicated in the KEY. The exception to this is the consistent negative gains (losses) pattern of the Directness dimension. This should not create any problems, since all students were striving for a more indirect(i.e. a less direct) style, which is consistent with the data displayed here. A more thorough and searching statistical analysis of these results can be found in section 8.5 of this chapter.

Course Evaluation Instrument

Seventeen completed instruments were received from course members - eleven from Trial 2, two from Trial 1 and four from Pilot 2. These were combined together and the summary of data obtained is included at figure 8.12. The bottom line indicates that a considerable majority of students have positive attitudes to and opinions of the course. They also have positive reactions to many of the individual aspects of the course reflected in the totals for individual items, with some notable exceptions that require further scrutiny. An item analysis of the responses of the course members to the Open section of the Instrument, included at figure 8.13, endorses many of the closed response items and places additional emphases which help in the interpretation of other items. However, since detailed discussion of this is more appropriate in the context of the study objectives, this will be considered in section 8.5.

STUDENT	INITIAL ENCOUNTER							SECOND ENCOUNTER							GAINS						
	TUT IND	ST. CONTR.	ST. CENT1.	ST. CENT2.	QU.	APP.	DIR.	TUT IND	ST. CONTR.	ST. CENT1.	ST. CENT2.	QU.	APP.	DIR.	TUT IND	ST. CONTR.	ST. CENT1.	ST. CENT2.	QU.	APP.	DIR
A	2.4	7.7	21.2	18.8	50.0	33.3	90.4	52.5	62.1	54.0	51.8	71.4	71.4	23.8	50.1	54.4	32.8	33.0	21.4	38.1	-66.6
B	12.5	10.0	20.0	14.3	45.2	47.6	76.2	100	91.7	75.0	79.3	69.0	80.9	9.5	87.5	81.7	55.0	65.0	23.8	33.3	-67.7
C	41.7	47.6	42.9	42.9	45.2	38.1	57.1	74.1	81.8	64.9	68.6	64.3	66.7	33.3	32.4	34.2	22.0	25.7	19.1	28.6	-23.8
D	7.3	6.3	14.6	18.6	59.5	52.4	76.2	60.5	65.0	55.7	57.8	73.8	95.2	38.1	53.2	58.7	41.1	39.2	14.3	42.8	-38.1
E	14.8	9.7	15.3	14.9	54.8	47.6	81.0	78.0	65.6	46.2	47.6	76.2	76.2	38.1	63.2	55.9	30.9	32.7	21.4	28.6	-42.9
F	13.4	8.6	17.3	14.8	61.9	52.4	81.0	55.0	56.4	48.7	51.9	85.7	100	28.6	41.6	47.8	31.4	37.1	23.8	47.6	-52.4
G	17.0	12.5	16.1	8.1	57.1	47.6	85.7	44.4	73.5	63.3	69.1	81.0	81.0	28.6	27.4	61.0	47.2	61.0	23.9	33.4	-57.1
H	32.7	28.8	25.8	27.5	45.2	52.4	76.2	69.4	66.4	54.2	57.1	83.3	90.4	28.6	36.7	37.6	28.4	29.6	38.1	38.0	-47.6
I	22.4	13.7	29.5	32.3	61.9	57.1	57.1	79.4	83.7	67.3	65.3	73.8	81.0	9.5	57.0	70.0	37.8	33.0	11.9	23.9	-47.6
J	12.8	13.2	14.3	15.3	61.9	52.4	76.2	66.0	66.0	55.7	53.5	76.2	95.2	9.5	53.2	52.8	41.4	38.2	14.3	42.8	-66.7
K	16.0	14.3	20.6	12.5	54.8	52.4	85.7	67.4	76.6	62.9	62.0	85.7	95.2	28.6	51.4	62.3	42.3	49.5	30.9	42.8	-57.1
L	4.7	3.9	16.9	14.9	50.0	42.9	90.4	96.3	76.0	64.0	68.8	69.0	76.2	14.3	91.6	72.1	47.1	53.9	19.0	33.3	-76.1
M	8.3	9.1	12.7	11.1	42.9	38.1	76.2	93.8	90.0	80.0	83.3	66.7	76.2	9.5	85.5	80.9	67.3	72.2	23.8	38.1	-66.7
N	21.2	38.5	34.8	32.8	45.2	66.7	61.9	73.8	51.9	48.1	42.6	64.3	61.9	47.6	52.6	13.4	13.3	9.8	19.1	-4.8	-14.3
O	55.2	45.9	31.6	25.8	57.1	52.4	66.7	58.3	44.1	29.4	32.2	90.4	71.4	47.6	3.1	-1.8	-2.2	6.4	33.3	19.0	-19.1
P	57.5	40.0	33.3	33.3	54.8	52.4	61.9	40.0	57.0	51.8	49.3	76.2	71.4	42.9	-17.5	17.0	18.5	16.0	21.4	19.0	-19.0
SUMS	333.9	309.8	366.9	342.9	847.5	785.8	1200	1109	1108	921	940	1207	1221	438	779	798	554	542	360	505	-763
MEANS	21.2	19.4	22.9	21.4	53.0	49.1	75.0	69.3	69.2	57.6	58.8	75.4	76.3	27.4	48.7	49.9	34.6	33.9	22.5	31.5	-47.7

KEY: TUT IND   = Tutor Indirectness from Skills Obs.& Analysis Sheet
    ST.CONTR.= Student Control from Skills Obs.& Analysis Sheet
    ST.CENT1 = Student Centredness from Skills Obs.& Analysis Sheet
    ST.CENT2 = Student Centredness from Structure Obs.& Aalysis Sheet
    QU.   = Quality index from Skills Questionnaire
    APP.   = Appropriateness index from Skills Questionnaire
    DIR.   = Directness index from Skills Questionnaire

FIGURE 8.8: SUMMATIVE EVALUATION DATA (SKILLS & DIMENSIONS)—TRIALS

8.5 Discussion of results and conclusions

The results and conclusions will be discussed here in the context

of the objectives and hypotheses that have underwritten the study

and which are described in Chapter 1, section 1.4. A number of the

objectives have been addressed implicitly and explicitly within the

body of this thesis. Most particularly;

Objective 1 - the development of the microskills, see Chapters 5 &6.

Objective 2 - the development of instruments, see Chapter 6.

Objective 3 - the development of the course, see Chapter 7 and

formative evaluation in earlier parts of this chapter.

This section will be concerned with the Hypothesis H1, and the

remaining six descriptive objectives O4 - O9.

HYPOTHESIS 1

'Selected intraencounter, pedagogic skills of the research

supervisor can be influenced, in a predetermined way through the

medium of a short in-service course utilising modified

microteaching techniques.'

The skills of the encounter were clustered into dimensions as

described in Chapter 6 and instruments were designed to detect and

measure these skills and dimensions. There also emerged two major

perspectives to the encounter - structure and skills.

The data collected relating to Structure is presented at figure 8.7

The relevant null hypotheses congruent with the above general

substantive hypothesis are of the form :

'There is no difference between the means of the initial encounter

and the second encounter scores of the course members'

These null hypotheses can be tested by applying the t-test

appropriate for dependent(the same) groups, measured with the same instrument and using the formula advocated by Youngman(1984):

$$t = \frac{\sum G \; X\sqrt{N-1}}{\sqrt{N\sum G^2 - (\sum G)^2}}$$

where,   N is the number of students

G is score gain

Degrees of freedom = N-1

The values of t for the measures of Structure Index, Phase Coverage and S.D. of phase relative frequency are found in figure 8.9 along with their levels of significance.

The data collected relating to Skills and Dimensions is presented at figure 8.8 and the resulting values of t (using the same method as above) for these seven skill/dimension scores are also found in figure 8.9.

The values of t for all measures are very highly significant, with the exception of Phase Coverage which is merely significant at the 0.05 level. The discussion of Phase Coverage in the previous section 8.4 has to some extent anticipated the lower confidence in this particular measure.

The null hypothesis for each of the measures can be rejected and, returning to the substantive hypothesis H1, we can conclude that:

Selected intraencounter, pedagogic skills of the research supervisor can be influenced, in a predetermined way.

However causality cannot be attributed to the short course with absolute confidence, since the experimental design could not accommodate a control group. Borg(1981) has suggested that the most serious threats to the validity of this type of experimental design are '....history,maturation,testing and instrumentation.' p.183.

Borich(1977) has extolled the virtues of short appraisal periods -
'A relatively brief assessment period, linked to a specific area of instruction, reduces the chances that potent external forces will

VARIABLE	VALUES OF t	SIGNIFICANCE one-tailed
STRUCTURE INDEX (S.I.)	12.15	at .005 level
PHASE COVERAGE (PC)	2.47	at .05 level
STANDARD DEVIATION (S.D.) of phase relative frequencies	4.71	at .005 level
TUTOR INDIRECTNESS (TUT IND)	7.05	at .005 level
STUDENT CONTROL (ST CONTR)	8.25	at .005 level
STUDENT CENTREDNESS 1	8.21	at .005 level
STUDENT CENTREDNESS 2	5.33	at .005 level
QUALITY INDEX (QU.)	13.17	at .005 level
APPROPRIATENESS INDEX (APP.)	9.86	at .005 level
DIRECTNESS INDEX (DIR)	-9.61	at .005 level

FIGURE 8.9: RESULTS OF SIGNIFICANCE TESTING FOR DIMENSIONAL SHIFTS

interact with the behaviours and skills being measured.'p.51.

The completion of the assessment for this course in seven days would suggest a severe limitation on the extraneous effects of history and maturity.

With regard to testing and instrumentation, the concern is with the reliability and validity of instruments for measuring the selected attributes. In this there was a deliberate strategy to collect both qualitative and quantitative data by subjective and objective instruments. This has the advantage not only of providing a broad coverage on which to base conclusions, but provides the possibilty to compare measures in the investigation of validity in particular. The Observation and Analysis sheets are low inference measures of clearly observable and definable events based firmly in the tradition and practice of microteaching. The constructs (skills and dimensions) are derived from these observations through explicit and well established formulae. As such the Observation and Analysis sheets can be expected to display a high degree of both Content and Construct Validity. Such validity is clearly indicated in the cases of Centredness and Indirectness by the relatively high, positive correlation coefficients in the matrix of figure 8.10. Coefficients have only been generated within initial or second encounters and have not been computed between measures across initial and second encounters, since it is not expected that effects will remain unchanged by the course.

The validities of the Structures Questionnaire and the Skills Questionnaire are more problematic, in that they are much more subjective in approach and novel in concept and design. It was not possible to undertake the necessary comprehensive analyses and comparisons of these instruments for purposes of confirming

	SC2i	SC2s	SC1i	SC1s	TI-i	TI-s	TD-i	TD-s
Student Centredness 2-initial (from Structure Obs.& Analysis)	1							
Student Centredness 2-second		1						
Student Centredness 1-initial (from Skills Obs. & Analysis)	+.93		1					
Student Centredness 1-second		+.97		1				
Tutor Indirectness - initial (from Skills Obs. & Analysis)	+.69		+.64		1			
Tutor Indirectness - second		+.56		+.56		1		
Tutor Directness - initial (from Skills Questionnaire)	-.78		-.86		-.68		1	
Tutor Directness - second		-.73		-.78		-.58		1

FIGURE 8.10: CORRELATION COEFFICIENTS FOR SELECTED DIMENSION PAIRS

validity. However, inspection indicates a high correlation between phases registered by the Structures Questionnaire and by the Structures Observation and Analysis sheet. The correlation matrix, see figure 8.10, also indicates reasonably high negative correlations between the measure of Tutor Directness from the Skills Questionnaire and the related complementary measures of Tutor Indirectness and Student Centredness from the more valid Observation instruments. More could be done in the further development of these subjective instruments.

Reliability was addressed by restricting rating of encounters to the author, thus ensuring rater consistency. The Observation and Analysis Instruments were given repeated trials on the same encounter. The Structures Instrument eventually giving a product moment correlation r = 0.979, whereas the Skills Instrument quickly achieved r = 0.990,0.978,0.983. It was not possible to address the reliability of the Questionnaires in a comprehensive way, so the results derived from these sources should be treated as less reliable.

To summarise then, there is considerable evidence to prove the substantive hypothesis. The evidence derived from the Observation and Analysis Instruments is considered to be both highly valid and reliable, whereas that from the Structures Questionnaire and the Skills Questionnaire is less so. Nevertheless the varied data from a number of instruments goes some way towards providing the triangulation that is much advocated in research currently — for example see Cohen & Manion(1985), Chapter 11. There seems a high probability that a considerable proportion, if not all, of the causality can be attributed to the Course.

OBJECTIVE 4

'To evaluate the short course both formatively and summatively with particular reference to salient features such as: course content, course strategies, course acceptability, course effectiveness, course relevance, course efficiency, tutor role and effectiveness, student attitudes and to present the outcomes of the evaluative process.'

The formative evaluation outcomes have been presented already within the general discussion of Pilots and Trials. So the concern here will be for summative evaluation outcomes.

The discussion under Hypothesis 1 has indicated the extent of the effectiveness of the course in that, on all measures, considerable significant gains were made. The remaining salient features above are covered by the categories of item included in the Course Evaluation Instrument.

The responses to the closed response items on the Instrument are included at figure 8.12. It should be remembered that scoring for each individual item can take values from -3(critical) to +3 (supportive) with 0 indicating a nil response to the item. This implies that individual student scores can range from -99 to +99 and the range of individual Item Totals is -51 to +51.

The overall mean student score is +25.7% indicating a generally moderately favourable reaction to the course. One student (J) was moderately hostile and another (M) was ambivalent.

An unscrambling of the data into the original underlying categories listed at the end of Chapter 7 gives the following table of scores. This allows a consideration of more balanced reactions to the broader aspects of the course reflected in the salient features of this Objective.

CATEGORY	ITEMS	RAW TOTAL	TOTAL %
a. general reactions	2,10,12,15,22,29,31.	103	29
b. course relevance	3,32.	32	31
c. course duration	4,7,33.	42	21
d. course aims	1,5.	35	34
e. tutor performance(teaching)	14,21,23,25.	77	38
f. tutor performance(feedback)	18,27,30.	11	7
g. instrument acceptability	11,20,26.	10	7
h. theoretical aspects	6,17	10	10
i. practical aspects	16,19.	28	27
j. theoretical/practical balance	8,9,13.	32	21
k. relevance of simulation	24,28.	57	56

FIGURE 8.11: ANALYSIS OF COURSE EVALUATION INSTRUMENT BY CATEGORY

Since raw scores can take negative as well as positive values, the Total % can range from -100% to +100%. The reaction to each category is positive, with some weakness indicated in categories f,g and h. Returning to figure 8.12 highlights problems with items 6,7,20,22,27 and 31. The items 6, 20, 27, are confirmed by the weak category performance. A consideration of the Open response item analysis at figure 8.13 reveals further support for items 6, 27 and confirmation of problems relating to item 7 and the introduction of a novel problem relating to language difficulties.

In summary and conclusion, most of the salient features relating to this objective have achieved positive results and reactions. The observed problematic areas are:

ITEM	COURSE MEMBERS																	ITEM TOTAL
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	+3	+1	+3	+2	+1	+1	+1	+2	+2	-2	+3	+2	-1	+3	+2	+3	+3	29
2	+2	+2	-1	+1	+2	+2	+3	+2	+3	-3	+1	+1	+1	+3	+2	+2	+2	25
3	+2	+2	-1	+1	+2	+2	+2	+2	+2	+1	+1	+2	+1	+3	+3	+2	+2	29
4*	-3	+1	0	+2	+3	-1	-1	+2	+2	+2	+1	+3	-2	+3	+2	+3	+3	20
5	+2	+1	+1	+1	-1	+2	+2	-1	+1	-3	+2	-1	-1	0	+1	+1	-1	6
6*	+1	+2	-1	+2	-2	-2	-1	-1	+1	-3	-1	+2	-3	0	+1	+2	+2	- 1
7	+3	+1	+1	+2	-2	+2	+2	-2	-2	+1	+1	-3	+2	-3	-1	-2	-3	- 3
8	+1	+1	+1	+1	-2	+2	+1	-1	+1	-1	+1	-1	+2	+1	+1	-1	-1	6
9	+1	+2	+1	+1	+2	+2	-1	-1	-2	-3	+1	+2	-2	-1	+2	+1	+1	6
10	+2	+2	-1	-1	+1	+2	+2	+1	+3	+2	+2	+2	+2	+3	+2	+2	+1	27
11*	+3	+2	+1	+2	+2	-1	-1	+1	+2	-2	-2	+3	-2	0	-2	-1	+3	8
12	+1	+2	-1	+1	+2	+2	+2	-1	+2	-2	+1	+1	+1	+2	+2	+1	+2	18
13	+3	+2	+1	+1	+1	0	+1	-1	+1	-2	+1	+3	-2	+2	+2	+1	+2	16
14	+2	+2	-1	+1	+1	+2	+2	+1	+2	-2	+3	+3	-1	+2	+2	+2	+1	22
15	+1	+2	-1	+2	-1	+1	+2	+2	+2	+2	+3	+3	+1	+3	+2	+1	+1	26
16	+3	+2	+1	+1	+2	+1	+1	+2	+2	-2	+2	+1	+1	+2	+2	+2	+1	24
17	+3	+2	+1	+2	-2	0	+1	+1	+1	-1	-1	+1	-2	+1	+1	+1	+2	11
18	+3	+2	+1	+1	+2	-1	+1	+1	+2	-3	+1	-2	-2	-3	+2	+1	+2	8
19	+1	+1	+1	-1	+1	+2	+2	+1	+2	-2	-1	+3	-1	-3	-2	-2	+2	4
20*	+1	+2	-1	-1	+2	+1	-2	-1	-1	+2	-1	-3	-2	-1	-2	-2	+1	- 8
21	+3	+3	+1	+1	-1	+1	+1	+2	+2	-1	+3	-2	+1	+3	+1	+1	+1	20
22	+1	-1	+1	+1	-1	+1	+1	+1	+1	+1	-1	-3	+1	-3	+2	-1	-2	- 1
23	+3	+3	+1	+2	-1	+2	-1	+2	+2	-1	+1	-1	+1	+2	+2	+1	-1	17
24*	+3	+3	+1	+2	+1	0	-1	+3	-1	+2	+2	+2	+1	+3	+2	-2	+3	24
25	+1	+3	+1	+1	-1	+1	+2	+2	+1	-1	-1	+1	+2	+2	+2	+1	+1	18
26	+2	+1	+1	+1	+1	+2	+2	+2	+1	-1	-1	-2	+1	-1	0	-1	+2	10
27*	+1	+1	0	-2	-2	+1	-2	-2	-1	-3	-1	-3	-2	-1	-1	-2	+3	-16
28	+1	+3	-1	-1	+2	+2	+3	+2	+3	+3	+2	+3	+3	+1	+2	+2	+3	33
29*	+3	+1	+1	+3	+1	-1	+1	+1	-1	-3	-1	+2	-2	+3	+1	-1	+3	11
30	+3	+1	+1	+1	+1	+2	+2	+1	+2	-2	+1	+1	+1	+1	+2	-1	+2	19
31*	+3	+1	+1	+2	+2	0	-1	+1	-1	-3	-2	-3	-1	-1	-1	+1	-1	- 3
32	+1	+1	-1	+1	-1	+1	+2	+1	+2	-3	+1	+2	-1	+1	+1	+1	-2	7
33*	+3	+1	+1	+2	+2	+2	-1	+1	-2	-2	+3	+3	+1	+3	+2	+3	+3	25
TOTAL	63	55	13	35	17	33	27	26	34	-35	24	22	-4	30	37	19	41	437

FIGURE 8.12: COURSE EVALUATION QUESTIONNAIRE - FINAL DATA SUMMARY

OPEN RESPONSE ITEMS	FREQUENCY
A Course is very relevant	4
B More practical work needed	1
C Not enough time available	5
D Language and Jargon problems	3
E Course is too theoretical	3
F More feedback and discussion of results	2
G More in-course practice	1
H Use of video is good	1
I Roleplay is good	1
J More discussion of structure	1
K Difficulty experienced with calculations	1
L Course is too analytical	1
M The dimensions are appropriate	1
N More rapid feedback is required	1
O Course is very interesting/enjoyable	4
P Course lacks direct relevance to job	3

FIGURE 8.13: COURSE EVALUATION INSTRUMENT - OPEN RESPONSE ANALYSIS

Item 6 : The course was altogether too theoretical.

Item 7 : The length of the course was appropriate to aims.

Item 20 : The instruments were difficult to interpret.

Item 27 : There should have been more discussion of results.

New Item: Difficulties experienced with language and jargon.

It seems likely that these problems may spring from fitting the course into two sessions. Although contact time was not affected, there was very limited time for reflection between sessions and the course was, in effect, too intensive. A three session pattern would seem to be the optimal pattern for the future.

The problems with theory may well be compounded by the problem of language experienced by overseas students. It is not suggested that significant changes should be made at this stage and it seems likely that the particular requirements of overseas students could well be dealt with more effectively in a more leisurely three session pattern. This should also allow a more effective programme of feedback as long as access to tapes for all parties is assured.

OBJECTIVE 6

'To make observations and present conclusions from the evaluative process regarding the relevance and acceptability of the skills of research supervision implemented through the course.'

The relevance category from the Course Evaluation Instrument indicates a general level of agreement that the course was seen to be relevant to the needs of the course members. This point of view is further endorsed by Category A open responses at figure 8.13. However, the opinion is not universal (see Category P at figure 8.13) , and it is worth noting that the three lowest overall scoring course members on the Course Evaluation Instrument (C,J,M)

each queried aspects of the relevance of the course. It should also be noted that doubts about relevance, with one exception (course member C) were concerned with the relevance of the 'analytical' treatment and not about the relevance nor the acceptability of the particular skills and dimensions dealt with on the course. In-course reactions, both in discussion and in unsolicited comments were enthusiastic, with particular relevance being seen for the dimensions of Indirectness, Centredness and Control. Other skills/ dimensions (cognitive level, appropriateness) were seen to be of interest, but course logistics prevented a detailed examination of and reaction to them. The dimension 'warmth' received some measure of support as a dimension of particular relevance to these course members in dealing with their future students in developing countries. It seems that, in view of the many constraints operating on such a short course, the skills and dimensions treated are highly relevant and acceptable.

OBJECTIVE 7

'To make observations regarding differential effects of skill acquisition related, for example, to: supervisor experience, subject discipline of supervisor, student characteristics.'

In view of the relatively homogeneous nature of the group of course members, it was not possible to undertake realistic differentiation on the basis of subject discipline. Student effects have been touched upon briefly in Pilot 2, and it was thought that little more could be achieved in simulated encounters. It was therefore decided to attempt to investigate differences based on experience as the primary focus within this objective.

For the purpose of this part of the study, all course members from

all pilots and trials who had completed both an initial and second encounter were included. The course members from courses implemented at Leeds Polytechnic were considered inexperienced if they were beginning their first teaching appointment. Course members from Liverpool were not so easy to classify, since their experience was variable and not always in a formal teaching role. It was originally thought that they might all be classified as inexperienced, but some performances on initial encounters seemed quite competent. It was decided therefore to classify Liverpool course members as experienced or inexperienced based on their initial encounter performance, with the overall intention of achieving an approximately equal grouping of inexperienced and experienced course members. In the event, course members were classified experienced if their Quality Index score was greater than 50% and also their Structure Index score was greater than 23%. This gave an overall grouping of 10 experienced members and 11 inexperienced. It was not thought possible to investigate all dimensions for differential effect, so two dimensions only were chosen – Structure Index and Tutor Indirectness. Figure 8.14 presents the data related to these dimensions appropriately distinguished between course members by experience.

The null hypotheses in this instance are taken to be:

'there is no difference between the performance of the experienced and inexperienced course members on each of the two dimensions.'

In investigating this relationship, an analysis of variance is appropriate in order to test for significant differences between the means of the two groups. The Scheffé method, advocated by Youngman (1984) is used since it allows further interpretation to be made after significance is found.

FIGURE 8.14: SELECTED DATA FOR COMPARISON OF STUDENTS BY EXPERIENCE

STUDENT	STRUCTURE INDEX						TUTOR INDIRECTNESS					
	INITIAL		SECOND		RES.GAINS		INITIAL		SECOND		RES.GAINS	
A	9		64		13.6		2.4		52.5		− 9.2	
B	16		42		−10.4		12.5		100		37.1	
C	18		47		− 5.9		41.7		74.1		7.9	
X D		36		51		− 6.9		7.3		60.5		− 1.8
E	22		60		6.0		14.8		78.0		14.9	
X F		24		58		3.4		13.4		55.0		− 8.0
G	22		49		− 5.0		17.0		44.4		−19.0	
H	20		56		2.5		32.7		69.4		4.2	
X I		36		60		2.1		22.4		79.4		15.4
X J		40		62		3.0		12.8		66.0		3.1
X K		29		76		20.0		16.0		67.4		4.1
L	24		42		−12.6		4.7		96.3		34.3	
M	18		51		− 1.9		8.3		93.8		31.4	
N	20		47		− 6.5		21.2		73.8		9.9	
X O		36		71		13.1		55.2		58.3		− 9.4
P	22		62		8.0		57.5		40.0		−28.0	
X Q *		22		52		− 2.0		31.5		32.6		−32.4
X R *		33		56		− 1.1		54.1		38.0		−29.6
X S *		30		46		−10.2		53.6		54.2		−13.4
T *	30		54		− 2.2		0		52.9		− 8.5	
X U *		22		46		− 8.0		28.7		61.4		− 3.3
MEANS	25.2		54.9		−1.31	1.34	24.18		64.2		6.82	−6.85
ST.DEV.	7.9		9.1		8.08	9.43	4.92		18.72		21.75	14.79
CORR. COEFF.r	+0.317						−0.434					

* Indicates students from Pilots
X Indicates students classified as experienced

The formula used is of the form :   where: NG = number of groups

$$F = \frac{1}{NG - 1} \left[\frac{N1 \times N2}{N1 + N2} \right] \frac{(\bar{X}1 - \bar{X}2)^2}{S_w^2}$$

N1 & N2 = size of groups

$\bar{X}1$ & $\bar{X}2$ = means of groups

S_w^2 = within groups variance

Degrees of Freedom are NG - 1   N = total number in all groups

and N - NG

Applying this formula to the data of figure 8.14, the following values of F are obtained for the raw scores:

Structure Index   - initial encounter   F = 15.73

Tutor Indirectness   - initial encounter   F = 1.42

Sructure Index   - second encounter   F = 1.91

Tutor Indirectness   - second encounter   F = 2.58

The critical values of F for (1,19) degrees of freedom are:

8.20 for 0.01 level, 4.38 for 0.05 level, 2.99 for 0.10 level

The Structure Index for the initial encounter is Highly Significant at the 0.01 level. The null hypothesis in this case can be rejected so there is a highly significant difference between the means of the experienced and inexperienced groups. This is not in the least surprising since the groups were allocated according to their performance on this measure in the first place. Inspection of the groups mean S.I.'s confirms that the experienced group performed higher, which was the criterion for allocation.

In the remaining three cases above the values of F are not at all significant, so the null hypotheses must be accepted and there is no difference between the means of the two groups on any of these measures. It is of interest that the groups as constituted showed no difference on their initial Indirectness measure, however the main concern here is that they did not perform significantly differently after the course treatment.

In searching further for differential effects, some consideration was given to the measure of score gain. However, there is much evidence from the literature, see for example Borich(1977) or Youngman(1984), to suggest that change scores are both unreliable and invalid due partly to the tendency of regression to the mean. The use of residual gains, which are gains adjusted for such regression effects, is recommended. The residual gain is the difference between a student's actual final score and the final score predicted using the correlation coefficient of initial and final scores. Residual gains were calculated for the data, using the formula below suggested by Youngman(1978 p.10) and the results are included in figure 8.14.

$$\text{Res.gain} = \left(Y - M_y\right) - r_{xy} \frac{S_x\left(X - M_x\right)}{S_y}$$

where: X and Y are initial and final scores, Mx and My their means

Sx and Sy are their standard deviations

r_{xy} is the correlation between them

Variance of the means of the experienced and inexperienced groups was investigated as before and the following results were obtained:

Structure Index	– actual gains	F = 0.94
Tutor Indirectness	– actual gains	F = 2.88
Structure Index	– residual gains	F = 0.43
Tutor Indirectness	– residual gains	F = 2.77

The same critical values apply as above and as a result the null hypotheses must be accepted for these measures also.

The above procedure was repeated for each of the other dimensions that were considered in this study, and the resulting F values for scores , actual gains and residual gains are to be found in the table at figure 8.15.

DIMENSIONS		F values	Significant
Student control	– initial encounter	0.07	not
Student control	– second encounter	2.54	not
Student control	– actual gains	1.55	not
Student control	– residual gains	2.57	not
Student centredness	– initial encounter	0.04	not
Student centredness	– second encounter	2.75	not
Student centredness	– actual gains	0.24	not
Student centredness	– residual gains	2.54	not
Quality index	– initial encounter	**16.4**	high 0.01 level
Quality index	– second encounter	0.65	not
Quality index	– actual gains	1.67	not
Quality index	– residual gains	0.10	not
Appropriateness	– initial encounter	**3.19**	yes 0.1 level
Appropriateness	– second encounter	0.73	not
Appropriateness	– actual gains	0.05	not
Appropriateness	– residual gains	0.43	not
Tutor directness	– initial encounter	1.95	not
Tutor directness	– second encounter	1.46	not
Tutor directness	– actual gains	2.39	not
Tutor directness	– residual gains	1.68	not

Critical values of F for (1, 19) degrees of freedom:

8.20 for 0.01 level   4.38 for 0.05 level   2.99 for 0.1 level

FIGURE 8.15: ANALYSIS OF VARIANCE – EXPERIENCED vs INEXPERIENCED

The highly significant value of F (at 0.01 level) for the initial encounter Quality Index is expected, since Quality score was the second criteria for allocation to experienced or inexperienced group. The groups also can be seen to have performed significantly differently at the 0.1 level on Appropriateness in the initial encounter, and inspection of the means indicates that experienced group performed better. For much statistical investigation, a level of 0.1 would not be considered significant. But Youngman(1984) has pointed out that the Scheffé test is particularly conservative when used for pairwise tests, as it is here, and consensus favours the adoption of this lower level for significance than would normally be entertained. So in three cases the null hypotheses are rejected and the substantive hypotheses that:

'the experienced group initially performed significantly better(due to selection) on Structure Index and Quality Index and was found to have performed significantly better on Appropriateness Index'.....
are accepted.

However, the main concern here is with post course performance and inspection of figure 8.15 reveals no significant values of F for any of the second encounter scores, nor for any actual gains, nor for any residual gains. The null hypotheses must be accepted for all skills and dimensions that have been the implemented in this study and that are covered in figures 8.14 and 8.15.

The conclusion must be that :

'there is no significant difference in the post-course performance of experienced and inexperienced (as defined for this study) course members on any of the dimensions implemented and investigated statistically within this study.'

OBJECTIVE 5

'To make observations and present conclusions from the evaluative processes regarding the appropriateness of the principles under-pinning the course and the curriculum development.'

In discussing observations and conclusions relating to this objective, it is appropriate to reference comments to earlier parts of this thesis where principles were developed. Consistent with the procedure introduced in Chapter 7, comments will be referred to the Guidelines of Chapter 2 (2a....2h),the Guidelines of Chapter 4 (4G1 ....4G21),the Factors of Chapter 5 (5i....5vii) and the Issues of Chapter 6 (6a....6f). The general success of the course endorses to some extent many of the principles, but it is not proposed to refer to all of these here, since some items were not implemented fully and others did not produce any significant relevant feedback.

Items omitted that are not thought particularly applicable to the course in the form in which it was implemented are; 2b, 2g, 4G6, 4G11, 4G14, 4G20, 5iv. Other items omitted from the discussion below can be assumed to have yielded no significant feedback.

2a. Student centred independent learning would seem to be a feature that course members regretted not having sufficient opportunity to engage in. This principle must be closely linked with opportunity.

2c. Some difficulty has been experienced in achieving viable groups and formal attendance. But it is felt that this course has been individualised as much as is consistent with the aims and guiding strategies. Any attempts at increased individualisation would begin to threaten the collaborative and cooperative aspects of the course.

2d. The course did deliberately address practical and theoretical issues and generally this was accepted by course members. There was

some suggestion of too much theory, but only from overseas students and so it seems likely that this may have had more to do with their language problems.

2e. The particularly favourable reaction of course members to structure and dimensions, as clusters of observable skills, seems to endorse 'holistic' approaches.

2f. The concern of some course members for the dimension 'warmth' was seen as a plea from the humanists. On longer courses, a more carefully balanced portfolio of dimensions may well be necessary.

4G3, 4G4, 4G5. The clustering of skills into dimensions and the particular choice of structure, directness, centredness, control, cognitive level and appropriateness are seen to have contributed considerably to the positive reactions of students to relevance and acceptability of the course.

4G7. The almost universal concern of course members for achieving increases in tutor indirectness indicates their level of concern for the student in encounters. The extent to which the course gives parity to the student in encounters would seem to be entirely justified along with this principle.

4G8. Course members reactions to practical aspects of the course, the opportunity to select realistic situations from their own area and their reactions to the simulation and role play, all lend credence to this principle.

4G9, 4G10. Certainly observation suggests that inductive sessions were a valuable motivational strategy, but the value of models is not easily apparent, although there is some evidence to suggest that group viewing of own tapes would be a preferred tactic.

4G12. Encounter duration was given careful thought, since quite small increases magnify the length of the course considerably. In the event, no microtutors overran on initial encounters and only one microtutor overran on second encounter. The time constraint of the encounter was not an issue that emerged and it is felt that the duration here was an acceptable compromise, allowing skills to be practiced with some sense of urgency, whilst not adding overly to the course contact time.

4G13, 4G15. No systematic observation of this was possible, a generally supportive and mitigating role being assumed by the Course Tutor both in the initial encounter and the first inductive session.

4G16, 4G17, 4G18. Feedback was a feature of the course that proved particularly problematic, due mainly to the logistical difficulties in providing the course remotely and intensively. As a result there was some student concern for feedback issues. This strongly underlines the importance of these principles in course design.

4G19. The microteaching cycle for this course was indeed minimal and yet it has achieved significant results within the limited criteria set for such a short course. Given that longer courses may be conceptualised as an integrated group of short courses, then it is difficult to see the justification for multiple iterative microteaching cycles dealing with the same microskill.

4G21. The identification of a sequence of course events based on the operational objectives proved useful in the adaptation of the course formatively and in its implementation in varying contexts.

5i. The acceptability of the course to a very varied student intake would seem to endorse the principle of an eclectic strategy.

5iii. The practical, problem based approach of this course and its perceived acceptability and relevance by course members endorse this principle.

5vi. The microteaching model (figure 4.18) has served to identify the critical factors in implementing the microtutoring aspects of the course and assisted in the identification of shortcomings and proposals for further developments in section 8.6

6a,b,c. The approach with these issues was to introduce each side of the coin as of equal merit though of different emphasis. This was reinforced by the strategies and instruments used within the course, which were designed to elicit and examine data on a wide range of criteria. This was justified in the reactions of the course members and in the opportunity to utilise instruments selectively in response to constraints placed on the course.

6d,e. These issues were particularly relevant, being anticipated by course members in discussion at early stages of the course.

6f. Although this issue was explored and was seen to be relevant, a more thorough treatment of appropriateness would have enhanced this issue.

Many of these underlying principles in Objective 5 are worthy of investigation in a more individual and systematic way, but the findings here should help to point the directions that such research might take.

The remaining objectives for discussion, 8 and 9, relate to further proposals emerging as a result of this study. It is appropriate to make them the focus of the next and final section of this Chapter.

8.6 Proposals for further Development and Research

OBJECTIVE 8

'To make proposals for the further development of the skills of research supervision and of the course.'

There is much that could be done in the identification, definition and implementation of instruments for the detection of the skills of the tutorial encounter. The range of skills is likely to mirror the microteaching pattern and prove almost limitless, so perhaps this points the way. It seems crucial that microskills should be clustered into meaningful, significant and relevant dimensions in order to avoid the enormous cascades of skills that almost confound both achievement and investigation. It is suggested that the emphasis should be on the identification of dimensions, since these have been found to be of particular relevance in the implementation of this course.

Two dimensions, cognitive level and appropriateness, from this course still require a fuller implementation before any significant conclusions can be made regarding their acceptability and relevance. The course now requires replication and implementation in a wider variety of contexts, with a wider variety of intake in order to confirm its general acceptability and to identify finer factors in implementation.

This study was always primarily a descriptive case study, with its emphasis on course evaluation. This has left some room for making improvements to some of the instruments in the attempt to achieve a higher degree of experimental rigour. The Observation and Analysis sheets are considered to display reasonably high reliability and validity, but would benefit from the experience of use by other

raters and particularly from the systematic collection of micro-tutor self ratings. The Questionnaires are less advanced in design and would benefit from more analysis and development in order to increase their reliability and validity.

These would seem to be the priorities for developments related specifically to the course and its identified dimensions. The wider implications for research and development will be considered within the discussion under Objective 9 below.

OBJECTIVE 9

'To make suggestions for further descriptive and experimental research related to this area of study'

The translation of the principles and techniques of microteaching into this new context has effectively opened up the possibility of replicating much of the research and investigative work from that field into the context of microtutoring. It is not proposed to undertake a deliberate consideration of such implications here. It would be sufficient for the reader to refer to Chapter 4 and to consider the issues identified there in the context of micro - tutoring. The reader should be advised to consider carefully the intrinsic value of much microteaching research before exporting it. What will be attempted here is an identification of the perceived **priorities** for further research and development work in microtutoring.

With regard to true experimental research, the Author is still not convinced of the feasibility of control-group experimental designs in this rarified area. More promising may be alternative-treatment designs that could test the particular contributions of components within the microtutoring course or the strategy itself. Concerns

suggested by this study would be for example, the role and location of feedback, the contribution of inductive discussion, the role of modelling, simulated vs real encounters.

The instruments developed here allow and suggest the possiblity of the investigation and description of a typology or taxonomy of research tutorials. This would involve surveys of real research tutorials, real tutors with real students and would considerably scale up the work done in this study. The possibility of further investigation of subject differential effects occurs here also.

There is considerable need to follow the microtutor into the real tutorial to investigate such matters as the translation of skills across contexts and across time. This in turn opens up the field of student differential effects and the whole area of student rating of encounters and tutors – along with microstudent rating of micro-tutor in microencounters.

The final priority area, and the most important, is concerned with longitudinal research particularly in relation to the investigation of research tutorial effects on student research performance. This of course, in the final analysis, is the fundamental guiding principle. If the skills learned by tutors do not ultimately result in improved performance by research students, then one must seriously question whether there is any purpose in learning the skills in the first place.

This study has opened up a veritable Pandora's Box of possibilities for further research and development. The Reader is encouraged to exercise some imagination and not feel too constrained by the above suggestions.

APPENDICES

ENCOUNTER IDENT	
OBSERVER	
TUTOR	
STUDENT	

TUTORING SKILLS & STRATEGIES WORKSHOP

STRUCTURE QUESTIONNAIRE

ANSWER EACH QUESTION A,B,C, IN RELATION TO EACH PHASE BY PLACING ✓'s	A Do you consider that this phase can make a useful contribution in this type of encounter?		B Were you able to identify this phase as being present in this encounter?		C How effective do you think was the treatment given to this phase in this encounter?						PHASE SCORES
					V Poor	Poor			Good	V Good	(A+B)×C
	YES	NO	YES	NO	0	1	2	3	4	5	
1 REVIEWING											
2 PURPOSE											
3 STRUCTURE											
4 PROBLEM											
5 ALTERNATIVE SOLUTIONS											
6 SPECIFIC SOLUTIONS											
7 SUMMARISING											
8 CONTRACTING											
9 EVALUATING											
10 SOCIAL & NON-TASK											
NUMERICAL VALUES	1	−1	1	−1	0	1	2	3	4	5	

TOTAL SCORE

$$\text{STRUCTURE INDEX} = \frac{\text{TOTAL SCORE}}{\text{MAX. POSSIBLE SCORE}} \times 100$$

IGNORE NEGATIVE SIGNS

NOTE M.P.S. is obtained by ignoring redundant phases.

The structural phases of the tutorial encounter

1. Reviewing
- included here are statements of past goals, earlier contents and decisions, progress to date, reiteration of earlier problem identification// watch out for: evaluation which is properly #9.

2. Purpose
- concerns the identification and clarification of the purpose of the encounter usually in fairly general terms//watch out for: more specific considerations that are likely to move into categories below e.g. #3, #4.

3. Structure
- only of concern here are statements, proposals, decisions relating to the organisation of this encounter and the means of dealing with the purposes//watch out for: organisation of student project and problem solving work which is really #8 or #6 most probably.

4. Problem
- included here are all descriptions, clarifications, explorations, qualifications and discussions related to the problem//watch out for: quite sudden moves which begin to consider solutions #5 or #6.

5. Alternative solutions
- included here are all references and explorations relating to possible solutions to the problem and all discussions regarding a single solution until that solution is agreed//watch out for: signs of agreement regarding a particular solution when a move to #6 is implied.

6. Specific solution
- concerns all discussion, clarification, exploration of a specific agreed solution// watch out for: final statements relating to what has been agreed which more properly will be #7 or even #8.

7. Summarising
- relates only to summaries of agreements, decisions, discussions, content within this encounter//watch out for: summary of earlier work which is #1, more formalised summaries which may be #8.

8. Contracting
- likely to take place at the end of the encounter and be a formal statement (either written or verbal) relating to goals, progress, process , that are to take place outside the encounter to which the student agrees.

9. Evaluating
- relates to considerations of feasibility decisions, contingency plans, criteria for assessment, proposals for evaluation of future success as well as actual evaluation of achieved progress, content, results.

10. Social
- concerns all interaction that is non task-specific - health, wealth, weather, etc.

TUTORING SKILLS AND STRATEGIES WORKSHOP

| STRUCTURE OBSERVATION AND ANALYSIS SHEET |

8 SECOND INTERVAL SAMPLING

ENCOUNTER IDENT.	OBSERVER :
	TUTOR :
	STUDENT :

		8 16 24	40	80	120	160	200	240	280	320	352
1. REVIEWING – past goals, content, progress, etc.	T										
	S										
2. PURPOSE (of this encounter) – identifying and clarifying in general terms only.	T										
	S										
3. STRUCTURE – of this encounter only	T										
	S										
4. PROBLEM – description, discussion, exploration.	T										
	S										
5. ALTERNATIVE SOLUTIONS – exploration and discussion	T										
	S										
6. SPECIFIC SOLUTION – discussion, decision making, planning.	T										
	S										
7. SUMMARISING – reiterating, recapping but intraencounter only	T										
	S										
8. CONTRACTING – agreeing goals, process, progress and essentially extraencounter	T										
	S										
9. EVALUATING – feasibility, contingency, success, and planning for future evaluation.	T										
	S										
10 SOCIAL – and other non task-specific considerations.	T										
	S										

APPENDIX C

ENCOUNTER IDENT	
OBSERVER	
TUTOR	
STUDENT	

TUTORING SKILLS & STRATEGIES WORKSHOP

SKILLS QUESTIONNAIRE

Please indicate your opinions by rating the relative truth of each of these statements by placing ticks (✓) in the appropriate column.

Rating columns: ENTIRELY FALSE | MOSTLY FALSE | PARTLY FALSE | PARTLY TRUE | MOSTLY TRUE | ENTIRELY TRUE

SCORING

#	Statement		Scoring
1.	The tutor displayed a high level of interest throughout	Q	0 1 2 1 2 3
2.	The tutor seemed to do most of the talking.	D	0 1 2 1 2 3
3.	The tutor asked a lot of questions.	D	0 1 2 1 2 3
4.	The questions asked by the tutor were entirely relevant.	Q	0 1 2 1 2 3
5.	Generally the tutor's questions were quite clear.	Q	0 1 2 1 2 3
6.	The questions were always appropriate to the task.	A	0 1 2 1 2 3
7.	The questions were always appropriate to the student's ability.	A	0 1 2 1 2 3
8.	A high proportion of questions were thought provoking.	Q	0 1 2 1 2 3
9.	The tutor gave a lot of information and/or advice.	D	0 1 2 1 2 3
10.	The information and/or advice was generally quite clear.	Q	0 1 2 1 2 3
11.	The tutor's information and advice were always necessary.	A	0 1 2 1 2 3
12.	The student was always given adequate opportunity to respond.	A	0 1 2 1 2 3
13.	The student was given adequate opportunities to ask questions.	A	0 1 2 1 2 3
14.	The student was given sufficient opportunity to ask for help.	A	0 1 2 1 2 3
15.	The encounter successfully explored the problem.	Q	0 1 2 1 2 3
16.	The encounter successfully identified solutions.	Q	0 1 2 1 2 3
17.	The encounter successfully appraised courses of action.	Q	0 1 2 1 2 3
18.	The tutor's style involved much negative criticism.	Q	3 2 1 2 1 0
19.	The tutor was invariably supportive and encouraging.	Q	0 1 2 1 2 3
20.	The tutor's level of support was entirely appropriate.	A	0 1 2 1 2 3
21.	The student is entirely responsible for the decisions made.	D	3 2 1 2 1 0
22.	The student's commitment to the decisions is high.	Q	0 1 2 1 2 3
23.	The decisions made seem entirely feasible.	Q	0 1 2 1 2 3
24.	The student's course of action now seems clear.	Q	0 1 2 1 2 3
25.	The students level of satisfaction with the encounter is high.	Q	0 1 2 1 2 3
26.	The level of student participation was high.	D	3 2 1 2 1 0
27.	All of the solutions came from the tutor.	D	0 1 2 1 2 3
28.	The student was responsible for solving the problems.	D	3 2 1 2 1 0

Q index = total Q × 100 / 42

A index = total A × 100 / 21

D index = total D × 100 / 21

TUTORING SKILLS AND STRATEGIES WORKSHOP

TUTORING SKILLS OBSERVATION AND ANALYSIS SHEET

5 sec. POINT SAMPLING

ENCOUNTER IDENT.	OBSERVER:
	TUTOR :
	STUDENT :

		5 10 15 20	60	120	180	220
1. ASKING FOR : information, opinion, suggestions, advice.	T					
	S					
2. ASKING FOR CLARIFICATION : prompting, probing.	T					
	S					
3. GIVING : information, explanations, direction, opinion without stated criteria.	T					
	S					
4. MAKING : suggestions, proposals.	T					
	S					
5. REINFORCING : accepting, encouraging, agreeing, praising.	T					
	S					
6. CRITICISING : confronting, rejecting, disagreeing.	T					
	S					
7. EVALUATING : assessing, judging, valuing with criteria explicit.	T					
	S					
8. SUMMARISING : process, content, progress either micro or macro.	T					
	S					
9. SILENCE :	A response-forcing					
	B other					

TUTOR DIRECTNESS   = (3T+6T+7T+8T) / total T

TUTOR INDIRECTNESS = (1T+2T+4T+5T+9A) / total T

TUTOR CENTREDNESS = 9A+totalT/ total all

TUTOR CONTROL   = (1T+2S+3T+4T+5S+6T+7T+8T) / totalT+totalS

STUDENT CONTROL = (1S+2T+3S+4S+5T+6S+7S+8S+9A)/totalT+totalS

STUDENT CENTREDNESS = total S / total all

APPENDIX E

TUTORING SKILLS AND STRATEGIES WORKSHOP

COGNITIVE LEVEL OBSERVATION AND ANALYSIS SHEET

10 sec. INTERVAL SAMPLING

ENCOUNTER IDENT.	OBSERVER :
	TUTOR :
	STUDENT :

COGNITIVE LEVELS			10 20 30	100	200	300	400
1. KNOWLEDGE : involves recall of data, facts, concepts, rules, information, theories, ideas, procedures.	T	request					
		provide					
	S	request					
		provide					
2. COMPREHENSION : implies the understanding of knowledge by – description, interpretation, explanation,translation,contrast, comparison,paraphrasing,relating information and ideas.	T	request					
		provide					
	S	request					
		provide					
3. PROBLEM SOLUTION : involves the application of knowledge to new situations,use of ideas,analysis of salient features of situations and identification of solutions.	T	request					
		provide					
	S	request					
		provide					
4. EVALUATION : concerns assessment, appraisal,judgement relating to one or a number of solutions but based on explicit identified or known criteria.	T	request					
		provide					
	S	request					
		provide					

ENCOUNTER mean cognitive level =

$$\frac{[total(1)X1] + [total(2)X2] + [total(3)X3] + [total(4)X4]}{total\ all\ samples}$$

STUDENT mean cognitive level =

$$\frac{[S(1)X1]+[S(2)X2]+[S(3)X3]+[S(4)X4]}{total\ S}$$

TUTOR mean cognitive level =

$$\frac{[T(1)X1]+[T(2)X2]+[T(3)X3]+[T(4)X4]}{total\ T}$$

APPENDIX F

TUTORING SKILLS AND STRATEGIES WORKSHOP

	ENCOUNTER IDENT.	OBSERVER :

APPROPRIATENESS OBSERVATION AND ANALYSIS SHEET

TUTOR :

EVENT SAMPLING

STUDENT :

DECISION NODES / TUTOR INITIATIVES	1	2	3	4	5				10				20			30				40		45
T ASKS for information,opinion, suggestions,advice.																						
T ASKS for clarification,probes, prompts.																						
T GIVES information,explanation, opinion,direction.																						
T MAKES proposals,suggestions.																						
T REINFORCES accepts,encourages, agrees,praises.																						
T CRITCISES rejects,confronts, disagrees.																						
T EVALUATES assesses,appraises, values,judges.																						
T SUMMARISES micro and macro.																						
SILENCE – response forcing only																						

TOTALS

APPROPRIATENESS RATING of INITIATIVE w.r.t.;	most approp. +3				
	highly approp. +2				
student needs, encounter objectives, dimensional position, encounter phase	acceptable +1				
	unacceptable -1				
	very inapprop. -2				
	least approp. -3				

Total appropriateness score

$$\text{APPROPRIATENESS RATING (as a percentage)} = \frac{\text{TOTAL APPROPRIATENESS SCORE}}{\text{MAXIMUM POSSIBLE SCORE } [=3N]} \times 100$$

N is total number of nodes rated.

Course Outline

Day 1

13.30   Initial tutorial encounters

14.30   Phases and structure in tutorial work:
             (i)   Group ideas on phases
             (ii)   Suggestions from the literature
             (iii)   Structure instruments
             (iv)   Careful phase definitions

15.30   Tutorial simulation - Structure tape trials and discussion

16.00   Briefing for independent work and next session (own tape)

Day 2

13.30   Discuss conclusions from Structures work

14.00   Tutoring Skills:
             (i)   group identification of skills
             (ii)   definitive list from research sources
             (iii)   instruments for measurement of skills:
                     unit or interval, static or point, natural
             (iv)   high inference and low inference variables
             (v)   introduction and description of skills instruments

15.30   Tutorial simulation - skills trials and discussion

16.00   Briefing for independent work and next session (own tape)

Day 3

13.30   Discuss conclusions from skills work

14.00   Tutorial Dimensions in general:
             (i)   Directness, centredness, control
             (ii)   Appropriateness
             (iii)   Cognitive level

15.00   Use of instruments for dimensions

15.30   Briefing and planning for second encounter

Day 4

13.30   Second encounters

15.00   'Second encounter' ratings

16.00   Plenary session: discussion of results,
             briefing of further work (own tape + real encounter)

PRE-COURSE BRIEFING

Early in the first session of this Unit you will be asked to participate as a <u>tutor</u> in a simulated tutorial encounter and also as a 'student' in another encounter. These encounters will be recorded and will provide source material for some of the experimental work that is an integral part of the Unit, as well as acting as a focus for the skills of tutoring.

In order to speed things up, it would be helpful if you could do a small amount of preparatory work before and in anticipation of session I.

There is little that needs to be done to prepare yourself for the role of 'student', but for your role as <u>tutor</u> you should:

(i)   Imagine that you are to meet a student (intelligent but not particularly experienced in your subject area) for a short meeting - 7 minutes ideally (10 minutes absolute maximum).

(ii)   Select a topic (or topics) from your own subject area that is appropriate for student project work in your subject.

(iii)   Plan and organise your strategies to try to enable the student, in such a short meeting, to get started on a project after completion of the encounter.

(iv)   Only spend a modest amount of time - try to use your existing skills - after all it is the purpose of this Unit to give you an opportunity to develop your skills further.

(v)   Be ready on arrival at session I to 'have a go' and participate in the initial tutorial encounters.

Tutorial skills:Feedback questionnaire

It would be helpful to have your reactions to the Unit on tutorial skills just completed. Below are a series of statements relating to this Unit and you can indicate your agreement or disagreement with each statement by circling the appropriate number in each case according to the key along the top of the list of statements. It is intended that this questionnaire should be filled in quickly,so don't spend ages pondering your responses,your immediate reactions are quite sufficient.

KEY:	totally 1 disagree	strongly 2 disagree	disagree 3 on balance	agree on 4 balance	strongly 5 agree	wholly 6 agree

1. The aims of the course were clearly stated.   1 2 3 4 5 6

2. The course was very interesting.   1 2 3 4 5 6

3. The course was relevant to professional needs.   1 2 3 4 5 6

4. The course was spread over too long a time period.   1 2 3 4 5 6

5. The course enabled me to fulfill the aims.   1 2 3 4 5 6

6. The course was altogether too theoretical.   1 2 3 4 5 6

7. The length of the course was appropriate to aims.   1 2 3 4 5 6

8. Sufficient time was devoted to aspects of theory.   1 2 3 4 5 6

9. Practical work was given sufficient emphasis.   1 2 3 4 5 6

10. The course was intellectually demanding.   1 2 3 4 5 6

11. The practical instruments presented difficulties.   1 2 3 4 5 6

12. The course was very stimulating.   1 2 3 4 5 6

13. There was an appropriate mix of theory and practice.   1 2 3 4 5 6

14. I learned a lot about tutorial skills from the course.   1 2 3 4 5 6

15. The course opened my eyes to the scope within the topic.   1 2 3 4 5 6

16. The practical work briefings were adequate.   1 2 3 4 5 6

17. The theoretical aspects/bases were straightforward.   1 2 3 4 5 6

18. There was sufficient tutor feedback.   1 2 3 4 5 6

19. The course allowed adequate practice with instruments.   1 2 3 4 5 6

20. The instruments were difficult to interpret.   1 2 3 4 5 6

21. The introduction of tutorial 'structure' was effective.   1 2 3 4 5 6

22. The course allowed a thorough research into the topic.   1 2 3 4 5 6

23. The introduction of tutorial 'skills' was effective.   1 2 3 4 5 6

24. Simulating tutorials restricted the value of the course.   1 2 3 4 5 6

25. The introduction of tutorial 'dimensions' was effective.   1 2 3 4 5 6

26. With practice,the instruments became easy to use.   1 2 3 4 5 6

27. There should have been more discussion of results.   1 2 3 4 5 6

28. Role playing the student was a valuable experience.   1 2 3 4 5 6

29. The course was too complicated.   1 2 3 4 5 6

30. The tutor gave a sufficient level of support throughout.   1 2 3 4 5 6

31. The course was too ambitious for an introduction.   1 2 3 4 5 6

32. The course has provided a sound basis for my future work.   1 2 3 4 5 6

33. More could have been accomplished in the time available.   1 2 3 4 5 6

Please use the space below to indicate any other opinions or impressions of the course that you have been unable to express above. You may wish to introduce new issues or amplify in some detail issues only briefly addressed in the questions explored in the statements 1 to 33.Your comments will be most welcome and will be used to refine and improve the course for the future.

Code of Practice

Policy

1. Many universities and colleges already have formal policies on academic staff training; these sometimes form part of broader statements on staff development. It is suggested that universities should establish or review such policies for endorsement by their Senates and Councils (or Courts in Scottish universities).

2. Policies should include explicit statements on provision for training and other opportunities for professional development both for newly-appointed and more experienced staff. The policy statement should specify the training responsibilities of departments and of individual members of staff, and indicate how the training provision is to be funded, evaluated and reviewed.

Academic staff training committees

3. Most universities already have a working party or committee concerned with academic staff training and development. It is suggested that each institution should have such a committee which reports to Senate and Council (Court in Scotland). The committee should have clear terms of reference and be chaired by a Pro-Vice-Chancellor or senior member of staff. It should preferably include some elected representatives from academic staff and from the student body, or provide for some equivalent form of consultation.

4. The committee should devise a programme of training activities and submit an annual report, with details of the participation in activities, to Senate and Council (or Court in Scottish universities). A specified budget should be allocated in support of training activities.

5. In addition to this formal committee, consideration might also be given to setting up informal interest groups on various topics such as supervising research students, the teaching of humanities or laboratory work. Appendix A contains relevant examples of such groups.

Co-ordinators

6. It is suggested that the existing practice of many universities in appointing a full-time or part-time co-ordinator for academic staff training might be more widely followed.

7. The duties of the co-ordinator should be clearly specified and might include the organisation of a training programme, liaison with departments, servicing the university training committee, and the recruitment of academic and other staff as organisers and tutors of workshops, seminars and other training activities.

8. The responsibilities of a part-time appointee should be recognised by a reduction in teaching and other commitments, or in some other appropriate way.

The training programme

9. Most universities provide some training activities for both new and experienced staff. It is suggested that all institutions independently or in association, should have a co-ordinated programme of courses and events which take place throughout the year. This programme should include: induction for all newly-appointed staff, irrespective of grade or previous experience (Appendix B); initial training for less-experienced lecturers (Appendix C); workshops and seminars which reflect the specific needs and interests of all staff (Appendix D); and training in academic management and leadership (Appendix E).

Training based in departments

10. Departments, as well as institutions, have a responsibility for training. Some departments already provide systematic on-the-job training for their academic staff through seminars, discussions and job rotations which are specific to their own subject and research needs. Such provision should, as far as possible, be co-ordinated with that provided by the institution. Some examples of such work are given in Appendix F.

The individual's responsibilities

11. Responsibility for professional development ultimately rests with the individual. University teachers should be free to choose the training activities in which they engage. But regardless of status and other commitments, all have a responsibility to themselves, to their profession and to their institutions to set aside some time each year for training and developmental activities. These activities might include identification of personal strengths and weaknesses in teaching, research and administration or management, exploration of ways in which competence can be improved, and attendance at courses and workshops.

12. The time given to training activities will depend upon individual circumstances and changing patterns of departmental activity. It may be helpful to note that the survey of academic staff training undertaken by the CTUT in 1985 yielded recommended times, over a three year cycle, of fifteen days for newly-appointed lecturers, nine days for experienced staff and seven days for heads of departments.

Universities, departments and individuals

13. Universities, departments and individual members of staff have responsibilities for the quality of teaching, research and the associated administrative and management tasks. Training can make a significant contribution to performance on these tasks. But without the visible support of Councils (Courts) and Senates, of vice-chancellors and principals, of deans and heads of departments, staff training will wither rather than flourish. Without the support of individual members of staff, the provision of staff training and development will have no effect.

Tutorial Skills Workshop

Final encounter briefing

You will have had an opportunity to view your initial encounter before you undertake the final encounter and it is quite likely that you will identify aspects of your performance that you will wish to improve. You are urged to carefully note any areas of disatisfaction with a view to taking positive steps in the final encounter to remedy such features.

With respect to this workshop, you should make definite plans to try to strengthen the structure of your tutorial encounter along the lines indicated in the 'structures instruments'

Once again you will be asked to role play an average student and there is little that you need to do in preparation for that. However for your role as tutor on Day 2 you should :

(i) Imagine that you are to meet a student (intelligent but not very skilled in your subject area) for a short tutorial encounter of between 7 and 10 minutes.

(ii) Select another topic or topics from your own subject area that is appropriate for student project work at a fairly elementary level

(iii)Plan and organise your strategies for the encounter to try to enable the student to get started on the project after the meeting, giving some thought to planning the structure of the encounter.

(iv) On Day 2 , before the final encounter, you will be given an opportunity to decide on the skills that you would wish to see yourself displaying and the implications for the way in which you will need to approach the encounter.

(v) By these means it is anticipated that your final encounter will show significant differences (improvements?) in structure and style in comparison with your initial encounter.

(vi) It is hoped that you may find time to view the tapes, briefly, in order to see whether such changes have in fact occurred.

(vii)I would be very interested to receive any comments you would wish to make on the changes in your performance that you have observed.

Leeds Polytechnic   Educational Development Unit

Educational Development Programme

Unit 8 - Tutorial Skills

Course Outline

Day 1

14.00   Initial tutorial encounters

15.00   Phases and structure in tutorial work:
       (i)   Group ideas on phases
       (ii)   Suggestions from the literature
       (iii) Structure instruments
       (iv)   Careful phase definition

15.45   Tutorial simulation - structure tape and discussion

16.15   Briefing for independent work and next session(own tape)

Day 2

14.00   Discuss conclusions from tape appraisal for Structure

14.30   Tutoring skills:
       (i)   Group identification of skills
       (ii)   Definitive lists from research sources
       (iii) Instruments for measurement of skills:
           unit or interval,static or point,natural
       (iv)   High inference and low inference variables
       (v)   Skills instruments and selected dimensions

16.00   Briefing for independent work and next session(own tape)

Day 3

14.00   Discuss conclusions from tape appraisal for Skills

14.30   Complete consideration of dimensions and instruments

15.00   Briefing and planning for second encounter

15.30   Second Encounters

16.30   Briefing for independent work and individualised feedback

LEEDS POLYTECHNIC   EDUCATIONAL DEVELOPMENT UNIT

Educational Development Programme

Unit 8 - Tutorial Skills

PRE-COURSE BRIEFING

Early in the first session of this Unit you will be asked to participate
as a tutor in a simulated tutorial encounter and also as a 'student' in
another encounter.   These encounters will be recorded and will provide
source material for some of the experimental work that is an integral
part of the Unit, as well as acting as a focus for the skills of
tutoring.

In order to speed things up, it would be helpful if you could do a small
amount of preparatory work before and in anticipation of session 1.

There is little that needs to be done to prepare yourself for the role
of 'student', but for your role as tutor you should:

i)   Imagine that you are to meet a student (intelligent but not
       particularly experienced in your subject area) for a short
       meeting - 7 minutes ideally (10 minutes absolute maximum).

ii)   Select a topic (or topics) from your own subject area that is
       appropriate for student project work in your subject -
       approximately 60 study hours.

iii)   Plan and organise your strategies to try to enable the student,
       in such a short meeting, to get started on a project after
       completion of the encounter.

iv)   Only spend a modest amount of time - try to use your existing
       skills - after all it is the purpose of this Unit to give you
       an opportunity to develop your skills further.

v)   Be ready on arrival at session 1 to 'have a go' and participate
       in the initial tutorial encounters - you will have a few minutes
       in which to brief your 'student' regarding the CONTEXT of the
       encounter.

PAGE MISSING IN

ORIGINAL

Leeds Polytechnic   Educational Development Unit

Tutorial Skills Workshop

This short course involves group and practical sessions on two afternoons, along with planning and analysis work on an independent basis.

Aims

To allow participants to :
i)   consider and discuss the structure of and the skills involved in the tutorial encounter
ii)   explore and evaluate instruments designed to observe and appraise tutorial structures and skills
iii) practise and develop selected skills in simulated tutorial encounters
iv)   critically appraise and develop their own tutorial skills with a degree of objectivity

Course Outline

Day 1

13.30   Initial tutorial encounters

14.30   Phases and structure in tutorial work:
        (i)   Group ideas on phases
        (ii) Suggestions from the literature
        (iii) Structure instruments
        (iv) Careful phase definitions

15.15   Tutorial simulation – structure tape and discussion

16.15   Tutoring skills:
        (i)   Group identification of skills
        (ii) Definitive list from research sources
        (iii) Instruments for measurement of skills: .
              unit or interval, point or static, natural
        (iv) High inference and low inference variables
        (v)   Introduction and discussion of skills instruments

17.00   Briefing for independent work and next session(own tape)

Day 2

13.30   Discussion of conclusions from initial encounter tapes

14.15   Tutorial dimensions:
        (i)   directness, centredness and control
        (ii) appropriateness, cognitive level
        (iii) use of instruments for dimensions

15.00   Briefing and planning for second encounters

15.30   Second encounters

16.30   Briefing for independent work and individualised feedback

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