Exploring Project-Based Learning: A Case Study of a First-Year Medical Education Course

by

Gavin Weir — WRXGAV001

A dissertation
submitted in fulfilment of the requirements
for the award of the Degree of
Master of Philosophy (Education).

School of Education
University of Cape Town
2003

University of Cape Town

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

University of Cape Town

Declaration

This work has not been previously submitted in whole, or part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature Signed by candidate

Date 28/11/03

Contents

5

6

7

Concluding Observations

Preface

This study was undertaken to describe a project-based programme that was provided to first year medical students over an extended period. In the process of detailing this programme, the study provides theoretical construct through 'reviewing key aspects of the current debate about how students learn at university, what constitutes appropriate learning at university' and outlines the attempts made by this project-based programme to foster appropriate learning amongst students. The study does not provide definitive answers to complex questions such as:

- how do students learn?
- does project-based learning implicitly foster appropriate learning amongst students?

Nevertheless, the study can provide interested teachers with a useful point of departure as it highlights some salient issues that have to be addressed when designing and implementing a project-based programme for first year students.

I wish to take the opportunity to thank various people who were pivotal in helping me complete this study. Firstly the students and staff whose extraordinary effort gave 'life' to the programme during its existence. Secondly my supervisor Tony Saddington, whose consistent commitment, tact and constructive supervision gave me the encouragement to persevere and complete this work. Thirdly, Brian Gannon who not only expertly edited this work but actively encouraged me to undertake post graduate work despite my obvious reluctance to do so. Fourthly, Kerrin Annett, who with seamless efficiency proof-read this study helping to correct errors of language

and grammar. Last but by no means least, Professor Breen who kindly read various drafts of my work, provided a number of constructive observations and doing so did much to allay my anxiety about the value of my work.

Abstract

This study describes the eleven-year period of preparation and implementation of a project-based learning programme within a first year course for medical students, at the University of Cape Town. The methodology was descriptive reflection using case study research.

The study first describes current understandings of student approaches to learning, learning assumptions and styles of learning and the link with deep learning. Included is also a discussion on ways in which teaching approaches and methods can influence student learning. Linked to this is a review of notions of project-based learning and its place in the spectrum of teaching and learning activities encountered by students at university.

The study then describes the challenges / issues that arose during the eleven-year period and the various ways in which they were responded to. The provided description also outlines ways in which the programme attempted to foster [or hinder] deep learning amongst students, since such learning is regarded as a key outcome of learning at university.

The research ends with an attempt to address why the programme did not foster deep learning amongst students to the extent it could have. It proposed that for project-based learning to foster deep learning amongst students [and particularly amongst first year students] various key elements have to be in alignment. Secondly it argues for the fact that project-based learning amongst first year students should be viewed in terms of an 'apprenticeship in deep learning'. By viewing project-based learning in such terms the advantages advanced for

project-based learning can be more candidly recognised. The research ends with 'implications for practice' for those prospective project-based learning practitioners who would like to harness the power of project-based learning to foster deep learning amongst their students.

Chapter One

1.1 Introduction

The nature of medical education has for many decades been the subject of debate and discussion with a strong contention that a "traditional" medical curriculum is strongly lecture-driven based on rigid subject autonomy and one that is inappropriate in preparing graduates for effective clinical practice (Evans 1964). This contention is based on the fact that such a curriculum seldom offers students learning opportunities to help them reflect on the wider social aspects of health. Consequently students are unable to understand the social and economic forces that can powerfully affect health and disease, with the same level of sophistication as they understand clinical problems (World Health Organisation 1993, and Parsell and Bligh 1995).

In November 1992 the Undergraduate Medical Education Committee of the Faculty of Medicine at the University of Cape Town [UCT] issued a document entitled "undergraduate preparation for primary care at UCT". In the document the authors made explicit reference to a global effort aimed at encouraging medical schools to train doctors who would be able to work effectively at the primary level of health care rather than in tertiary hospitals. In the conclusion of the document, the authors, argued that the faculty should work towards producing a graduate "who is at home in the varied primary care settings in the country and who is familiar with the nature of the work and aware of the morbidity profile of people in these settings" (UMEC 1992 p11).

Internationally the forces of change had been at work well before the UMEC called for curriculum innovation. In the early 1970s health

systems around the world came under scrutiny. The principle reason for this scrutiny was that despite huge amounts of public and private money invested in these health systems there had not been a commensurate improvement in health of the target populations. By the mid 1970s a crisis point had been reached as governments world wide were no longer prepared to write 'blank cheques' for health care.(Dennill, King, Lock and Swanepoel 1995).

In 1978, in an effort to address the difficulties of escalating health care costs and the seemingly 'poor returns' for such a financial investment the World Health Organisation and the United Nations' Children's Fund co sponsored an international conference on health care. At the conclusion of the conference, delegates endorsed the "Alma Ata" Declaration. The declaration rejected the idea that effective health care meant providing ever more sophisticated and expensive forms of medical treatment. Instead it recommended that countries should reorganise their health services around primary health care rather than around " high hospitals" and secondly that the investment in health services should closely match the social and developmental requirements of the country. (Coulson, Goldstein and Ntuli 1998). Another outcome of the conference was the formation of the "Primary Health Movement". One of the aims of the movement was to review medical education and where necessary encourage and support changes aimed at making medical training more relevant to societies' needs (UMEC 1992)

In 1988 at the Edinburgh Conference on Medical Education, medical educators strongly endorsed the tenents of the Alma Ata Declaration. The Conference acknowledged the obligation of all medical educators to "provide compassionate science-based education, training and

services that respond optimally to the public's health problems as well as to the issues of resources, outcomes and costs" (UMEC 1992 p 3)

In 1991 the then South African Minister of Health announced in parliament that the state department of Health would in future foster the implementation of primary care in state run services. (Coulson et al 1998).

It was in this context that the UMEC issued their document called "Undergraduate Preparation for Primary Care at UCT". In the summary of the document the UMEC stated, "medical educators at UCT are very aware of the need to prepare our graduates for work in primary care in the community in Southern Africa but have not as yet formulated a common vision of how to achieve this".

Similarly over the past decade there has been a growing awareness that effective student learning at university is significantly affected by a range of factors (e.g. prior learning, teaching methods used, assessment and the broader university environment) and that these factors need to be taken seriously when planning and implementing undergraduate programmes. An additional complication is the pressure on universities to widen access and admit even greater numbers of students as undergraduates. For the university teacher this changing environment poses particular demands. On the one hand there is the pressure to teach large classes of students without additional resources, and on the other hand there is the pressure to ensure that "standards" of university courses and programmes are being maintained (Taylor 1997).

These pressures on academic staff have led to a review amongst others of teaching methods and assessment practices and how these can affect

learning and teaching outcomes. Firstly there is growing recognition that established teaching methods [such as lectures and practicals) do not *automatically* facilitate student learning. Thus the decision to use a particular teaching method (be it a lecture, tutorial or project work) has to be based on more than a teacher's familiarity with the particular method. It also needs to be based on an understanding of the particular ways in which the method can encourage appropriate student learning.

Secondly how students are assessed has become an important consideration, and the role that assessment can and must play in encouraging students to adopt an approach to their studies that reflects authentic engagement with their work (Taylor 1997). Thirdly there is the matter of how the timetable and the physical infrastructure can support or undermine student learning. For instance it might be an aim of a departmental course to encourage students to become self-directed learners, but the timetable is crowded with scheduled teaching activities that students have little opportunity to become such learners. In the case of the physical infrastructure it might built to support particular activities [such as lectures and laboratory practicals] yet a course might be designed around group learning, and students and staff find that there is a dearth of small group venues.

The implications of the above are clear. Teaching activities [however well entrenched in a department's tradition] will not *automatically* encourage effective learning amongst students. For such learning to be encouraged the teacher would amongst others have to:

- be aware of the range of factors that influence student learning

- design and implement learning and teaching activities that encourage appropriate student learning through consciously managing these factors

These two themes of university education and promoting effective student learning are the sign-posts for this particular study. This study looks specifically at *eight years* of the nine years of a particular project-based learning programme. This programme started in 1992 and ended 2001. This programme was introduced as a "node of innovation" within an existing 'traditional' medical curriculum to help orientate students to some of the crucial determinants of health within a "community context". Its closure came about as a result of the introduction of a fundamentally re-structured undergraduate medical curriculum. Nevertheless key aspects of the programme were carried over into the new curriculum so the 'spirit' of the programme inhabits in the new curriculum.

After a difficult gestation period [1990/1991] the programme was implemented and provided students with an orientation to some of the key determinants of health as well as an apprenticeship in project-based learning. Initially this orientation to health was modest – students moved off the university campus into various "communities" that comprise the Cape Peninsula and in project groups recorded:

- the 'health' of residents of these communities and
- reviewed the health and social services available to residents.

As the programme matured, this initial aim was broadened and students were required to 'think for themselves' by interrogating some of the links between health [or its absence] and the physical, social,

personal and economic factors that impacted on individuals living in particular communities. Students were also required to document their 'findings' in various ways [report, poster and oral presentations] to alert them to the fact that academic work can be presented in various ways. Secondly the maturation of the programme marked an increasing level of refinement of the instructional material given to students, with a focus on providing students with detailed and explicit information on:

- the programme's requirements
- how their work would be assessed.

Project-based learning is not a new phenomenon in higher education as many university departments use project-based learning as a method of teaching and learning. Such is its wide usage and acceptance, that Luck calls it a "quiet feature of university education" (Luck 1998, p133). Its wide and varied use has meant that "project-based learning" has become a portmanteau term rather than one that precisely describes a specific set of teaching and learning activities. Of all the varied definitions of project-based learning the one provided by Henry's helps to neatly encapsulate the scope of project-based learning. "...an extended piece of work in which the student (or group of students) is required to select a topic, collect relevant information and organise this material into a presentation" (Henry 1989, p 49).

For the would-be practitioner the inherent versatility of project-based learning is probably its greatest asset. The decision to use project-based learning can nevertheless be based on a variety of factors. For some practitioners the decision to use project-based learning is driven by the

imperative of "efficiency". In other words a student cohort can be divided up into project groups, and the staff member can then interact with students on a group basis instead of on an individual basis. For others project-based learning is chosen because it offers students particular opportunities to learn knowledge, skills and attitudes that are less readily learnt where lectures, tutorials and seminars are used. In other cases project-based learning is chosen because the staff member's own experience of such learning was a positive one and wants to replicate this experience for their students.

1.2.1 The role of project-based learning in undergraduate medical education

In the South African context project-based learning offers an effective learning method to prepare medical students for work in primary health care settings.

Since 1994 the South African national government has been engaged in re-organising the public health services around the concept of primary health care (Coulson et al. 1995). A central feature of primary health care is the *team approach* to health care delivery. In other words health care practitioners working in the public sector need be able to work effectively within a health team (Dennill et al.). Project-based learning is an excellent way to provide students with an apprenticeship in group [team] work. Through a project students can learn about the "mechanics" of working in groups as well as learning what are their own strengths and weaknesses as a group member. (Wellington 1998)

Apart from developing group skills project-based learning allows students to develop *academic skills*. Depending on the project students can refine their research skills by analysing texts and writing up their project findings and their general academic skills – constructing a coherent evidence-based argument and presenting their project findings in different forms (in writing, poster or oral presentation). Project-based learning can also add an additional dimension to students' learning contexts, by getting students to learn in community contexts — learning in homes of residents, in non-government agencies and on the streets. By learning in these different contexts students can recognise that valid learning is not limited to the "academy". By extension students can begin to recognise that health care delivery should not be confined to the hospital ward or the doctor's surgery, but can take place in a variety of settings, both clinical and community.

For staff project-based learning allows them to meet and work alongside students in ways not readily provided for in lectures, tutorials and laboratory practicals. This is particularly the case when it comes to large classes of students. Project-based learning can help staff break the cycle of distance and anonymity created by large classes.

Most students typically encounter project-based learning by doing a research in their second or third year of undergraduate career. In this context the aim is to introduce students to academic research and how such research is conducted. Depending on the undergraduate course the research project might be a substantial one requiring a student to research a topic under staff supervision and submit a research report. In universities where the student cohort is large project-based learning is often viewed by faculty administrators as being too resource

intensive to justify its use with such a student cohort. Instead they see project-based work as the province of post-graduate courses or senior undergraduate courses that have restricted numbers of students. One of the facets of this study will be to look:

- at the particular challenges of implementing project-based learning with a large cohort of students on slender resources
- and what are the lessons that can be learnt from such undertaking

One of the particular challenges of implementing project-based learning within an existing curriculum structure is that it has to "compete" with other learning and teaching activities, and within an environment that does not implicitly support project-based learning. These drawbacks can place a project-based programme at a distinct disadvantage, with students viewing it as difficult and not worth the time and investment required of it. Consequently attention has to be paid to ways in which these drawbacks can be managed to ensure they don't vitiate the learning opportunities provided by project-based learning.

1.3 The Research Context

The focus of this study is the eight-year period of implementation of a project-based programme. The programme had come into existence in response to a call for change of the undergraduate medical curriculum of the then Faculty of Medicine at University of Cape Town. At the time the Faculty of Medicine was one of eight accredited faculties responsible for training and graduating medical doctors to meet the

demand for trained doctors in South Africa. This call for change was based on the recognition that the external environment had and was changing and that the faculty had to produce graduates who could work in this changing environment.

For four years the programme found an initial "home" within the 'Human Biology' course because the convenor of this course had responded most positively to the UMEC's call for 'community based education' by volunteering teaching time. In addition the location of this new programme within 'Human Biology' was appropriate as it was the course that had potentially the most in common with the new programme, when compared with the other first year courses [i.e. Physics, Chemistry and Anatomy]. The aim of ' Human Biology' was the study of the people of South Africa, their origins, how they interacted, and how these interactions affected their perceptions and experiences of health and disease.

During the period that the programme was part of ' Human Biology' it 'took root' by developing from a single project entity [of four afternoons] into one that required students to complete two separate projects spread over fourteen afternoons. The student intake also grew from an intake of one hundred and fifty students to and intake of two hundred and sixty students from 1994 onwards.

In 1995 the programme was relocated within a new course called "Health and Society". This new course had been instituted as another building block of the curriculum change that had commenced in 1990. To accommodate the introduction of this new course within first year the faculty abolished the elective course available to medical students. Faculty had argued for its abolition on the basis that few students had

used the elective option in the way it was intended [i.e. to give students the option to study a humanities course]. `Health and Society' was designed to help students gain a wider understanding of how health matters are shaped by social, historical, economic and cultural factors. In addition a key aspect of the course was an introduction to primary health care and its implementation. It was this introduction to primary health care that provided the logical nexus between the course and the programme.

Between 1992 and 2000 the project-based programme [known to students and staff alike as the field studies programme] provided learning opportunities for one thousand and forty medical students. This number of students was successfully managed by employing part time staff using structured guidelines to support student learning. Another interesting feature of this eight-year period of implementation was the fact that one person remained convenor for eight years and was able as a result to place his 'personal stamp' on the programme.

Finally the way in which the field studies programme unfolded over the eight years of implementation was also a function of the non-directive approach adopted by the Faculty. Once the programme had weathered the difficulties of obtaining start up core finance, and was moving students into the "community", the faculty, left the programme to develop in the direction decided on by the convenor and associated staff.

1.4 The Researcher

I am a social worker by training and become involved in the design and development of the field studies programme by 'accident'. In 1989 Professor Morris convenor of a course called 'Human Biology' [a required course for first year medical students in Faculty of Medicine] approached the School of Social Work at UCT, to ask their help in designing and developing a 'community-based' module for this course. The aim being that students would visit various health and social service agencies to observe how these agencies were dealing with key health and social issues that faced the residents of Cape Town. The School of Social Work indicated that did not have the staff capacity to help in designing this module, but suggested that he approach the Department of Community Health, UCT, as I was responsible for organising community-based visits for fourth year medical students. After negotiations with the head of the Department of Community Health, I was 'seconded' in a part-time capacity to help assist in the design of the 'community-based' module.

Over the next three months I moved from the role of assistant designer to primary designer. Drawing my experience of organising visits for the fourth year medical students, I was able to convince Professor Morris that the proposed 'community-based' module should have more 'depth' to it by requiring students to do more than simply visit and observe what the agencies were doing. I felt it was important that the students should both observe and reflect in a structured way on the work done by the agencies. To facilitate this observation and reflection I developed a simple set of 'guidelines for visits' for students [see Appendix One].

Within two years of implementation of the module, the module had become a 'project-based' module. This development had come about as a result of a key challenge- the need to provide a 'community-based' module for a relatively large group of students [initially 150 students but subsequently 200 students] with limited resources. To address this challenge I suggested that the student cohort could be divided into 'project groups' and these groups could be expected to undertake a basic research project on a designated area within the Cape Peninsula. This project could be 'facilitated' by providing students with a set of project guidelines. It was through this experience of providing project guidelines that I recognised that I had a facility for developing such materials. Overtime these project guidelines were transformed into a series of handbooks [See the various appendices at the back of thesis]. From 1992 until 2000 I was engaged in an iterative process of developing and refining my ideas concerning 'project-based' learning, the provision of project instructions, the institution of differentiate project requirements [i.e. project report, poster and oral presentation] and its implementation within a context of enduring resource limitations. Thus the field studies programme [which emerged out of the community-based module], the subject of this case study, was in essence a 'creature' of my making and as such reflected my personal notions [both positive and negative] of project-based learning.

1.5 Purpose of the Study

The purpose of this research, then, is to describe and then reflect on this project-based learning programme. This, in turn, will result in:

- the developmewnt of a clearer understanding of the concept of project-based learning, and
- a description of the role that project-based learning can play within a First-Year medical education course.

This study aims to show that project-based learning can play a role in undergraduate medical education. It will do this by describing the genesis and implementation of this particular project-based programme. In addition, it will review the strengths and weaknesses of this programme, so that others – who might be considering using project-based learning – can then decide whether such a programme or a variation thereof might be the most appropriate mechanism for facilitating student learning.

1.6 Conclusion

This thesis then is a case study of a particular project-based learning programme. It was introduced into an established undergraduate medical curriculum with the aim of widening the off campus learning opportunities for medical students. The decision to used project–based learning was influenced in part by resource limitations and the need ensure that the off campus learning was structured and productive.

As will be seen during its eight years of implementation the field studies programme revealed the possibility of implementing project-based learning on limited resources. However by implementing it on modest resources the programme developed in a particular way and with a specific set of characteristics and limitations.

Notwithstanding these characteristics and limitations the lessons drawn from eight years of implementation point to:

- the innate strength of project-based learning
- the ways in which it can facilitate student learning in higher education, and
- the ways in which project-based learning can be used in undergraduate medical education.

Chapter Two

Theoretical Background: Perspectives on learning and teaching at a university

Project-based learning

2.1 Introduction

The aim of this chapter is to outline and discuss some of the key factors that influence student learning at university and to situate project-based learning within this context. Looking at these factors is appropriate as research evidence indicates that many students graduate from university without having realised their full potential as learners. Instead they leave the university with only a superficial understanding of their area of study and their views of the world little changed from when they first entered the institution (Ramsden 1992). This failure by students to fulfil their potential is at odds with the goal of most universities. This goal is to graduate a changed student who can critically engage with ideas, demonstrate creativity, problem-solve and work effectively in a variety of contexts. Yet this failure of many students to fulfil their potential can be remedied provided sufficient attention is paid to support students to transform their ideas about learning (Boud 1995).

When students first enter university they often bring with them a number of ideas and expectations about how to succeed at university [ie. their personal 'learning history']. Embedded in this history is the notion that they are undertaking a new " learning apprenticeship", that requires them to imitate the knowledge, values and attitudes of

university staff (Perry 1988). This notion is grounded in their past experience at secondary school where they learnt rules of engagement – learn particular sets of information in the manner required (West 1988). Their 'reward' was achieving entry into university. Thus newly arrived undergraduates look to their university teachers [in similar ways they viewed their secondary school teachers] to provide them with a new rules of engagement to enable them to succeed at university. These perceptions are all too frequently reinforced by the type of teaching and assessment methods they encounter during the course of their studies (Heywood 1989). Yet the notion that university teachers should be producing their 'clones' is seen as contrary to the ethos of university education, where ostensibly a premium is place on debate, discussion and individualism. Instead the discouraging fact is that for many undergraduates the teaching they encounter is confusing and contradictory. On the one hand they are told that university is 'different' from secondary school and that credit will be given to those students who demonstrate independent thought and engagement. On the other hand they receive little direct support to do this. Instead the teaching and assessment activities often actively militate against independent thought and engagement (Chalmers and Fuller 1996).

For the concerned undergraduate teacher the idea that students will over time realise their full potential can no longer be justified. Instead teachers need to make concerted efforts to support students to realise their full potential. Such efforts would include carefully analysing teaching and assessment methods that can be used to support the type of student learning desired by the teaching staff (Beard and Hartley 1984).

Project-based learning has been identified as a method that can be used to promote appropriate student learning, and as such is of particular interest for this study. The literature on project-based learning points to its potential in helping students develop abilities such as flexibility, adaptability and problem solving. The very abilities regarded as 'hallmarking' a successful university graduate (Cooper 2000). Like all other teaching methods project-based learning needs to take into account factors such as assessment, and the design and implementation of the project activities.

2.2 Learning and teaching

In this section, discussion focuses on first-year university student approaches to and styles of learning. Included in the discussion is the role that the teaching approach can play in student learning.

2.2.1 Student assumptions about learning

When students first enter university they bring with a set of assumptions about how to succeed at university and their own 'learning history' (a condensation of the student's past learning experiences). An important element of this learning history is the student's ideas about the nature of learning and how it can be achieved (Prosser and Trigwell 2000). These ideas have been described as the student's 'conceptions of learning'. The idea that students have a particular set of ideas about learning comes from Saljo (1988), who identified five conceptions of learning. Subsequent research work confirmed and deepened Saljo's ideas, with the addition of a sixth

conception of learning. Chalmers and Fuller (1996) summarise the six conceptions of learning as follows:

a) A quantitative increase in knowledge

Here learning is conceived as a two-fold activity. First the student strives to gain as many facts and knowledge about the particular subject and then retaining such knowledge. Learning is seen as a process of accumulation and what separates the novice from the 'expert' is the difference in the amounts of knowledge and information that each has at their disposal.

b) Memorising and reproduction

Learning is conceived as storing amounts of information and facts. The student has no 'personal link' or ownership with the information and facts they have learnt. They will recall the information and facts from memory when required — such as in a test situation — but the information and facts remain external to them. In other words it is not what they have learnt that matters but that they have successfully stored it and can recall it when required.

c) Applying knowledge

Learning is seen the process of accumulating knowledge, skills and technical ability to be used as and when required. As with memorisation /reproduction learning is still conceived as an external

activity. Learning is not conceived as something that can and should change the way in which the person conceives their world.

d) Making sense or abstracting meaning

Learning is conceived as an activity that is aimed at acquiring information and knowledge to make sense by filling in the gaps in the learner's knowledge base and by helping answer questions /issues of the wider world. In other words learning is the activity aimed at helping students relate new knowledge to their own experience, as well as constructing a broader understanding of the world outside the classroom.

e) Interpreting and understanding reality in a different way

Learning is viewed as an activity that can culminate in a changed understanding or comprehension. Learning is seen as enabling the student to use knowledge across contexts and understanding linkages and new connections where they were previously not apparent before.

f) Changing as a person

Learning is understood as a transforming activity that should change the learner's world. In this conception of learning the student recognises their personal responsibility to fully immerse themselves in process of learning and to carve out a role as a knowledge builder.

These six conceptions are helpful pointers to teachers who are genuine about wanting teaching encounters with students that are mutually

satisfying and productive. The first three conceptions serve to alert the teacher to the fact that they are essentially about fact gathering and knowledge acquisition with limited application. Conceptions four to six are about the potential that learning can play in modifying and even changing the world of the learner. Whatever conception of learning a student lays claim to will powerfully affect how they tackle their learning and their willingness to engage with and ultimately incorporate new ideas of recognising and understanding the world.

How students learn is one the complex facets of the teaching and learning environment. There are two helpful ways of categorizing how students' learn: student approaches to learning and student learning styles. Together these two categorisations usefully describe and explain how students learn.

2.2.2 Student Approaches to Learning.

When students first enter university they bring with them a 'way' or an approach to learning/studying. In the 1970s Marton undertook what subsequently became recognized as seminal research into the relationship between learning task and student response (Marton and Ramsden 1988). The key conclusion of this research was that students adopted a particular approach to learning and it was the approach to learning that crucially affected student learning responses. Subsequent research identified three such approaches: *surface*, *deep* and *achieving*. (Jacques, 1995).

A surface approach to learning is one most characteristically adopted by a student who has recently completed their secondary school education. The emphasis in this approach is on memorisation and the

rote recall of factual information. The surface approach is closely linked with the "banking" notion of learning. The notion here is of students storing appropriate "deposits" of information that will time be "cashed" at a particular time [in answering an examination question or class assignment] (Freire and Shor 1987). The student seldom demonstrates a wider interest in the subject material, believing that their learning task is to complete a series of discrete and unrelated assessment tasks, within a specific time frame. Once the assessment tasks are complete the student has no further use for the material. A student who adopts this approach to learning generally conceives learning in quantitative terms, and learning seems not to change or deepen their ideas about themselves or the world outside the classroom (Biggs 1987).

With a deep approach to learning the student demonstrates a personal interest in the subject matter. The interest here goes beyond meeting the external demands of assessment. Typically the student wishes to develop a wider understanding of the subject. The particular course material becomes the entry point for the student for further exploration. The goal is not merely memorisation or factual recall, instead the student works towards develop a comprehensive grasp of the ideas and explanatory concepts that under-gird the learning material. Thus the student who adopts this approach seldom demonstrates the factual precision of the surface learner. Instead the student has 'internalised' the ideas and unifying themes of the learning material, and is able to use the material in a highly versatile manner, and for a much longer period of time. A student who adopts this approach has a qualitative conception of learning (Eley 1992 and Brown, Bull and Pendlebury 1997).

The third approach to learning is the achieving approach. Here the student adopts a strategic response to learning and assessment tasks. It is a far more sophisticated approach to learning than is the surface approach. The student who adopts this approach is highly motivated and organised, and is committed to achieving success through the strategic use of learning techniques. Such a student will carefully analyse the learning and assessment tasks. If these tasks require factual recall of content, the student will ensure that they are able to do so. If another assessment task requires them to collate and apply knowledge they will do so. Despite their ingenuity the achieving learner, like surface learner has only a quantitative conception of knowledge. A student who adopts the achieving approach to learning is in effect a sophisticated surface learner, since like the surface learner, he essentially values knowledge only for its utility i.e. its value in helping them complete the learning/assessment task (Biggs and Moore 1993).

Thus a student, who believes that learning is about accumulating and retaining such knowledge through memorisation and reproduction, will readily adopt a surface approach to learning. The student, who assumes that learning is not only about accumulation and memorisation, but also about application, would most likely adopt an achieving approach to their learning. While more a sophisticated approach to learning, than the surface approach, the achieving approach is still limited. This is because learning is still viewed in essentially quantitative terms (Entwistle, Odor and Andersen 1988). A student that assumes that learning is geared towards changing an individual's world-view, and as well as enhancing their capacities of abstraction and interpretation, is a student who would adopt a deep approach to learning. This qualitative understanding of learning

represents the highest level of learning and should be the goal of all learning and teaching at university (Brown 1993).

2.2.3 Further Exploration of Deep Learning: contextual challenges

As has been argued deep learning is regarded as the most appropriate form of learning at a university, as it is the type of learning that most adequately prepares a student for life beyond the institution. A life characterised as purposeful and deeply engaged and avoiding superficial generalisations of problems and situations [Boud 1995]. Yet deep learning amongst most undergraduate students is not readily or easily achieved. In essence this lack of achievement can be attributed to a number of contextual obstacles that can militate against such learning.

In many departments academics are not interested in changing their approaches to teaching in order to improve the quality of student learning. For them undergraduate teaching is diversion from what their 'real work' is –academic research and it is success in the area of research that leads to academic accolades and all important promotion. Indeed one of the powerful motivations for academics to seek senior promotion is to enable them to jettison undergraduate teaching and to sequester the time from such teaching to invest in further research (Johns 1997). Thus when they are confronted with undergraduate students they manage their classroom teaching in ways that are most comfortable and familiar to *them*. The ways chosen are those they themselves observed and experienced as undergraduates. They lecture, draw up reading lists and examine in ways that place students on the

margins. Moreover most academics seldom reflect upon or research how their teaching practices impact upon student learning. Such reflection and research is viewed as essential 'vocational' and is not perceived as carrying the same scholarly 'weight' as 'real' research. Added to this if 'good' teaching does take place it is often only evident to students and thus largely an 'invisible' investment from the staff member concerned (Prosser and Trigwell 1999)

Because good teaching practice is not of intellectual interest in most departments, the promotion of such teaching within the university has been largely relegated to 'specialised' units on the margins of the academic mainstream. These units are often only contacted by 'mainstream' academics when these academics face teaching 'difficulties' [e.g. 'my students can read, write or learn and can you help them?']. Thus teaching 'difficulties' are seen as not part of an academic's life. Instead these difficulties conveniently located outside the academic's sphere of responsibility. In other words someone else needs to ensure that students are able to cope with the teaching provided (Bowden 1988).

Flowing from this generalised lack of interest in good teaching practice is the lack of co-ordination of teaching and learning activities that can help students develop into deep learners.

This lack of co-ordination means that students are faced with a variety of conflicting teaching and learning requirements on a daily basis (Laurillard and Margetson 1997). For the student, often without faculty support, is then required to sift, sort and balance these different requirements, and often under pressure. It is little wonder in the face of these conflicting demands they revert to known strategies of '

learning survival'. This assumption of a survival strategy means that students are hesitant to start exploring new ways of learning. Instead they believe that the way to cope with these increased and conflicting demands to be become more proficient 'surface' learners by rote learning ever increasing amounts of facts and information (Andreson 1994).

Notwithstanding the difficulties outlined above alternative ways can be found for at least reducing the impact of contextual obstacles by establishing learning contacts that can help foster aspects of deep learning by:

- Underlining the importance of the individual learner
- Creating a supportive learning context

a) Underlining the importance of the student as an individual learner

When a student first enters the university, they often do so with a sense of achievement and value. Teachers need to help sustain this by underlining to students that they do matter as individual learners, notwithstanding the large class sizes. This sense of individual importance can often be lost in large classes where an individual student is often feels 'absorbed' within a large class. (Thompson 1998) Conveying this sense of importance can be done in simple ways, such as indicating availability for personal consultations, encouraging students to ask questions either during or after lectures or via an email correspondence. The personal consultation is probably the facility that can be most effectively used to convey to students that their learning needs are important. An additional resource is the use of staff and student 'mentors'. Mentors are useful 'sounding boards' for students

when it comes to personal and academic issues. A mentor system can have the added value of alerting academic staff to students who might be 'at risk' academically and could benefit from formal intervention to help them address their concerns (Fisher 1994).

By creating this sense of importance students are given a strong incentive to achieve more than the bear minimum. In the case of extrinsic motivation the focus of the student is usually on simply passing and restricting learning to just that. Extrinsic learning is highly instrumental and a 'detached' activity, that does not lead to any significant personal investment. The counter factual of extrinsic motivation is intrinsic motivation (Entwistle 1990). Here the student is personally motivated and wants to develop a level of 'expertise' beyond the course requirements. The focus of the learner is on identifying their own 'gaps in knowledge' and seeking ways of filling these gaps to facilitate a greater level of knowledge elaboration. Key signs of such knowledge elaboration include the ability to demonstrate definitional comprehension of key terms and ideas, and the skills to identify and recognise the difference between assumption, opinion and fact (Pask 1988).

b) Creating a supportive learning environment

One of the difficulties that students often encounter is that their learning environment is not as supportive as it could be and students are made to feel that their needs are at best only partially catered for (Taylor 1997). The establishment of a physical environment to support student learning might appear to be a self-evident 'given'. However the reality of learning in large institutions is that provision for students to learn on their own [i.e. outside of scheduled teaching activities] is

seldom readily available and students are often forced to compete seat in the institution's library. Similarly there is often limited student access to computer facilities, as these facilities are frequently in high demand for scheduled teaching activities (ibid.).

How the student timetable is designed can either support or undermine role as a learner. For example the provision for self-directed learning is often overlooked on the basis that students should do all such learning in their private time. Instead the teaching timetable is frequently made up of 'wall to wall' activities giving students little opportunity to reflect and 'digest' what they have encountered (Johns 1997). However scheduling time for self-directed learning would be beneficial to students in two important ways. Firstly it would act as a break against the tendency to overload the timetable to ensure that students are 'fully occupied'. Secondly it would signal to students that self-directed learning is 'officially' important and not merely an activity relegated to after hours activity (Knights 1998).

Apart from providing schedule time for self-directed learning it is also important to help students 'manage' their life as learners. A university environment is complex and at times bewildering, particularly for those students who enter it from the sheltered confines of secondary school. How students negotiate this complex environment will have a bearing on the quality of their learning (Chalmers and Fuller 1996). As their studies unfold students' find that there are conflicting demands upon their time and attention. For this reason it is important that they are given pointers as to how to deal with these conflicting demands. Students need to be alerted to the importance of establishing for themselves a set of academic and personal priorities, and developing a plan as how to meet these priorities (Biggs 1999). In effect students

need to develop their own personal timetable which details personal and academic demands and their associated timelines. Once students have developed this plan they have an overview of these demands, where the potential 'conflict of interests' lie and when they will be particularly busy. When developing this personal timetable, students should be encouraged to be realistic in determining what they can achieve. In other words student should schedule sufficient time to complete complex tasks, otherwise they will find themselves under undue pressure when attempting to complete these tasks (Toohey 1999).

Another aspect of negotiating the university environment is the student's role at various teaching activities. This role is frequently imprecisely defined and students are often required to learn their role through trial and error. Providing a degree of role definition contributes to students' sense of purpose when attending these activities (Chalmers and Fuller 1996). For example students often feel overwhelmed when first attending lectures and their instinctive response is to try and capture verbatim every word uttered by the lecturer. In this context the lecturer needs to provide students with pointers on how to take notes during lectures and how these notes can be linked with the reading that students will do outside of the lecture. Pointers are also needed when students attend tutorials and practical sessions(Wyrley-Birch and Wright 2003)

While it cannot be argued that the establishment of a supportive environment will automatically trigger deep learning amongst students but it will go a considerable way to provide an 'infrastructure of learning' that a motivated student can harness for their learning development.

In essence therefore, for deep learning to be fostered amongst students, there are a range of factors both contextual and personal, that need to be 'mobilised' so that students are engaged and then encouraged to move beyond the 'comfort zone' of routine learning into the more demanding terrain of personal engagement and deep learning.

2.2.4 Learning Styles

Learning styles can be understood as the **strategy** students use to learn (Entwistle 1990).

In essence a learning style is a synthesis of a student's learning preferences tested and confirmed through habit and experience (Prosser and Trigwell 2000). Thus a student's learning style is one that has evolved over time and one judged by the student as being 'right for them' [i.e. allows them to 'succeed' as a learner]. One way of viewing learning styles is to see it as a repertoire of responses, that allows a student to respond in 'habitual' ways when completing learning tasks (Fry, Ketteridge and Marshall 2000).

The idea of learning styles has generated a number of descriptive models. The following have been identified as some of the leading models in the field and as such offers a useful overview of this way of seeking of describing students learning strategies.

Honey and Mumford (1984) from Brown, Fry and Marshall (2000)	Wolf and Kolb (1984) from Brown, Fry and Marshall (2000)	Butler (1987) from Brown, Fry and Marshall (2000)
Activists — are those who like learning situations that provide them with interest, challenge and novelty	Divergent learners — are those who use concrete experience and reflective observation to 'fire' their imagination to produce new ideas	'A' learners — are strong individualists who prefer to learn on their own by focussing on detail and meeting deadlines. Often lacks a wider perspective on issues
Reflectors — are those who like time and structure to reflect on what they have encountered	Assimilationist learners — are those who use abstractions to create models of understanding from a range of seemingly unrelated sources	'B' learners — like the structure provided by lectures and invest effort in producing coherent learning notes. They like to work out linkages between ideas and concepts through systematic observation
Theorists — like to question, debate and interrogate issues by using a framework	Convergent learners — are learners who interrogate abstract ideas through active experimentation and practical application	'C' learners — like the novelty provided by new ideas and tends to accept them uncritically. They prefer to develop a broad understanding at the expense of a detailed understanding of issues
Pragmatists — like learning activities that they can identify as relevant and of practical utility	Accommodative learners — are those who use concrete and active experimentation to engage in new learning	'D' learners — are social learners who like to learn in groups, drawing energy and inspiration from the group

What is striking about these models is that student learning styles have been constructed in very *positive* terms, which seems at odds with perception that students struggle to realise their full learning potential. An explanation for this apparent contradiction can be advance in that these styles can be understood as pointing to both the *habitual learning responses* of students as well their *learning potential.* Thus as adult learners [and given the appropriate encouragement] students can 'mature' by adopting a learning style(s) that is consonant with deep learning.

These models can therefore serve the purpose of alerting teachers to the need of designing teaching and learning activities that can use students' habitual learning responses as well as harness their nascent learning potential. Thus there will be times when a particular teaching activity will resonate with a student's learning style [such as the student who likes the structure afforded by lectures]. For this same student another activity [for example a project group] will be a source of discomfort to them as it requires them to move beyond their individual 'comfort zone' and engage with other students in order to learn. Alternatively the student who enjoys the variety and energy provided through groups can become bored and disengaged by the passivity imposed by lectures.

In essence therefore a single teaching or learning activity of its own will not be the 'magic bullet' that activates an appropriate learning style, but rather a range of different activities that requires students use or adopt a learning style that facilitates deep learning (Brown, Fry and Marshall 2000).

2.2.5 Teaching approaches to teaching

In the same way students approach learning in particular ways so do teachers approach teaching in particular ways. The approach used by teachers consciously or unconsciously reflects their understanding of what role they should play as a teacher. (Evans 1990)

Generally speaking the approaches adopted by teachers can be divided into the *transmission approach* and the *two-way co-operative approach*. What tends to happen is that overtime a teacher 'adopts' a particular approach but includes within it aspects of the other approach.

In the *transmission approach* the teacher is in complete control of the learning situation. The role adopted is that of imparting information, concepts and knowledge. Students occupy an essentially passive role and are expected to successfully 'collect' and retain what has been imparted. To help facilitate this process of collection students can ask questions of clarification. The task of knowledge retention and understanding is expected to happen in the student's study time. Reinforcement for this approach often occurs with the type of assessment activities chosen. These activities are usually geared towards factual recall of information and concepts, with assessment activities seldom requiring students to actively apply such knowledge in an innovative situation, or critically examine the information or concepts provided by the lecturer (Chalmers and Fuller 1996).

The transmission approach to teaching with its focus on imparting/transmitting knowledge is essentially a continuation of the secondary school approach to teaching. Like at secondary school, the university teacher is the guardian of all knowledge and information. The notion is that the student will become a successful learner by

absorbing the knowledge and understanding provided by the 'experts'. In essence the teaching/learning interaction between the teacher and the student is carefully scripted and managed by the teacher (ibid.).

The *two-way approach* is based on a partnership between the teacher and student. The teaching approach strives to build on the pre-existing knowledge base of the student. The concern of this approach is more than the development of the student's reservoir of knowledge. Its concern extends to development of the student's critical thinking and problem-solving skills, so that the student is able to construct and formulate their own knowledge base, and engage the world using the knowledge constructs derived from a recognised conceptual framework. Assessment is geared towards testing understanding rather than the factual recall of information (Brown 1993).

In the two-way approach teaching is viewed as encouraging students to devise their own understanding of the world, and are regarded as "knowledge makers" in their own right. Teaching is viewed as a partnership between the student and teacher, where learning is an open-ended activity, not one controlled and managed by the teacher. It is this approach to teaching; that is, most appropriate for university learning, because it is an approach that implicitly encourages students to adopt a deep approach to their learning (Schon 1987 and Lewis 1993).

2.3 Encouraging students to adopt a "deep" approach to learning.

Assumptions about learning, learning styles and the teaching experienced by a student can powerfully influence the learning

approach adopted by a student. In the perfect learning and teaching world every student would automatically adopt a deep approach to learning. The reality is that students need to be actively and consistently encouraged to adopt a deep approach to learning. Without this active encouragement students will most likely adopt a learning approach most congenial to them, with strategic modification when required (Warren 1997).

For any teaching enterprise to encourage students to adopt a deep approach to learning, the following elements need to inform such an enterprise. They are *student motivation*, *active student participation*, *student interaction with each other*, and *knowledge development by students* (Gibbs 1992).

a) Student motivation

The teaching and learning environment can powerfully contribute towards student motivation and the adoption of an inappropriate learning approach. If the teaching staff are committed to encouraging a deep approach to learning, the learning tasks and context needs to be both challenging of and supportive of students. Thus motivating students is not a simple matter. To do this, a learning task needs to challenge students by signalling to them that the task requires more than the mechanistic completion of it. In addition the learning environment needs to encourage and support students to take risks, and to develop a personal interest in the subject area. A powerful way to encourage student motivation is through the appropriate use of assessment and feedback (Barker 1988). They can more easily understand the link between learning and assessment when

assessment is accompanied by constructive feedback that acts as "sign posts" pointing out to students what learning areas (be the knowledge, skills or attitudes) need further attention. In this way students view assessment in a holistic way, understanding that it can contribute towards their development as learners. Student motivation is also encouraged when assessment is viewed as an integral part of their learning. For staff dealing with a large cohort of students the particular challenge lies in devising an adequate assessment/feedback system that provides students with the necessary information and constructive encouragement but does not overwhelm them with an avalanche of additional marking (Newstead and Hoskins 2000).

b) Active student participation and student interaction

Student interaction with each other requires the development of a lively partnership between the learners themselves and the teaching staff. Here students become "stakeholders" in their learning, and not passive recipients of "received wisdom" and expertise (Schon 1987). To achieve such participation requires that students have structured contact with staff and other students. This structured contact is of particular importance in courses where there are large numbers of students and the whole-class lecture is the primary method of teaching. The whole class lecture format can be a forbidding and isolating experience for students, particularly if they do not know many of the other students in their class. This sense of isolation does not encourage active student participation. A student's isolation can be reduced through the use of structured exercises (Gibbs 1996). Typically these exercises require students to work together in pairs on a number of questions, and then to report back to the lecturer and the

rest of the class. These exercises serve a two-fold purpose; they can reduce a student's sense of isolation, and secondly create the opportunity for the student to actively engage with the learning material (Ashcroft and Foreman-Peck 1994).

Another effective vehicle for encouraging student participation and interaction is the small group. For the small group to realise its potential to encourage student participation and learning, the importance of the group in facilitating learning has to be made clear to students. In other words group attendance and participation needs to be seen by students as being as important as attending a lecture or laboratory session. Ensuring that groups are fully integrated into the teaching programme and are well facilitated with relevant tasks can underscore the importance of the group (Gibbs 1995b). This means that careful thought is given to what will be accomplished when students meet together in these groups. The teacher's responsibility centres on the development of a set of learning tasks to be completed by students in their small groups. The tasks are constructed in such a way that the collective knowledge and understanding of the group is harnessed to complete these tasks. Through this deepened understanding students would be able to interact with the course content in a more meaningful and conceptually coherent fashion (Race 1998).

Group size plays an important role in student participation and interaction. Research evidence suggests that whenever possible a group should not exceed eight in number (Johnson and Johnson 1994 and Jacques 1995). The reality is that group size is often decided on the basis of available teaching resources i.e. on the number of people available to do group supervision. This frequently means that students are placed in a group that has more than eight students. In these

instances, the task lies in designing learning activities that encourage student learning and interaction within a large group. For example the students can be divided into a number of sub-groups. Each sub-group is required to work on a series tasks/questions. Within these sub-groups students have the chance to explore and debate issues and ideas. On completion of the set tasks/questions a nominated student from each sub-group then reports back to the larger group on the ideas and answers generate by their sub-group. An effective option is to ensure that each of the sub-groups is given separate tasks/questions. This avoids the situation arising where sub-groups repeat each other when they do their report backs to the rest of the group. Wherever possible students should be able to join the group of their choice. This right of choice gives students a feeling of being valued, and this in turn creates a constructive attitude towards group participation. To facilitate student interaction within their groups it is important to spell out to students their tasks and obligations. Group interaction seldom happens spontaneously. Students need to know that they need to prepare for the group by completing their "home work" prior to the group meeting (Ashcroft and Foreman-Peck 1994).

c) Knowledge development by students

Students can never take up the challenge of becoming active learners without "constructing" an appropriate knowledge base. In essence students construct their knowledge and understanding of the world through interactions with their environment. This knowledge construction is deeply influenced by student ideas of what constitutes learning and its role in preparing students for the world beyond the classroom. "Metacognition" is the term used to describe how students

go about constructing their knowledge base (Biggs 1999). Through metacognition a student is aware of their own particular thinking and learning processes, their role as a learner and how cognition is controlled. Through metacognition, a student's knowledge domain is developed. This knowledge domain can be divided into three aspects, declarative knowledge, procedural knowledge and conditional knowledge.

Declarative knowledge encompasses what is naively recognised as "knowledge"(such as facts, paradigms and argument). Procedural knowledge is about knowing how to undertake a particular action or activity. The use of a mathematical formula to solve a mathematical problem is an example of procedural knowledge. Conditional knowledge is knowing when and how to use declarative and procedural knowledge appropriately (Brown 1993.)

Mature students are more adept at using conditional knowledge, and often experience frustration in courses where the teaching and assessment emphasises declarative knowledge and its mechanical exposition (Boud 1995). By the same token students who have recently left secondary school, value teaching and assessments which allow them to demonstrate their grasp of declarative knowledge (i.e. rote recall of facts and figures). Use of these three knowledge domains, is guided by three metacognitive processes – *planning, monitoring* and *checking*. Planning occurs at the start of a learning task, it is at this point the students set learning targets, reviews potential learning strategies, draws on existing knowledge, and decides what type of knowledge (declarative, procedural or conditional) is needed to master the learning task. Monitoring is the process that a student undertakes to review their learning. This review usually includes self-testing their

grasp of new information and comprehension, as well establishing if they have integrated this new knowledge and comprehension within their existing knowledge base (Barker 1988).

Through the process of monitoring students informally reflect on the effectiveness and efficiency of their learning, by comparing what they have learnt against their learning goals. If after this reflection students believe they are not achieving their learning goals, students will take corrective action, by example, speeding up the pace of their reading, or by revisiting content where their comprehension was found to be inadequate. Students also monitor their learning by discussing their learning and understanding with other students. This dialogue is used where students are struggling to understand and comprehend a difficult set of ideas or a theory, and so seek out other students whom they believe could provide them with the explanations and comprehension they desire (Enwistle, Odor and Anderson 1988).

2.3.1 Teaching methods and activities that can be used to foster deep learning

The commitment to encouraging a deep approach to learning has implications for the teaching methods used by staff. In instances where the teaching staff are required to teach large classes the following methods can be used to promote a deep approach to learning amongst students.

a) The modified lecture

Without modification most lectures encourage students to be passive learners. Proponents of this type of teaching argue that it is the most effective and cost efficient way of teaching. One staff member is able to 'teach' a large number of students and cover a predetermined amount of material. Research evidence indicates that the quality of student learning is severely compromised. Firstly such a lecture format seldom gives students the chance to engage deeply with the material as they are often too occupied with the task of trying to obtain a verbatim account of the lecture. Secondly student attention levels vary during lectures so that often students often only remember what was lectured at the start and the end of the lecture. Thirdly how a lecturer lectures influences students. There is an implicit assumption that lecturing a large class becomes easier with experience and over time a person will become proficient and effective lecturer. The reality is that few people are 'natural' lecturers and it takes effort and inclination (Brown and Atkins 1988).

In situations where a large class lecture has to be used (because of a lack of alternatives and teaching resources), modifications to this format can encourage greater student involvement in their learning. Firstly it is important to recognise that students are not automatons and so the lecture should be structured to vary the requirements placed on students. Secondly the lecture should not flood students with a complex host of ideas and concepts. They should be given the opportunity to unpack these ideas and concepts. This can be achieved through the judicious use of focused questions or problems where students in pairs/groups work on a set of questions/problems during the lecture period (Gibbs, Habeshaw and Habeshaw 1984). This is

complemented by a period of feedback where students and the teacher discuss and comment on student answers (Gibbs and Jenkins 1992). By using questions/problems and feedback in this way can help to ensure that lectures have a component of active student participation. Thirdly lectures should provide students with a clear framework so that students not only integrate the lecture material within this framework, but this framework can be used when they are engaged in other learning activities [such as reading/studying]. By so structuring a lecture and using a variety of activities the lecture can be transformed into an arena of active student learning (Beard and Hartley 1984).

b) The tutorial

Tutorials are often used in tandem with lectures, as the means where students can discuss and clarify ideas that have been identified in lectures. However for the tutorial achieve this goal requires planning and structure.[Without such preparation students will often view the tutorial as a lecture in miniature and expect the tutor to 'hold forth' while they take notes and ask questions of clarification]. For tutorials to succeed in students need to be given appropriate support to make maximum use of the tutorial. Such support can include the provision of carefully constructed guide questions that students can use to review the lecture material and their prescribed readings. Secondly to help facilitate students discussion and participation during the tutorial certain students could be asked to lead the discussion at the forthcoming tutorial. For novice students they would need to be given guidance as to how to prepare and lead a tutorial discussion. The learning achieved in tutorials can then be reinforced through the use of tutorial assignments. Thus by participating in tutorials and completing

assignments a student would be in the position to consolidate and deepen their knowledge and understanding (Bochner, Gibbs and Wisker 1995).

c) Project activities

The purpose of this teaching method is to enable students to acquire a body of knowledge and then to apply such knowledge in answering a set of questions or solving a set problem(s). Properly designed projects can give real expression to the commitment to move away from a transmission approach to learning and teaching, and promote a deep approach to learning amongst students. This can be done through designing the project tasks and instructions in such a way that the students (and not the teaching staff) are responsible for developing their own knowledge base and information (Jacques 1989). This shift in learning responsibility from staff to student can provide critical impetus for students to engage more deeply. Secondly, the project tasks can guide students towards to developing a qualitative understanding of their project topic (Stone1994). Of all the methods outlined projects are of particular interest. (This method will be discussed further and explored in greater depth later in this chapter).

Through the use of the modified lecture, the tutorial, projects and related activities the teacher can harness the different learning styles used by students. Diversification of teaching methods is key here as no single teaching method holds the key to unlocking the learning potential of students. The challenge from a teaching point of view is to help students use a range learning styles that enables them to become deep learners. For students this could mean a modification or change

of their preferred learning styles. Thus a student who prefers the structure and containment [afforded by a conventional lecture and structured laboratory activities] can be helped to see the learning value provided by the ebb and flow of ideas that takes place during a modified lecture or a tutorial. Similarly students who prefer to learn by themselves can be encouraged to value and use group learning that occurs within projects activity.

d) Related Activities

To help consolidate the learning and enquiry that takes during scheduled learning activities, student can be helped to become 'active' readers. Reading is an integral part of learning at a university yet students are frequently given little formal instruction in how to develop reading skills that help them effectively sift, sort and assimilate what they have read. Yet without such skills students seldom satisfactorily complete the assigned readings. Active reading means that students are thinking about what they are reading by asking questions such as:

- What questions do I want answered?
- What ideas/understanding can I use to help understand the reading?
- Can I follow the writer's arguments and the evidence used to support these arguments? (Beard 1972).

Concept mapping and jigsaw reading are two activities that can be used by students to facilitate active reading. Through concept mapping

students draw a circle within which is a key concept. Related ideas are linked to the key concepts likes the spokes of a wheel. Each idea [spoke] can be cross-referenced with notes derived from readings. As the student the reads more additions and modifications are made to their 'map'. Over time the map can provide the student with a useful summary of what they have read as well as the means to make links between ideas. Jigsaw reading is an activity of encouraging active reading in groups. Here the students are given a portion of a complex article to read and are asked to make a summary. In groups the 'pieces' of the article are pieced together through discussion and debate. Through this activity students can learn from other students the various ways of interrogating an article and how to measure their level of understanding (Ashcroft and Foreman-Peck 1994).

In essence therefore the promotion of deep learning amongst students is not a 'once off' activity but requires teachers to skilfully use a variety of methods and activities [e.g. the modified lecture, concept planning and jigsaw reading] on a continuous basis, to encourage students along the path towards deep learning. At times students will give signs of having moved along this path but on other occasions they will 'retreat' and resort to familiar 'learning styles' and want to learn everything 'by heart' and so require from their teachers 'facts' and complex ideas reduced to simple and understandable nostrums(Marton and Ramsden 1988)

2.3.2 Assessment and deep learning

An important catalyst for encouraging appropriate learning is how student learning is assessed. Assessment is arguably the most prominent influence on the quality of student learning. It is in effect,

the lodestar that students use to guide them when making learning choices. Thus if the assessment requirements are such, that students are rewarded for demonstrating superficial knowledge and understanding, then that is exactly what most students will do. It is therefore of fundamental importance that the chosen forms of assessment are those that encourage appropriate learning from students (Biggs 1999, Brown and Knight 1995, Brown, Bull and Pendlebury 1997).

A central characteristic of effective assessment is that it should be consistent with a course/programme's objectives. Thus if a course's objective is that at the end of the course students should demonstrate problem-solve abilities and within a group context it makes little sense to require students to demonstrate factual recall in a closed book examination. Yet obvious as this point may seem the teaching staff often opt for what is familiar rather than devising assessment activities that match their course objectives (Wakeford 2000).

There are any number of ways that students can be assessed but the forms of assessment can be categorised under two headings; formative and summative assessment. In formative assessment the purpose is to establish how students are progressing. The feedback that occurs is useful for both students and teachers. In the case of students they can be informed of gap in their knowledge and understanding (Brown and Knight 1995 and Evans 1990). In the case of teachers the feedback can signal to them whether or not the learning activities are succeeding. In the case of summative assessment grading a student's knowledge and abilities is the point of the exercise. In effect a judgement is made about a student's learning performance. Given the difference in purpose between formative and summative assessment it is important

wherever possible, to use them separately. Formative assessment if it is to achieve its purpose of constructive feedback, should, strictly speaking, not be associated with grading a student's performance. Since the point of this form of assessment is diagnostic, to encourage students to take risks and to be open about the gaps in their knowledge and understanding. If such feedback becomes too closely associated with mark allocation, students quickly learn not to take risks and disguise their lack of knowledge and understanding. In practice in most teaching situations, formative and summative assessment are merged together. Thus a hybridised system of assessment is frequently used where feedback and judgement are simultaneously provided to students (Brown, Bull and Pendlebury 1997).

Since assessment is about making a series of judgements about student learning it can be argued that students need to be involved where possible in assessment. Traditionally this has not been the case. Instead teaching staff have exercised complete control over the process, making little effort to disclose criteria that would be used, or how these criteria would be applied except in the most generic terms. The effect of such an assessment process is to de-motivate students and leads them to view the learning opportunities as a series of hurdles to be overcome, and once overcome, to be forgotten (Heron 1995). A useful way to achieve 'student buy-in' around assessment is to require them either as individuals or as a group to mark each others work [such as laboratory reports, posters and short answer questions]. In this arrangement students mark the work using a markers' guide. There are a number advantages to this arrangement. Firstly students develop an insight into what was actually required by the particular assessment activity. Secondly they begin to understand some of complexities and

ambiquity that assessment can throw up. Thirdly through reading and marking another student's work their own understanding can be deepened. Fourthly it can sharpen students' critical faculties as they are required to make an 'informed' judgement of other students' work (Rowntree 1987).

Apart from the issue of including students in the assessment process, there is also the matter of the frequency of assessment. There is little doubt that impending tests or examinations tend to focus the attention of students. If the class test or examination followed up by constructive feedback, there is a strong likelihood that students will use the feedback to guide their learning. Frequent assessment, however, can tend to have a debilitating effect on student motivation and learning. With little time to reflect on, and consolidate their learning, students quickly adopt effort-reducing strategies that enable to them to meet only the essential requirements of the course/module (Torrance 1994). Frequent assessment can also have a negative effect on the quality of feedback given to students. This is because it can become a 'tread' mill for the teaching staff. The initial commitment to provide accurate and constructive feedback to students quickly vanishes as staff find themselves caught within a seemingly never ending cycle of marking (Beard and Hartley 1984).

2.3.3 Project-based learning

As mentioned in Chapter One project-based learning is used within a number university teaching courses/programmes. This use by the teaching staff can in part be explained by its utility. Firstly project-based learning can be used to efficiently organise groups of students to complete a learning task. Secondly it can be used to

distribute the responsibility for completing a teaching/learning task between students and staff. Thirdly it can give students the opportunity to acquire skills, capacities and confidence that are the hallmark of a professional graduate (Adderley, Ashwin, Bradbury, Freeman, Goodlad, Green, Jenkins, Rae and Uren 1979).. Morgan, in his discussion, of project-based learning, speaks of a project as "an activity in which students develop an understanding of a topic or issue through some kind of involvement in an actual (or simulated) real-life problem or issue and in which they have some degree of responsibility for designing their own learning activities"(Morgan 1984, p.221).

In his typology of project learning Morgan identifies three models of project work; the project exercise, the project component and project orientation. The *project exercise* is the most frequently used model of project work. Typically a student (or group of students) engages in a piece of supervised research. The aim of the project is to require students to use existing knowledge and skills in a familiar field. Through the project exercise students undergo an "apprenticeship" in research.

The *project component* is more ambitious, since the aim of the project work is to enable students to engage in inter-disciplinary study by requiring students to integrate knowledge from a variety of sources. In its most sophisticated form the project component would require students to build hierarchically upon their existing knowledge and skills (Brown 1993).

Project orientation is the most advanced model of project work (ibid. pp. 222-224). This is exemplified by the teaching done at the University of Roskilde in Denmark. All students are required to register

for a two-year interdisciplinary study programme. Fifty percent of this programme is made up of project-based learning. Having completed this interdisciplinary programme, students begin to specialise, with project work continuing to form an important component of their structured learning activities. Moreover the university's physical environment has been explicitly designed to facilitate project-based learning. This has been done through organising the university into a set of self-contained units. These units house requisite number of staff and have the necessary group rooms for students and a canteen (Cooper and McMillan 2000).

There are a number of reasons why teachers use projects in their courses. Projects can help students to:

- Develop a range of personal and transferable skills. A project can be the catalyst for a student developing process skills [problem formulation, numeracy and literacy], presentational skills [data presentation and report writing], management skills [project-planning, working with others and problem-solving] and personal skills [self-reliance and self-enquiry].

- Undertake a specialised study in an area. A project offers students the choice of research in an area of particular interest to them. Such choices are not readily available in many undergraduate curricula.

- Learn to recognise the link between teaching and research. Through working on a project a student can experience first hand the way in research informs teaching.

- Learn about research concepts and methods. By having to undertake a project a student is obliged to learn about explanatory ideas and the methods used to apply such ideas (Luck 1998, pp 136 – 140).

2.4 Planning for Project-based learning

The numerous advantages claimed for project-based learning have to be carefully planned for. But even before such planning commences the staff member needs to be clear about:

- their own motivation for using projects and
- whether their students have the necessary skills and motivation [particularly if the projects will require students to work in groups] (Stone 1994).

Project planning is a complex process, involving three dimensions, *sound design*, *effective management* and *supervision*.

1. *Sound design* requires that that the project activities have been carefully designed in terms of clarity and consistency, appropriateness and learning relevance. One of the ways to achieve clarity and consistency is provide students with a set of guidelines. Such guidelines can vary from a simple set of instructions to a detailed set of instructions laid out in a project handbook. Without such instructions students will struggle to understand what is expected of them, and they can quickly become confused and de-motivated. Similarly if project activities assume a certain level of expertise from students where little exists and yet are expected to complete the project without

adequate support the project learning will be compromised (Clarke 1982 and Beswick 1997).

2. *Effective management* requires that amongst others, that, the following factors are taken into account: group size, physical infrastructure and student timetables. When a project is planned to be a group activity rather than as an individual activity, the size of the project group becomes important (see previous discussion). The physical infrastructure also needs to support project learning. Such an infrastructure should include "comfortable lighting, temperature, seating and ventilation... [and venues] conducive to small group teaching" (Taylor 1997, pp 62 and 105). The student timetable should be formulated in such a way that students are given the structured time to work together and on their own, to enable them to complete project requirements. Without this structured time students are seldom in a position to do justice to the project requirements (Williams and Horobin 1992).

3. *Supervision* of students is central in the successful implementation of project learning. An important responsibility of the supervisor is to help students develop into a co-operative unit directed towards completing the project tasks. The style adopted by the supervisor is a key element in helping students develops into a co-operative group. This is because students observe the way in which their supervisor interacts with the group. This "model" in turn serves as a pointer to the ways in which students can interact with each other. Heron (1989) has identified three modes of supervision [facilitation] of groups. These modes of supervision are hierarchical, co-operative and autonomous.

In the hierarchical form of supervision, the supervisor is actively involved in the life of the group and takes decisions for the group. The supervisor is closely involved with the group by clarifying issues/tasks, by helping the group structure its work, and can act as an arbitrator, when disputes arise between group members. In the co-operative form of supervision the supervisor works along side group members and works to create a "learning partnership". In this partnership the supervisor's contribution is influential but not necessarily decisive when it comes to group decisions. In practice the supervisor makes decisions with the group. In the autonomous mode of supervision, the supervisor uses their group skills to create a group environment where group members can exercise fullest level of self-determination and decision-making (ibid.). The form of supervision adopted by a staff member can be more fluid than might be first apparent. A supervisor might correctly decide that at the start of the project, students signal a need for strong hierarchical supervision, but once the project is in progress, the supervision would be directed towards encouraging self-directed learning through a more autonomous mode.

2.4.1 Resource factors that influence the successful implementation of project-based learning

In a perfect world teaching activities would be given the appropriate level of resources. Instead in the real world of higher education the goal becomes one of obtaining an essential level of resources. The challenge, therefore, lies in developing a formula that combines the three ingredients (design, management and supervision) in such a way, that project-based learning can be implemented even with limited resources (Luck 1998).

The single most important resource factor when implementing project-based learning is the cost of providing adequate student supervision. In a context where university administrators are continually demanding "value for money" / economies of scale, using one teacher to supervise a small group of students can be seen as uneconomical. This perception can be further reinforced if project-based learning is used with a large cohort of students. Additional costs are also generated if students are expected to conduct their project activities off campus. If decisions to resource teaching programmes are simply made on the basis of economy of scale project-based activities will never 'win' when compared to the economies achieved by whole class lectures. While project-based activities cannot be as 'cost efficient' as lectures, supervision costs can be contained by:

- carefully scheduling of supervision contact time
- assigning appropriate workloads to supervisors
- dividing the student cohort into manageable student groups (Gibbs and Jenkins 1992).

To achieve an adequate level of supervision also requires flexible allocation of supervision time. For example, during the initial phase of the project a supervisor could more intensively be employed to supervise their students. Once the project was established supervisor could reduce their contact with their students, without necessarily compromising student learning. Secondly this supervision time should be carefully structured to ensure that maximum usage is made of available time. To facilitate this supervisors can be given a set of

carefully devised guidelines that identify key tasks and issues that should be addressed during the periods of supervision (Stone 1994). Another aspect of supervision is the workload of supervisors. It is important to ensure that if supervisors are expected to assess their students' project work this is factored into the supervisors' workload (Jenkins 1997). When this exercise is done the types and levels of assessments are often modified and become less intense. Linked to the issue of adequate supervision is the matter of the availability of such supervision. For example in a department with a large complement of staff, project supervision might be accommodated within the existing teaching programme of the department. However in departments with a limited staff complement and a large cohort of students, the availability of project supervisors becomes an acute issue. This can be solved through the recruitment of part-time supervisors. The use of part-time staff comes at the price of "built in instability" (i.e. the continual need to replace such supervisors). This need to continually replace such staff is because they are usually modestly paid, and have to rely on other paid work to "subsidise" their supervisory work. This means that part-time supervisors are generally on the lookout for better-paid work (Warren 1997).

2.5 Assessing Students in Project Groups

The effectiveness of the project method to encourage deep learning is not automatic. Research evidence on student learning indicates that most students continue to resort to surface learning or strategic learning if given the opportunity (Warren 1997). The teaching challenge lies in designing project learning in such a way that deep learning is promoted. Using project groups to facilitate student learning

can be beneficial for a number of reasons. Working in a group requires a student to use a number of skills (e.g. organisational and interpersonal), which they will rely on in later life (Miles 1981). To enable students to recognise and harness the learning benefits of project groups, the process of assessment needs to be able to assess both group and individual learning, as well as assess the contribution that individuals have made to overall performance of the project group. An assessment procedure that simply gives a global mark for a particular piece of project work (such as a project report) will do little to encourage student commitment to learning within a project group. Instead a range of assessment tasks will need to be deployed to ensure that individual and project learning are assessed. These assessment tasks will need to assess both project process as well as the project's "end products". On the matter of project process students can be required to submit a record of their project experience in which they describe and analyse their role and contribution in the project group (Gibbs 1995a).

Another way to assess project process is for the tutor to take the role of a participant observer, and for the tutor to make careful notes of the contributions made by students. Two variations on this form of assessment are group minutes and group diaries, where student contributions are recorded and can then be used for assessment purposes (Heron 1995). A further mechanism for assessing individual participation is the use of written and oral examinations. Here students are required to answer questions that are directly based on the completed project work. The assessment of the "end products" must also be varied. For instance if the group is required to submit a report, the report can be divided up into number clear defined sections, and

then specific students are given the responsibility for completing the section of the report. Alternatively, the group might be required to submit more than a project report for example give an oral presentation and complete a poster. In that case, the students have a greater choice when it comes to completing a particular assessment task (Brown, Rust and Gibbs 1994).

A final element to the assessment of project learning is the use of students to moderate individual student marks. Students can be useful co-assessors as they know who has contributed in the group, and who has "piggy-backed" on the rest of the group. To ensure that student moderation of individual marks works in practice, the procedure needs to be explained to students at the start of the project. Provided this is done, and measures are taken to prevent students from expediently awarding every one an average project mark, a range of student marks will then emerge, more clearly reflecting individual student contribution in the group (Ashcroft and Foreman-Peck, 1994).

The use of assessment is pivotal in realising the goal of encouraging a deep approach to learning through the use of projects. For this reason careful consideration needs to be given as to the purpose of such assessment. A careful balance needs to be struck between the use of formative and summative assessment, as well as the regularity of such assessment. Added to these considerations is the need to use multiple forms of assessment to encourage students to co-operatively learn in their project group.

Projects are a robust teaching method that can contribute towards developing a deep approach to learning amongst students in a context of resource scarcity. Nevertheless an essential resource threshold has

to be available for without such a threshold, no amount of ingenuity, astute management and sound project design will be able to compensate for such critical incapacity.

2.6 Conclusion

The learning world of the undergraduate student is a world made up of a complex topography. Where in the past there has been the contention that students could successfully read, interpret and master this topography with minimal staff support, this contention can no longer be regarded as credible. For students to successfully complete their learning journey and become the skilled individuals capable of understanding their world in a flexible and responsive manner requires the focused attention of both students and staff.

How students learn is a complex matter and researchers have addressed it multiple ways. In this chapter how students' learning has been viewed in terms of *approaches* to learning and *learning styles*. However student approaches and styles of learning are not activated in isolation. On contrary they are activated, influenced and modified by the teaching approaches and activities they encounter.

'Deep learning' is regarded as central to development of the 'successful' university graduate since such learning provides the would-be graduate with the necessary knowledge, attitudes and skills necessary to confidently engage the wider world in a constructive fashion. For teaching staff the challenge is how to help the 'raw' [surface] learner develop into a 'mature' [deep] learner. Research evidence points to the need for staff to systematically review their approaches undergraduate teaching and use a range of teaching and

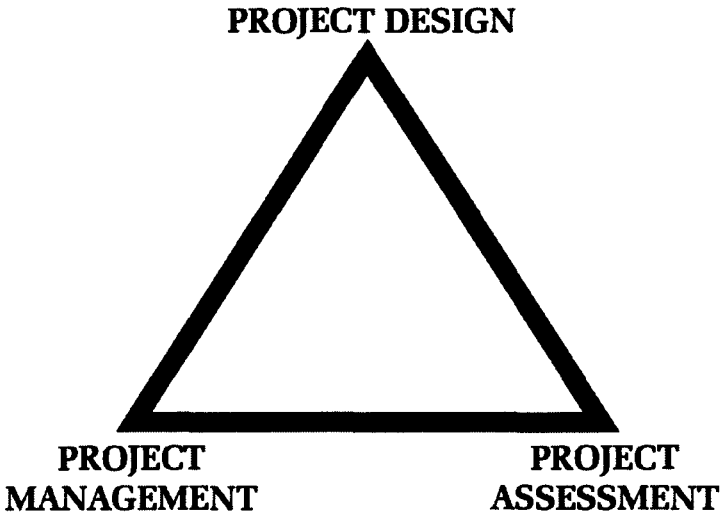
learning activities and clearly understand how assessment influences student learning.

Interested teachers can use a combination of carefully chosen teaching methods [such as interactive lectures, modified tutorials and project work] and properly designed assessment activities to create the conditions conducive to facilitating deep learning. By doing thus students will be provided with the necessary support for them to undertake the difficult and at times perplexing process of a learning metamorphosis.

Students also have an important role to play their own metamorphosis. Their ideas about the nature of university education and their learning styles can be modified and even transformed when students are motivated and have a sense of 'ownership.'

Of all the teaching methods mentioned project work [and more specifically project-based learning] *could* be a vehicle for promoting deep learning amongst students. Proponents of projects contend that it is a widely used as a teaching and learning method because it has many *potential* advantages [including the promotion of process and group management skills]. The fact that it is widely used does not of itself mean that the potential advantages claimed for it are also widely realised. As with all teaching and learning methods projects have to harness the three elements of design, management/implementation and assessment in such a way that deep learning amongst students is promoted.

A helpful way of understanding this harnessing process is to triangulate these elements.



Individually neither *project design*, nor *project management/ implementation*, nor *assessment* should be seen as intrinsically more important than the other two factors. Instead these three factors have to be balanced with one another and have to articulate with each other.

Project design is one of the points of this triangle. In essence project design is concerned with structuring student learning through project activities/ requirements. To facilitate strong student engagement the activities and requirements need to:

- be explicit, coherent and educationally relevant
- create or support student motivation for and participation in project-based learning
- help students mature in their understanding of learning and their style of learning

- promote deep learning by engaging students in 'higher order' activities[e.g. comprehension and analysis] to facilitate knowledge development

- assess project work appropriately to promote deep learning

A second point of the triangle is *project management.* Through competent project management students are provided with an "enabling environment". Project management comprises those activities that bring project-based learning to 'life'. Activities included under this rubric are:

- selection and training of staff to support student learning

- preparing students for project-based learning

- providing project materials that supports student learning

- co-ordinating the timetable to facilitate project-based learning

- obtaining the necessary resources for project-based learning

- providing the necessary logistical and administrative support to students and staff

These 'non academic' activities are often overlooked or receive scant attention from staff. Yet without paying due attention to such activities project-based learning can be severely compromised.

The third point of the triangle is *assessment.* It is a truism that assessment is a key factor to shaping student learning. Which teacher has not encountered the vexing student attitude: What is the least I must do to pass or get a credit? Assessment can be a powerful

instrument to change such an attitude. Through the judicious use of differing forms of assessment, students can be actively encouraged to recognise that assessment is much more than simply "passing" but it is about giving students constructive feedback on how they are learning. Secondly assessment can help students engage strongly in project-based learning and develop a knowledge base that is characterised by its quality and depth of understanding. Thirdly the design of assessment is important especially when project-based learning is done in large groups. The task here is to construct a number of activities that can appropriately recognise work done by individual students as well as validating the *group dimension* of project-based learning. Fourthly the timing, amount and level of assessment activities should be appropriate so that students do not develop the idea that assessment is essentially a set of hurdles that they must surmount at particular times but has little connection with deep learning.

In essence project-based learning when properly triangulated can challenge and interest both students and teachers. From a student perspective project-based learning can provide an opportunity to:

- develop a new notions about how to learning and succeed at university
- trigger an abiding interest in topic/subject area
- develop or consolidate transferable skills
- serve as an 'apprenticeship' in how to work collaboratively in a group

From a teacher's perspective project-based learning can be useful addition to the 'arsenal' of teaching methods at their disposal. Project-based learning can reinvigorate a teacher's interest in effective undergraduate teaching by giving them the means and opportunity to constructively engage students in their subject area. Moreover projects can allow a teacher to work closely alongside a group of interested and motivated students and break down the 'wall of distance' that can so often exists with a large cohort of students. Finally project work when properly designed, managed and assessed can give the teacher the opportunity of watching students produce project-based learning that is vital, of substance [depth], and worthy of the term 'academic'.

Why then do so many students graduate from university having failed to achieve their full learning potential, even though the key ingredients for successful learning and teaching are apparent? Perhaps the answer lies in the fact that while some of the ingredients are known, the 'formula' for foolproof and successful combination of these ingredients is yet to be elucidated and universally disseminated and accepted. This is because successful learning and teaching is a complex, multi-faceted and at times perplexing enterprise. Thus learning and teaching cannot be readily broken down into the requisite number of easily identified elements, but requires interest and perseverance from both students and staff. Where such interest and perseverance is not in evidence learning and teaching can easily become a hollow counterfeit that permits students to 'graduate' but in name only.

Chapter Three

3.1 Introduction

In this chapter I wish to explore both the nature of the research method chosen as well as how it was carried out in practice.

"Research is a most important tool for advancing knowledge, for promoting progress and for enabling man to relate more effectively to his environment, to accomplish his purposes and to resolve his conflicts" (Mouly quoted by Cohen and Manion 1984 p29).

In the field of academic research there are two broadly defined research traditions – the quantitative approach and the qualitative approach.

The differences between the quantitative and the qualitative approach to research can be summarised in terms of their 'view of the world'. Generally put the difference lies in the way that the two approaches attempt to categorise and understand the world. For quantitatively focused researchers the strategy lies in dividing up the particular phenomenon into a number of discreet and manageable parts. These parts are then subjected to intensive and careful observation. For the qualitative researcher there is the recognition that the world is far too complex to be able to be effectively reduced to a set of component parts. Instead the qualitative researcher aims to understand in broad terms aspects of social phenomenon [Berg 1989 and Punch 1998].

The large divide that existed between the two approaches has now been recognised as a false divide. Instead there is recognition that each approach has its own set of strengths and vulnerabilities and the role

of the researcher is to make a considered choice by recognising the value of both research approaches.

Within the broad domain of qualitative research a range of approaches and methods of research can be employed. A prominent 'tradition' within qualitative research is that of ethnographic research. Many of the proponents of ethnographic research have in turn have relied on case study method to help them realise their research goals.

It is this self-same case study method that has been used to guide and develop the research work of this particular study.

3.2 Qualitative Research

Qualitative research can be viewed as research directed towards providing *interpretative* explanations that help to illuminate one's understanding of social phenomena .The origins of qualitative research approach lies in the work of social anthropologists of early twentieth century. These anthropologists developed ethnography – the process of researchers immersing themselves [through participant observation] in the lives of the subjects they studying. In this way they were able to provide detailed studies of particular facets of society [e.g. research among "street corner boys" and an investigation of an "Italian-American" community" (Bryman 1993, p 45). What these studies highlighted was " the rich seam of data" that emerged when the participant observer/researcher engaged directly with their "subjects" and were open to alternative ways of constructing and understanding social "reality".

By the late 1960s [fuelled by the reaction against the rigid formularies of quantitative research] a new "alternative" research paradigm – qualitative research – began to evolve nourished and invigorated by the intellectual cross-currents of phenomenology, symbolic interaction, naturalism and ethogenics. The votive force behind these intellectual cross-currents was their rejection of the positivist notions of the world. (Bryman 1993 and Lancy 1993).

What then are the characteristics of qualitative research? Tuckman, (1988 p 388-389) using the typology of Bogdan and Biklen identifies five features of qualitative research in the following terms:

- " the natural setting is the data source and the researcher is the key data-collection instrument
- it attempts primarily to describe and only secondarily to analyse
- the concern is with process, as much as with outcome
- its data are analysed inductively, as in putting together the parts of a puzzle
- it is essentially concerned with what things mean i.e. the *why* as well as the *what* "

From these characteristics it is evident that a qualitative approach to research recognises the rich complexity of phenomenon and sees the role of the researcher as aiming to capture some of this rich complexity through observation, description and interpretation. It is not the role of the researcher to reduce phenomenon to a set of predetermined and narrowly defined variables, rather the researcher is open to new ideas, insights and meanings of reality as the research process unfolds (Lancy

1993). This approach is also sufficiently versatile and accessible to provide a framework to coherently record the day to day and often disregarded aspects of life and work in such a way that it can trigger a fresh appraisal of the apparently banal and commonplace (Hitchcock and Hughes 1989).

3.3 Methods of Qualitative Research

In the field of qualitative research three methods predominate and the particular method chosen depends on the type of research question(s) that wished to be answered:

- observation
- interviewing
- document analysis

a) Observation

Observation at its simplest is the activity of watching. So in one sense most people use observation to understand their world and therefore most people engage in some form of research. In the case where observation is used deliberately as a research tool there are a number forms of observation. The choice of a particular form of observation depends on how separated the researcher wishes to be from their 'field of study' (Burns 1997).

The 'complete participant' is a researcher who is completely 'disguised' from the research subjects and as far as they are concerned the

researcher is 'one of us'. The point of the disguise is to ensure that the presence of the researcher does not influence or alter the ways in which the research subjects behave or act. This research mode is often adopted when the research subject is controversial and the researcher is trying to obtain as closer approximation of the 'true situation' as possible (Glesne and Peskin 1992).

'Observer-as-participant' is where the research subjects know the researcher's identity. Here the researcher negotiates contact with the subjects and uses the access to record what goes on. The researcher becomes in effect the 'silent and observing eye'

This mode of research is often used when a group or institution commissions research on a particular issue and want the issue investigated by a neutral but 'authoritative party (ibid.).

The 'participant-as-observer' also discloses their identity to the research subjects but is not a neutral observer. Instead they actively interact with the subjects and then record this interaction with the full knowledge of the research subjects (Fraenkel and Wallen 2000).

The 'complete observer' is the most detached/removed form of observation. Here the researcher observes the research subjects from a distance and in such a manner the subjects are never aware that research is being conducted. An example of this is a researcher observing and recording the sessions of therapeutic group behind a two-way mirror. Of all the research modes this mode is potentially the most controversial as the rights of research subjects can be easily abrogated without them been aware of it (ibid.).

b) Interviewing

Interviewing is the second method used in qualitative research. It is often employed to verify and or amplify the observations made by the researcher. In other instances the interview is used as the primary means of obtaining data. As in the case of observation there are different types of interviews: structured, semi-structured, informal and retrospective interviews (Hitchcock and Hughes 1989).

Structured interviews use a carefully designed set of questions that are organised in a very specific way to elicit meaningful information and answers. Frequently the structured interview with its bank of questions is the product of a process of review refinement. During the review process questions have been 'piloted' [i.e. pre-tested] in different forms to arrive at the most appropriate set and sequence of questions (Cohen and Manion 1984).

Semi-structured interviews also use a set of carefully deliberated of questions to generate research data. In addition to this an 'open dimension' is factored into the interview process. In this part of the interview the interviewer can ask a set of follow up or questions of clarification. These questions can be used to either:

- elicit new ideas/information from the interviewee or
- seek to clarify answers to previous questions.

Semi-structured interviews to be effective need to be used by an experienced researcher who is able to deploy unstructured questions in such a way that they elicit more nuance and 'texture' from their interviewees (Fraenkel and Wallen 2000, Hitchcock and Hughes 1989).

Informal Interviews appear deceptively easy. They appear on the surface to be like the ebb and flow of an 'ordinary' conversation. Here the task is to capture a sense of the 'immediate' [i.e. what is a person think about and responding to in the 'here and now']. From the researcher's perspective the value of such an interview is the possibility of capturing the uncensored ideas and feelings of an interviewee. To be able to do this the interviewer has to have the skill and dexterity to understand, respond and record the interview's ebb and flow and ask the 'right' questions (Hitchcock and Hughes 1989).

Retrospective interviews can be either structured or semi-structured or informal. The point of such an interview is to get the interviewee[s] to remember what they had said or done in the past. Historical studies often use this type of interview to generate information and ideas about a previous event. The limitation of this form of interview is that it is dependent on a person's memory and perception, both of which can be unreliable and or biased (Burns 1997).

c) Document Analysis

As the words suggest this research method uses documents as the source of research data. The word document encompasses a wide variety of published documents – such as textbooks, diaries, newspapers, novels and the 'documents' available in electronic form. Given the range of documents that are available for analysis the obligation on the researcher is to choose or develop a set of criteria that can be used to ' effectively interrogate' the particular documents to generate the necessary data. Secondly these criteria must be able to be replicated so that another researcher can use the same criteria to

generate the same data. An advantage of this method is that the documents/texts that are used are normally robust and can be repeatedly analysed without showing signs of 'research fatigue' (Burns 1997, Punch 1998).

3.4 Ethnographic Research

For the researcher apart from choosing the appropriate method[s] the other important research question is how wide and deep will be the researcher enterprise? In educational research the ethnographic research approach has been used in instances where the researcher wishes to obtain as comprehensive a 'picture' as possible of the research subject. The emphasis here is to document as fuller a picture as possible. To achieve this fuller picture the initial research hypotheses are allowed to develop and consolidate as the research process unfolds (Bryman 1993). This lack of precision is seen by proponents as an innate strength of this approach allowing the researcher to 'mine' and capture the rich seams of data. To mine and capture this data the researcher could use the range of tools (observation, interviewing and document analysis). The greater the variety of data captured the greater the possibility the researcher will be able to obtain the required holistic perspective. Moreover the task of the researcher in such a context is also to grasp how those experiencing them perceive the events/issues. In other words events/issues cannot be researched in isolation from their context (Tuckman 1988, Punch 1998).

Despite it uses ethnographic research has a major drawback – it is highly sensitive to researcher bias and therefore another researcher

using the same research tools cannot easily replicate the results of such research. Flowing from this is the other limitation – that conclusions based on such research cannot be readily universalised (ibid.).

3.5 Case Study

Case studies are commonly used when researcher wants to study *one particular* phenomenon in depth. Having understood the phenomenon in this way the researcher can then use other research methods to broaden the scope of this research. Thus a case study can be both the end point as well as a starting point for research activities (Merriam 1988).

a) Definitions

Goode and Hatt quoted by Punch (1998, p 151), defines a case study as " not a specific technique; it is a way of organising social data so as to preserve the unitary character of the social object being studied".

A number of advantages have been advanced for case studies:

- they are sensitive to the broader social context
- they provide a wealth of descriptive detail that is useful beyond their own research area
- they provide accessible research information
- they are strongly grounded in "reality" and their findings can be directly understood and implemented

- they allow a researcher to focus on a defined phenomenon (ibid.)

A number of authors have sought to capture the 'essence' and the variety of the case study method by describing various types or 'styles' of case study.

Stenhouse(1988) identified four types of case study:

- *ethnographic case study* – the researcher through participant observation provides a detailed description of events/issues
- *evaluative case study* – the focus is on doing in depth study so that others can make evaluative judgement
- *educational case study* is used to make a contribution towards the knowledge/ practice base of the profession
- *action research* is used to actively inform and influence policy

Yin (1993) developed the following typology of case study research:

- an *exploratory case study* is concerned with the formulation of research questions and hypotheses
- a *descriptive case study* provides an all encompassing description of a phenomenon within its context
- an *explanatory case study* provides an explanation of the casual links that can occur between phenomena

What these two typologies reflect is the richness and variety of case study research. The choice of the particular 'type' of case study is dependant on what the researcher wishes to 'say' or report about the research subject. It is of particular use when " the 'how', 'who', 'why' or

'what' questions are being asked" (Burns 1997, p 365).

b) Use in educational research

In educational research three types of case study research predominate – observational, historical, and clinical. In *observational case studies* the emphasis is placed on getting highly detailed information on the 'subject'. This information is then undergoes very thorough analysis in order to gain a detailed analytical picture of the subject. This picture can then serve as the basis for developing a research hypothesis that would then be subsequently tested (Lancy 1993).

The *historical case study* is often used to review the achievements or failures of an institution. The point of the exercise is to identify the achievements of 'failings' of the institution so that "lessons" can be learnt from the institution's past. This type of research is heavily dependent on records (Charles 1998, McCulloch and Richardson 2000).

Clinical case studies are concerned with individuals in educational settings. Such studies are usually undertaken by educational psychologists in an effort to understand and help resolve problems encountered by "problem students"(Verma and Mallick, 1999).

c) The Limitations of Case Study Research

It would be wrong to convey the impression that the case study method to research is invulnerable to criticism. There are a number of limitations that have to be acknowledged and should serve as a healthy corrective of any tendency towards an uncritical acceptance of this

research method.

i.) Subjectivity

Critics of this research method attack and dismiss it as they contend that it is 'riddled' with subjective bias. They contend that the method does not actively ensure that there is sufficient 'distance' between the researcher and the subject. This lack of distance can lead to a researcher collecting and selecting research data in order to provide 'evidence that confirms their own particular understanding or interpretation (Bassey 1999).

ii.) Generalisation

This area of criticism is that case study results can seldom provide evidence that can be generalised beyond the case itself. The criticism is often summarised by the retort – how can you generalise your findings based on a single case study? A priori assumption of such criticism is that a central aim of research must be towards the development of generalised 'truth'. The reality is that many laboratory experiments designed with this intention in mind are often simply replications of prior experiments rather than activities that further generalised truth (Cohen and Manion 1984). The stricture concerning the lack of generalisation cannot be ignored as there are celebrated instances of this method been used to generalise from the single to the general. Both Freud and Piaget developed their general theories based on 'data' derived from their own case observation and records (Burns 1997).

In essence therefore, the role of the case study is one of illumination of the 'particular' rather than of the 'general'. It is the task of the case researcher to provide the reader with as much information and detail so that the reader is able to make a determination by using the information, data and explanation provided by the case material (Cohen and Manion 1984).

iii) Reliability and validity

Like the issue of generalisation the case method appears vulnerable to attack. While it cannot be claimed that case studies can 'deliver' reliability in the same manner as can laboratory studies, case study reliability can be established through:

- reporting of researcher bias
- providing a systematic exposition of how the data was obtained
- providing explanatory details on the types of categories used to capture/record the research data

With the above the reader is able to reconstruct the research journey undertaken and if necessary replicate the case study (Bassey 1999, De Vaus 2001).

In the case of validity the case study does not have the 'benefit' of the checks and balances provided by randomised sampling. Instead the test of case study validity focuses on satisfying the following:

- construct validity
- internal validity

- external validity

Construct validity requires the case researcher to employ multiple sources of evidence and to then demonstrate how these sources collectively provide the picture of data convergence. Secondly construct validity requires the chain of evidence to be apparent to the reader (Burns 1997).

Internal validity is the test to determine how closely does the case approximate 'reality'. This test can be somewhat contrived considering the premise of the case study is that it seeks to observe and report on a reality that is unique and dynamic. This being the case the issue becomes one of accuracy and consistency in 'capturing' that snapshot of reality (de Vaus 2001).

External validity requires that the case researcher guard against the temptation of using evidence of the particular to claim a more 'general truth'. The task here is to provide rich and detailed description and to marshal the evidence so that the reader can enter the world of the case and determine whether the case has applicability to their own circumstances (ibid.).

In essence the case study is a method that is deployed when a detailed and 'layered' account is required. Its strength lies in its ability to respond with openness to the unexpected and its desire to get to the 'heart of the matter'. On the other hand case studies are vulnerable to charge that it can produce studies that are impressionistic, biased, not readily replicated and of questionable validity (Lancy 1993).

3.6 Conclusions

The limitation of the qualitative approach to research can be summarised by the term subjectivity. In some respects this is a well -earned criticism when research attempts to claim that it is neutral and has managed to capture the 'truth' through personal observation.

However where such research attempts to capture data by a variety of methods [such as observation, interviewing and document analysis] and seeks to offer description, explanation, and illumination it can enrich our understanding of the world.

Case studies feature prominently in the qualitative research and draws on the insights and strengths provided by the ethnographic research. The central plank of this research 'tradition' is to obtain as holistic picture as possible of the subject within its specific context. Thus case studies are often employed to obtain an in-depth understanding of a particular phenomenon. This focus on in depth understanding can lead to subjectivity and limited applicability of the research findings. To guard against subjectivity and to provide a measure of reliability and validity the case researcher needs provide accurate and consistent records and acknowledge where subjectivity could have 'coloured' the recording and writing up of the case. A further 'confidence building' measure is for the case researcher to use more than one data source and to triangulate such sources [e.g. gather data through interviews, observation and document analysis]. Through such triangulation the researcher is able to cross match and identify gaps or inconsistencies in the data gathered.

Case studies have been popular in the field of education because they afford the teacher-researcher an accessible means of investigation of

issues/questions that confront them in the classroom. By using either observational, historical or clinical case studies the teacher-practitioner is able to document, reflect and then if appropriate, act in accordance with what has emerged from their case research.

3.7 Research in Practice

This section outlines the ways in which the research was conducted and how material was collected for this study. After six years of implementation I decided in late 1998 that the time had arrived for the field studies programme to be described and reflected on in a systematic fashion, and this could be the basis of a research thesis topic. Two reasons motivated this decision. Firstly it was my belief that the field studies programme had developed into interesting project-based programme that had thrived in spite initial difficulties. Secondly curriculum changes were being introduced within the first year curriculum that would certainly culminate in closure of the field studies programme in its existing form, and so it would be appropriate to provide a written record of this programme before it ceased to exist. Linked to this was the fact that I was the only staff member who had a ' consistent' memory of the programme from its inception.

For these reasons this study is a case study that is partly historical and partly observational. The historical dimension of the thesis is the 'life history' of the programme and this history is 'charted' by drawing on:

- written documents used during the eight years of programme implementation

- unpublished faculty documents
- personal recollections of the period

The written documents were the project handbooks and guidelines that were issued to students and staff. These handbooks/guidelines provided information on to how the programme was organised, its aims, and what changes were made to the programme overtime. The unpublished documents were those issued by the faculty, they dealt with proposals concerning curriculum change, and as such played a role in the establishment and continuation of the field studies programme. Through reading the handbooks and faculty documents personal recollections of the period were triggered and a forgotten event/ decision recalled. By drawing on these recollections the 'history' of the programme has a 'personal' shade to it and the reader needs to take this into account when reading about the programme.

The observational dimension of the thesis covered the1999 and 2000 years of programme implementation. During these two years hitherto ignored sources of information/material were 'mined'. These sources were:

- Student Evaluation of the 2000 programme
- Informal conversations/ discussions with both staff and students
- Written work completed by the students

The **2000 Evaluation** of the field studies programme asked students to comment on and rate the various aspects of programme. This evaluation provided an in-depth 'snap shot' of student responses and attitudes towards the programme. While the results of this evaluation

could not be generalised, the results nevertheless confirmed in general terms what had already been anecdotally identified as student responses and attitudes towards the programme.

Informal conversations with staff and students provided the 'other voices'. Conversations with staff focused on their anxiety about programme implementation, their ability to meet the demands placed on them and student reactions to having to work in groups. In the case of students the conversations revealed their ambivalence about the programme and the demands it placed on their time and energy. Helpful as these conversations were with students and staff the information and comments volunteered were always 'censored' as both students and staff were conscious of my role of programme convenor. Notwithstanding this censorship these conversations were useful identifying concerns and issues, which in some cases could be addressed. Moreover these conversations served also as a sounding board to 'test out' new ideas or potential changes to the programme.

The **written work** of students provided an important and rich seam of information and insight to draw on as well as a powerful feedback loop. Three 'forms' of written work were consulted [the group report, the poster and student examination answers] and each of these 'forms' shed a different light on how students had approached and completed their project work. In the case of the group report it was the most substantial piece of written work and represented the group's biggest 'investment' in the project and became the source of information that student drew on to complete their poster and prepare for their examinations. The poster revealed to what extend students were able to extract the 'essence' of their project research and then 'express' it in a different form to that of their report. The examination answers

showed to what extend individual students 'digested' their project work and had made it their own. Thus by reading this work it became evident which of the project requirements had been met and which had not. Secondly it provided an indication of how effective the guidelines/project handbooks were in supporting students to complete their project work. It also provided a proxy indicator of the level and quality of supervision provided.

3.8 Limitations of this study

This study is in key respects a personal and reflective account by the researcher of how the field studies developed from a vaguely defined 'community-based' module into a fourteen week programme that required to students to a number of project-based learning activities. This is because the decision to 'document' this programme took place at the final stages of this programme. Secondly the motivation for documenting this particular project-based learning programme was to offer colleagues with a distillation of the researcher's experiences in designing and implementing such a programme. In other words there was no conscious decision to try and record 'objectively' from the start what was taking place. Instead the focus of the researcher during most of the 'life' of this programme, was in ensuring its continuity and development. Thus the 'voice' reporting on the 'progress' or otherwise of this enterprise is that of the researcher alone. What is lacking therefore are other 'voices' and sources of information [e.g. recorded interviews with staff and students and samples of student writing] that the reader could use to corroborate or not the arguments put forward by the researcher. Clearly this means that the study description that follows is not an objective account of what took place over the ten

years of preparation, design and implementation. This means that the 'conclusions', assumptions and deductions contained in this study are personal and 'idiosyncratic' and as such must be viewed with caution by the reader.

3.9 Conclusions

This study will provide the reader with an reflection on a particular project-based programme. It will not pretend to offer the reader a set of ready-made answers to issues that confront the would-be practitioner of project-based learning. Instead the reader will be able to learn about how a programme started out with modest expectations, but overtime with ingenuity and perseverance, was able to face and adapt to key challenges of implementation.

The narrative information and analysis provided I contend will enable the reader to:

- place the programme within its particular institutional context
- understand how and why the programme responded and adapted to the challenges its faced
- determine whether this programme did help to foster deep learning amongst students
- potentially draw on the 'lessons learnt' for future practice

The research approach used been a combination of 'historical' and observational' and what has been created is a case study that serves as the primary source for the analysis that follows.

Chapter Four
The Case Record

4.1 Introduction

This chapter is the case record of the eleven years of preparation and implementation of the field studies programme at the University of Cape Town (UCT). The purpose of this record is to provide the reader with as much appropriate descriptive detail as possible. In the following chapter an interpretation and analysis of the case will be provided. This case record is a carefully edited selection of the written documents used by students and staff during the eight years of the field studies programme. The case has been organised to provide the reader with sequential record of:

- the three years of preparation and piloting aspects of the programme (1989-1991)
- and then eight years of programme implementation (1992-2000)
- and an introduction that situates the case within a particular faculty context.

4.2.1 Introduction to the case

The time span of the case is an eleven-year period of preparation and programme implementation (1989 –2000).

1989-1991 was a period of preparation and securing the necessary core funding for programme implementation as well as 'trying out' some limited forms of project work. In **1992** was the first year of implementation and it had come about because a senior faculty

member had provided the 'space' [ie. six afternoons] from within his course. He had done so as a result of discussions between himself and members of the Undergraduate Medical Education Committee [UMEC] of the Faculty of Medicine at the University of Cape Town. Basis of these discussions had been how to increase the amount of 'community education' within the medical degree. The parameters of such 'community education' were never precisely defined, except that, students should be required to move off campus and learn about 'the community'. By the end of the **2000 academic year** the programme had evolved into a semester programme, involving 260 students and using the services of a full time programme convenor and fourteen part-time members of staff.

During the eleven-year period the programme had various phases, **Preparation** (1989-1991), **Development** and **Implementation** (1992-1993), **Coming of Age** (1994 and 1995) and **Refinement** and **Consolidation** (1996–2000).

4.2.2 Preparation phase, setting the stage (1989-1991)

In **1989** the Undergraduate Medical Education Committee (UMEC) of the then Faculty of Medicine [and subsequently re-named in 1995 the 'Faculty of Health Sciences'] wrote to all heads of departments in the Faculty asking them to document how much community-based medical education was provided for within their undergraduate courses. These letters had been written because the UMEC recognised that the Faculty should make an effort to better prepare graduates for clinical work in Southern Africa. As a result of responses to these letters the UMEC became aware of the "community" aspects of a first

year course called "Human Biology". A subcommittee of UMEC (charged with introducing primary care and community-based education into the medical degree) had discussions with the "Human Biology" convenor about developing the community aspects of the course into an optional course focussing on 'health and the community'. The convenor modified the idea by proposing that all students should participate in a small module of six afternoons. In that time students would visit selected community organisations and learn about some of the key social and health issues facing the city of Cape Town. This proposal was accepted by the UMEC and a staff member from the Faculty's Department of Community Health was asked if he was willing to arrange the visits and be the convenor for this programme. He made a counter proposal, that the visits should be the basis of a project programme for students. The Human Biology convenor accepted the proposal.

In **November 1989** a proposed budget (to pay for this new project programme) was submitted to the university's finance committee. In early February of **1990** it became evident that the university had only granted a small portion of the requested budget. In response to this setback the module was redesigned. Instead of six visits students visited two agencies (one dealing with "Street Children" and the other AIDS education) and participated in four campus-based tutorials that examined social issues from a medical perspective.

1991 the university granted an even smaller budget. This budgetary reduction was coupled with a significant increase in the number of students enrolled in the "Human Biology" course. In 1990 the student cohort had been made up of 150 medical students, this had increased to 250 students, because first year Physiotherapy and Occupational

Therapy students joined the "Human Biology" course. The smaller budgetary allocation had two effects; it ruled out organisational visits and the campus tutorials. Nevertheless these restrictions were managed by establishing a "poster project". In groups of six, students were required to produce a poster that illustrated a specific health or social issue and the relevant health/social services associated with that issue.

4.2.3. Development and implementation (1992 and 1993)

In **February 1992** the university finally provided the necessary core finance to enable the full implementation of the project programme. Two key challenges had to be addressed:

- recruiting and preparing sufficient supervisors and
- providing students with guidelines on the project requirements.

Recruiting and preparing staff was then identified as the greater of the two challenges. Firstly there was no existing "pool" of staff to draw on. Secondly given the budget allocation, the staff to be recruited could only be employed on a part-time basis with a modest salary. Three months (February – April) were spent recruiting part-time staff.

A month before the commencement of the programme (April 1992) eight of the sixteen supervisors indicated that they would not be available to supervise on the programme. The convenor set about finding their replacement by widening the scope of his search. Instead of limiting the search to social workers, the convenor decided to look for individuals who had training and experience in running groups. The convenor reasoned that the primary skills needed by a potential

supervisor were not "academic" or "professional", but rather the skills of helping a group of students complete a set of assigned tasks (i.e. the skills of facilitation). With this change in emphasis the convenor was able to recruit a further eight supervisors and the programme commenced as planned in May 1992.

Developing the handouts also proved to be more difficult than anticipated. The convenor had assumed that prototype guidelines could be obtained from the School of Social Work at UCT. The reason for this assumption was that the programme was loosely based on an existing programme offered by the School of Social Work. In the event the School of Social Work did not have a set of guidelines and the convenor was forced to develop a set of guidelines.

Despite the initial difficulties the **1992 programme** was implemented as originally intended. The class was divided into eighteen groups [comprising fifteen students] and each with their own supervisor. For six weeks students researched a suburb of Cape Town and a social/health agency located within the suburb. Each student group used the information they had gathered to produce a *written report, poster* and give an *oral presentation.*

Student and staff evaluations of the 1992 handouts indicated that they had been of limited use. The major criticism levelled against the handouts (particularly the one for the report) was that the explanatory information and instructions provided were too generic, and did not explicitly describe what was required of students. Instead students had to "second guess" what was required to complete the project tasks. (See Appendix One). Overall 1992 was seen as a modest success that could be built upon.

Building on experience gained the **1993 programme** was a modification of the 1992 programme. It was divided into two separate projects – **"Community Diagnosis"** and **"Case Study"**. This separation had come about to promote greater scope for student learning. The "Community Diagnosis" project was focused on the broader or "community" aspects of health. The "Case Study" project used a 'fictional'/paper case of an individual/family as the means by which students researched a particular health or social issue from the perspective of a future health care professional.

In response to student criticism the 1992 project guidelines were revised for the **1993 projects**. The revision included an introduction that explained relevance of the "Community Diagnosis" project in relation to health care practice. (See Appendix Two for details of the1993 Project Guidelines). The need to "justify" this project and its successor (the "Community View" project) became a continuous task of both the convenor and the supervisors. The convenor and staff attributed this need to justify the project to students for two reasons. Firstly many of the students came from socially and economically secure home environments so that health and the factors that supported health were taken for granted. Secondly the students had no working clinical experience that obliged them to make the obvious connection between health, illness and community factors.

The 1993 programme helped establish the key two subdivisions of the programme [ie. its division into two projects] that would be used for the next seven years of programme implementation.

4.2.4 Coming of Age (1994 – 1995)

1994 and **1995** were pivotal years for the consolidation of the field studies programme. By the end of **1993** academic year a number of key issues had been identified that required attention. These issues had to be addressed so that:

- all 250 students were purposefully engaged for the duration of the programme
- students and staff had appropriate information and guidance about project requirements
- the projects could be completed within a limited amount of scheduled time
- inexperienced and part-time supervisory staff could effectively work on the programme.

A strategic decision was taken that a handbook would be the most effective way to manage these key issues. Between **September 1993** and **February 1994** the first project handbook was developed to address these issues.

Drawing on student feedback (the years 1992 /3) the handbook was designed so that a student when reading the handbook would understand:

- the *rationale* behind the projects,
- the *nature* of the programme (ie. that it had two distinct projects),
- the project *requirements* (ie. report, poster and oral presentation)

- how to *complete* the requirements,
- how these requirements would be *assessed.*

Particular attention was paid to provide students with sufficient detail on how to *complete* the project requirements. This was done to support student activity outside of scheduled contact time with staff. The need to support such activity was essential as the amount of scheduled contact time between students and their supervisors was limited to one hour a week. If students had relied on this contact time alone, they would have struggled to complete their projects. It was in this year that the programme became the 'Field Studies Programme and the two projects were renamed respectively as 'Community View' and 'Case Narrative and Resource Study

Student feedback on the **1994** handbook indicated that students liked its design and layout and found the instructions useful and comprehensible. As one student put it "the handbook was a 'road map' for completing the projects" (See Appendix Three, for an edited version of the 1994 Handbook). 1994 was one of the milestones of the programme as it demonstrated how a well thought out handbook could bring added value by providing students with focus and direction.

In **1995** the field studies programme was incorporated into a new first year course called "Health and Society". The establishment of the course was the culmination of the debate that had been started with the publication in 1992 of the UMEC's document called "Undergraduate preparation for primary health care at UCT" in the document the authors argued for the 'development of interdisciplinary problem-based learning modules incorporating community and

primary care exposure that could foster those attitudes in students essential to the delivery of primary care' [UMEC,1992, p2].

The course introduced students to the:

- notion that a range of non-clinical factors powerfully affects the health and well being of individuals and communities and
- concept of primary health care.

The **1995** project handbook reflected the programme's incorporation into the new course by requiring students to investigate the extent to which health services in their research areas provided primary health care. The expectation was that students would see a link between the theory of primary health care and its application "on the ground". Key questions that had to be answered included:

- What access do people have to health services in their area?
- Are these health services affordable and appropriate?
- Do the health services provide promotive, preventative, curative and rehabilitative care (ie. primary health care)?

Student feedback on the **1995** programme was both positive and negative. On the positive side the students commented on the fact that the programme was well organised and staff were available when needed. On the negative side students felt pressurised because they had to complete a lot of work within a tight schedule. Secondly students did not like the practice of awarding a **group** instead of an **individual** project mark. After weighing up the issues the decision was taken not to alter the programme's format.

4.2.5 Refinement and consolidation (1996 – 2000)

1996 marked an important year in the consolidation of the programme. In that the second project – the Case Narrative and Resource Study – was fused with a module called "Contemporary Health Issues". By the end of 1995 it was evident that there was overlap between the second project ['Case Narrative' project] and a module within 'Health and Society' called 'Contemporary Health Issues'. Moreover it had become apparent that the project programme was becoming too predictable and some of the supervisors were becoming "stale".

To address these two issues the decision was taken to fuse the second project and the course module. In this way duplication could be eliminated and a new dimension to the project programme was created. The challenge lay in developing a "mechanism" for fusion. The mechanism devised was the "research prologue" to the second project. This prologue required students to examine the research, policy and practice issues of their "case" (e.g. a street child). In this way the prologue placed in a wider context the management plan devised by students, as well as demonstrating the conceptual links between their research and their case narrative (See Appendix Four for the Research Prologue on Street Children).

In addition the fusion of the module and the second project meant that for the first time students were required to sit a written examination on based on their second project.

The research prologue had two other consequences. Firstly it resulted in a major *timetable modification* and secondly it changed the *staff profile.*

Between 1992 and 1995 the programme had been allocated thirteen weeks of scheduled time in all [ie. six weeks for the first project and the reminder of time for the second project]. During these years the first project had been completed under difficult circumstances. Firstly the six weeks of time was not consecutively organised and this meant that students had to switch between the project and other learning activities. Secondly this project straddled the June vacation and the surmise was that students would use a portion of the holidays to do outstanding project tasks before the start of the second semester. In reality this did not happen and students returned to campus after their June holiday with the pressure to submit their project work by the end of the first week of their return to campus.

In **1996** there was a timetable modification that resulted in both projects receiving allocated consecutive time and in addition the second project benefited by:

- each student receiving one 'community research day' [starting at noon and ending at 16h30] per week for the duration of the project and
- three lecture periods a week for library research related to the project.

The introduction of the research prologue also changed the staff profile. This was because it had an impact on the role of supervisors. Whereas in previous years their primary responsibility was one of facilitation based on the handbook, they now had to assume a more active role by researching and developing their group's research prologue. For a number of the supervisors this proved to be too onerous a responsibility and they left the programme at the end of

1996. Thus the research prologue became an influential factor in determining the staff composition of the programme, so that from 1997 onwards, the majority of supervisors were social workers experienced in supervising university students.

The **1996** handbook was further revised. Firstly the section dealing with primary health care was strengthened, by including questions on how to assess primary health care delivery in the community. Secondly a new **assessment protocol** was included. This protocol had been developed in the response to persistent student criticism about the awarding of a group project mark, regardless of individual performance. The protocol was designed to address student criticism and yet retain the group mark. It did this by providing students with the means to assess the contribution of a student who in the opinion of the group did not merit the group mark. By using the protocol students could clearly itemise in what ways the particular student had not contributed. The protocol was in effect an instrument of adjudication (See Appendix Five for details of this protocol).

The assessment protocol proved to be an important development. While its introduction did not remove all criticism of the group mark, it nevertheless signalled to students that there was a concrete way of ensuring that students who did not actively contribute towards the completion of the project would not get the same mark as other students in the group. In the event students seldom used the protocol because they did not want to "pass " judgement on another student and be responsible for the student getting a lower mark or failing the programme. Instead students would approach their supervisor and identify a particular student who in their opinion had not participated/contributed satisfactorily. The supervisor would then use

the protocol to "document" the student's non-participation. The student concerned would then be shown the results of the assessment, and be given the opportunity to challenge all or parts of the assessment. The staff member would then adjudicate a mark for the student taking into account their version of events. While the issue of the group mark never disappeared, the protocol did much to take the "heat " out of the issue.

1996 was viewed as year of new 'gains' in that extra time was freed up for project work and the assessment protocol provided a feasible means of addressing student concerns about individual student participation on the programme.

In **1997** the handbook was revised to address two issues. The first issue related to student difficulty in distinguishing between *primary care* and *primary health care* and the application of primary health care at a community level. Most students saw primary care and primary health care as interchangeable, and viewed its application in purely curative terms (ie. as it related to hospital-based services). This was a serious misunderstanding of these terms and its application. Firstly, the country's public health services were being re-organised in terms of primary health care, and secondly on graduation students would be working within this re-organised health system. To address this misunderstanding the section in the handbook entitled "Health Services" was revised to include definitions of the terms primary care and primary health care, and concrete examples were given to illustrate that primary health care meant more than the provision of hospital based services. Secondly a set of questions was provided to help students assess the local health services from a primary health care perspective. This revision also had the effect of making an explicit

connection was between the course lectures on primary health care and the "Community View" project.

The second revision to the handbook centred on how the project report was assessed. This was an issue highlighted by student and staff feedback. Students had indicated that they wanted more explicit feedback on how their supervisor had arrived at a particular mark for their report. For staff (particularly new staff) they wanted guidance on how to **qualitatively** assess their students' work. To address these concerns a "marking schedule was devised that could be used in conjunction with the Score Sheet for the Report. This revision took the form of "schedule" that accompanied the existing mark protocol. By providing this schedule in the handbook the students were notified in advance what criteria would be used to assess their report (For details of the Marking Schedule see Appendix Six).

In this year the timetable was further modified with the introduction of a self-directed learning module on primary health care. This module was scheduled to 'run' at the same time as the first project. This meant that a similar community research day was created for the first project. Secondly the work that students did for the module could contribute directly to their 'Community View' project because it dealt with theory and international practice of primary health care.

As far 1997 was concerned the programme made further steps in the direction of helping students to try and understand the primary health approach and its implementation on the ground. Secondly the 1997 programme sought to increase student awareness about assessment.

In **1998** students were required for the first time to sit a written examination on their "Community View" Project. The examination had

been introduced to achieve academic parity between the two projects (See Appendix Eleven). As far as the handbook was concerned information and instructions dealing with the posters and the "Case Narrative " Project were revised. In the case of the posters, the revision had become necessary because students needed more guidance on the design and layout of the posters. So a revised **Score Sheet** was provided for this purpose. By reading the score sheet students' attention was drawn to the importance of:

- providing a range of information (both factual and interpretative)
- achieving a balance between text and illustration
- determining what type of information/data should be used

From an assessment point of view by reading the score sheet carefully students could identify the relative academic value of the constituent parts of their posters. For example the research conclusions had greater academic weight than the introduction. (For more information on the Poster Score Sheet see Appendix Nine).

The **guidelines** for the 'Case Narrative and Resource Study' project were also revised to provide a new framework – Circumstances, Options, Resources and Action (CORA). The provision of a framework had become necessary because students had struggled to write up their case in a systematic way that accurately reflected what they had investigated. (See Appendix Eight for details of this framework).

At the conclusion of the **1998** programme it was evident that the revisions to the handbook had brought about some improvement in student work. In the case of the posters, they had been organised

accordance with the score sheet and demonstrated improvements in design and layout. Nevertheless an unintended consequence of the new poster score sheet was that the posters became too "wordy" as students overloaded their posters with written text.

As far as the reports were concerned staff reported that the CORA framework had proven to be useful, as student management plans became more coherent.

In **1999** two versions of the handbook were printed. The facilitator's version contained a new introduction on how to orientate students to the programme. This had been regarded as necessary because of repeated requests from new staff to give them ideas on how to structure the first afternoon of the programme. The introduction went into some detail on how to do this (e.g. arrange the students in a circle, welcome students and introduce yourself, handout the handbooks and other assigned reading materials etc). Also mentioned in this introduction was the need for staff to be strongly supportive by helping students create a functioning project groups.

Apart from the introduction, word limits were introduced relating to the written reports and the posters. The primary reason for their introduction was reduce the assessment loads of staff. In **1998** three supervisors had said that they were leaving programme because of the marking loads created by the reports. As one of the supervisors observed the reports appeared to have expanded every year. As far as the posters were concerned, the word limits were introduced to ensure that the posters did not become *de facto* "essays with illustrations".

The word limitations for reports and posters were effective. The consolidated reports were reduced in length (from an average length of

80 typed pages) to a standard length of forty-five pages, while the posters became less " textually dense" and more visually interesting.

In **2000** a major timetable re-organisation occurred. The re-organisation meant that the maximum amount of scheduled time was made available for the field studies projects. This re-organisation meant that for the first time the projects ran consecutively without interruption.

In this year a revised introduction was provided to both handbooks (for students and staff). Both introductions spoke about the need to create a functioning group and gave some "pointers" on how to create a group:

- need for students to "get to know one another"
- develop ground rules by which the group would operate, and
- define the various group roles [such as chairperson, note-taker and timekeeper].

The introduction to the facilitators' handbook covered the same issues as those in the students' handbook but in greater explanatory detail so that they could actively help students in establishing a functioning group. It had become increasingly apparent to staff that students needed information on how to create a functioning group coupled with staff support, as they were not formally trained in how to work in groups. In their other courses, although they worked in groups (such as in the laboratory) their learning and assessment was as individuals. In this programme on the other hand, the group played a central role in student learning and assessment. To reinforce the importance of the group process, a new assessment task was introduced – the personal report. The purpose of this task was to help students to "take a step

back" and to think about how their group functioned, and the contribution they had made to the group.

The other revision to the handbook was related to refinements to the score sheets for the posters. The revision had become necessary because students had found it difficult to design their poster, meet the word limit and consistently acknowledge their source material. The revision structured the poster score sheets in such a way that students were given explicit guidance on how to lay out their posters, determine what information should be included and in what part of the poster (e.g. whether the information should be part of the Introduction or the Conclusion) and when to provide citations.

Another innovation of 2000 was the introduction of the 'Open Book' Examination. The rationale behind its introduction was its aim to test students' conceptual understanding of their project topic rather than to simply test their ability of factual recall (See Appendix Fourteen).

During the implementation of the 2000 programme two particular organisation issues came to the fore. The first concerned student safety. A group of students approached the convenor because they felt 'at risk' in the area they were expected to work in and wanted 'something to be done about it'. The group's solution was for the faculty to put a microbus and driver at the group's disposal. The microbus would be the group's 'mobile office'. After investigation it was found that the group's feelings of vulnerability were based on two issues. Firstly the group were reluctant to use public transport as they felt they were targets for harassment and theft. Secondly they also felt at risk in the area for the same reasons. These feelings had persisted despite the efforts of their supervisor to look at ways of dealing with

these feelings [such a proposing to students that they travel together as a group and arranging for 'community introductions']. In the event the 'mobile office' option proved to be unfeasible as students were reluctant to make a direct contribution to the hiring costs, and the students resorted to using public transport and continued their project work.

The second organisation issue was of a student's non-participation. The student's supervisor approached the convenor to relate that one of her students had made no contribution towards the completion of the first project, despite active intervention on her part. After discussion it was decided to refer this matter to the group for a decision. After some deliberation the group decided to give the student a 'suspended' mark on the basis that the student had 'family problems' and he had pledged to work harder during the second project. This hard work did not materialise during the second project and so the student received no field studies mark, failed the programme and was subsequently excluded from the faculty.

At the end of the 2000 programme students were asked to complete a questionnaire on various aspects of the programme.

As far as the students were concerned they delivered their 'verdict' on the 2000 programme by completing a questionnaire (See Appendix Twelve). From a design and implementation perspective student comments on the following areas are of interest:

- Aim of the programme
- Project tasks
- Project handbook

- Group size and project requirements
- Projects and developing skills
- Projects and barriers to learning faced by students
- Group size and project requirements
- Project work and marks

The majority of students (**138** out of **168**) believed that the **programme** had achieved its **aim** of helping students develop an understanding of the various factors that can affect the health and well-being of individuals, groups and communities. Three students indicated that the projects failed in its aim and were a burden to them.

On **project tasks** [writing up a report, and designing a poster] **146** students indicated that these tasks required more thought and effort than attending a lecture or tutorial. Students commented that the project tasks had made them question issues and think for themselves. **16** students on the other hand believed that there was no difference between completing the project tasks and attending a lecture, except that project work involved more out of hours work.

157 students endorsed the role of the **project handbook**, while **17** students found the handbook of only limited use. Those who endorsed the handbook felt that it had provided them a framework to build on with instructions that were clear and easy to follow. The students who had found the handbook of limited use found its instructions to be either too rigid or ambiguous and terms used were difficult to understand.

To the question whether the projects had helped them **develop skills**, students said yes and identified a range of such skills. Analysing information [**123**], presenting research results in different ways [**100**] , writing up an academic report [**96**] and using evidence to develop an argument [**83**] were the four types of skills most frequently identified by the students. Student written comments revealed that students felt they had become more 'critical' when reading information, were learning to differentiate between relevant and irrelevant and could develop an argument based on facts.

The programme earned the most criticism on the matter of group size. This was regarded as the single biggest **barrier to learning** faced by students. Students felt that their group was too large to work constructively, that there was a lack communication between students within the group and that students had different work ethics. Poor supervision and co-ordination compounded these difficulties.

An alternative view on the size of the group emerged when students were asked whether the size of their group affected the ability of the group to complete their **project requirements**. Some students believed that the size of the group made it easy to divide up the project workload, to collect data, and draw a variety of skills that were available within the group.

On the issue of **project work** and **marks** students contented that high marks were given when [in order of importance] students:

- analysed and argument and explained a problem/issue
- developed an argument
- gave information/ facts

The final section of the questionnaire asked students provide recommendations concerning **changes to the field studies programme.** A few students advocated its abolition, while others suggested that there should be only one project and it should to be complete before the September vacation to allow students to concentrate on their end of year examinations. The other recommendations were for smaller sized groups and to allow students more freedom when it came to completing the report, presentation and poster (For a detailed summary of the questionnaire results see Appendix Thirteen).

4.3 Conclusions

The end of the 2000 programme marked eight years of programme implementation during which **1 700** students completed project-based learning. It was period during which the programme faced a number of challenges [e.g. the sudden departure of staff, managing large cohorts of students, student dissatisfaction about group assessment and timetable constraints]. By managing these challenges in certain ways the programme underwent a particular process of incremental change over time.

This incremental change was most pronounced in a *structural sense* in the years **1993** and **1996.** In 1993 the programme was divided into two projects, while in 1996 the research prologue was introduced. This prologue then triggered a series of changes in the timetable that culminated in the allocation of uninterrupted time for the projects in 2000.

Alongside these structural changes were the regular revisions to the handbook aimed at improving its utility for students and staff.

Linked to these regular revisions of the handbook were the evolution of the project tasks and requirements for both students and staff. This becomes apparent when one compares the requirements of **1993** with those of **1997** and **2000**. This holds true even when one discount the amounts of time scheduled for project work in 2000 when compared to 1993 and 1997. In other words as the handbook increased in utility so did the project requirements increase in qualitative challenge.

The deepening of the academic requirements over time was also a reflection of the programme's increasing maturity as a vehicle for project-based learning. In the early phases of project implementation the concerns where about the need to:

- establish and the ensure the continuity of the programme
- delineate its requirements [ie. the report, poster and presentation]
- provide students with a project 'map' [ie. the handbook].

Once these foundational aims had been secured the issue of assessment came to the fore. In the early years assessment was used in a narrow sense to help ensure the programme's continuity. It was only later that the programme used assessment in a more positive sense as a mechanism to support and enhance student learning [See Appendices Six and Seven].

Another dimension of the programme's evolution was the role that the timetable played. Initially the timetable was not recognised for what it could do to support project work, however by 2000 its role was being fully exploited.

One of the under developed facets of the programme was preparing students for project-based learning. Its importance was only recognised late into programme implementation and as a consequence students generally saw their project work in task terms. This view of project work was reinforced by the structure of programme. Firstly until 2000 students were not required to consciously reflect on their project experience or their personal contribution to their group [See Appendix Fourteen]. Secondly students were not assessed on their project participation. When the group process was assessed it was for negative reasons (i.e. a student had not satisfactorily participated). This failure to prepare students for project-based learning and to require them to reflect on group process was an unintended consequence of the 'success' of the project handbook. Perhaps had the handbook not worked as well the staff might have been compelled to ask the basic question – are students prepared for the type of project-based learning demanded of them by the field studies programme?

Student comments on and general endorsement of the 2000 programme provides a degree of validation of the decision to structure and implement the programme in the way it was. Even the criticism of the programme (the project groups were too large and some groups experienced poor supervision) were not unexpected. These were in built limitations imposed on the programme from the start.

Lastly, the fact that the programme existed for as long as it did is an achievement in itself. On relatively slender resources, not only did the programme survive, but also it developed into a vigorous programme that became a central learning activity for the students during their first year of study. After eight years of implementation it is easy to forget that the lack of core funding postponed its implementation for

three years, and that the programme was in the balance for a further three years. The struggle for core funding was not unique to this programme; it has been the leitmotif of South African higher education for many years. Nevertheless what is striking about this particular story of project implementation was the way in which students and staff rose to the challenge and transformed the field studies programme into one that far exceeded the ill-defined and modest expectations of the Faculty's UMEC. In so doing, demonstrated the value of project-based learning can play in undergraduate education.

Chapter Five

5.1 Introduction

The chapter identifies what were the key project challenges over the eleven year period, how they were responded to and the results that occurred. The chapter then discusses how this process [of challenge-response-result] influenced the character of the field studies programme.

As described in a previous chapter the programme had four phases – **Preparation** (1989-1991), **Development** and **Implementation** (1992 and 1993), **"Coming of Age"**(1994 and 1995) and **Refinement** and **Consolidation** (1996 – 2000).

Preparation for project work and piloting project activities charts the struggle to obtain university finance for implementation. This struggle for university finance was not unique as academics can provide a wealth of anecdotal evidence on how promising courses were jettisoned because of institutional disinterest. What was perhaps unusual was the degree of perseverance and ingenuity used to keep the vision of the programme alive prior to full implementation

Development and Implementation was a critical period for the programme, as it required the translation of the vision into a set of concrete learning activities. The experience gained by the convenor during the pre-implementation phase stood him in good stead as he worked to surmount the hurdles of staff recruitment and materials development.

"Coming of Age" was the period when the broad characteristics of the programme were confirmed (i.e. it was a project-based learning

programme strongly directed by a handbook). The handbook by this stage had become the central focus of concern for the convenor. It was his belief that improvements to the functioning of the programme could be most effectively achieved by modifications to the handbook.

Refinement and Consolidation was the period that witnessed programme refinements that resulted in the deepening of project tasks. Assessment requirements were also enhanced. In tandem with these enhanced assessment requirements, students were given more detailed explanatory information on the criteria used to assess their project work. Towards the end of this phase the first tentative efforts were taken to prepare and support students to create co-operative groups. In summary this chapter outlines how the programme was managed over time, and, how it responded to key challenges of implementation. The results of this cycle of challenge and response included:

- the programme becoming more carefully structured
- more tangible support given to students and staff
- an over reliance on project task at the expense of group process

5.2 "Preparation"

In **1989** the convenor persuaded a senior member of faculty that a feasible way of implementing 'community-based' learning would be to divide the students into groups and require each group to complete a project. He had made this proposal based on the recognition that whatever programme came into existence it would have to be based on modest resources. Thus projects were proposed as the means of achieving community-based learning with limited resources.

Once this proposal had been agreed to, the key challenge became obtaining the necessary core finance.

For two years [**1990** and **1991**] the university failed to provide adequate core finance to for programme implementation; in 1990 budget allocated was a third of what had been requested and in1991 an even smaller budget was provided. This failure to provide the necessary finance represented a disjunction between the university's spending priorities and the UMEC's commitment to "community based" learning. In hindsight this disjunction demonstrated that the UMEC did not represent the prevailing faculty view on this issue. Instead they probably represented the minority view. However this rejection was never explicitly articulated instead the proponents of the programme were encouraged to make the necessary application for funds for programme implementation.

When in early **February 1990** it became evident that the university had provided an inadequate budget, the decision was taken to use the available money in such a way that it could realise some aspects of 'community-based learning'. This was done by organising a schedule of visits to local community organisations combined with four campus-based tutorials that examined topical health issues from a community perspective (ie. " a community view"). The visits were structured in such a way that students were required to find out what role these organisations played in meeting the health/social needs of their target groups (e.g. street children). The tutorials were devised to challenge "medical orthodoxy" by requiring students to explore controversial issues from a holistic perspective.

The following year (**1991**) with an even smaller budget than in 1990 with the result that the organisational visits and the four tutorials had to be scrapped. It was at this point that the convenor came close to believing that 'community-based' learning would not be realised and he should cease efforts aimed at implementing such learning. Nevertheless he overcame his disappointment by instituting a poster project. The idea for the poster project had come about as a result of chance encounter with a colleague who had mentioned how impressed he had been by the student posters in the Zoology Department. He expressed the hope that medical students could have an opportunity to learn how to produce a poster and thereby develop such skills, given the fact the academic posters played a prominent role at medical conferences.

The convenor then went to view the posters and also spoke to relevant staff members in the Zoology Department about the role the posters played in their department's teaching programme. The convenor ascertained that the posters were used as an alternative medium for Zoology students to use a range of skills (e.g. writing and creativity) to demonstrate what they had learnt when researching a topic.

On the basis of the poster viewing and the discussion the convenor realised that a poster project would be the solution to the problems posed by the reduced budget allocation, as the posters would enable:

- students to pursue a new learning activity
- them to work in groups and study health issues from a "community perspective"

- the convenor to implement a credible learning programme on a modest budget.

Thirty-six project topics were generated along with some guidelines on how to produce a poster. For six weeks students [in groups of four] researched a particular topic and submitted a poster for marking. Student evaluations had indicated that they had liked the opportunity of producing a project but had found the project guidelines inadequate.

The responses to the budgetary difficulties had long term and positive results for the programme. Firstly it taught the convenor the importance of crisis management and to persevere even when the conditions appeared not to be favourable. Secondly the setbacks became opportunities to test out new ideas. For instance the 'organisational profile' in the project handbook has its genesis in the **1990** requirement that students complete a descriptive report on their organisational visit. Thirdly the **1991** poster project proved to be a ground breaking experience by :

- demonstrating the educational value that posters could bring to a programme by engaging students in a range of different tasks [e.g. collecting and organising information in a variety of ways]
- proving its potential as a possible project requirement
- demonstrating the importance of providing explicit instructions to students concerning project requirements

5.3 Development and Implementation (1992-1993)

In early **1992** the university finally granted the necessary core finance for programme implementation. The challenge now became of programme implementation, in particular, the need to recruit **eighteen facilitators** and to provide **necessary guidelines**, as neither was available for the programme.

Firstly the need to recruit so many staff was based on the fact that there were no faculty staff available for student supervision. On the matter of guidelines – none were immediately at hand.

Initially the convenor had been quite sanguine about the prospect of recruiting so large a number of supervisors. He had assumed that colleagues in another university department would have on file a number of people who would be interested in part-time paid work. It soon became apparent to the convenor that his assumptions had been misplaced and recruiting suitable staff would be difficult as the department concerned did not have the hoped for list of part-time staff. Nevertheless a departmental staff member suggested that he contact the directors of local of social work agencies and ask them if they could recommend any potential supervisors. The convenor spent the next two months contacting social work agencies and following up "leads".

A month before the commencement of the programme nine of the eighteen supervisors indicated that they would not be available to supervise on the programme. The sudden withdrawal of the nine represented the **single biggest critical incident** in the history the programme. The choice was a stark one, either find replacements or close down the programme before it had even begun. It was at this critical point that decision was taken to widen the search for

supervisors beyond social workers. By widening the scope of the search nine replacement supervisors were found and the programme was implemented.

The months spent recruiting staff was a steep learning curve for the convenor during which he learnt the importance of:

- developing networks to recruit staff
- recognising that part-time staff can represent a 'threat' to the viability of a programme by suddenly withdrawing

Providing project guidelines for students also proved more difficult than initially believed. Instead of a number of pro-type guidelines been available for suitable modification none existed. Instead a set had to be devised in time for the commencement of the programme. What emerged was a page of generic instructions that aimed at helping students to write up their project report.

The experience of having to recruit so many supervisors at once was beneficial. Firstly it underscored the importance of networks [within the university and beyond] to source staff. Secondly it demonstrated the importance of offering work to people wanted part-time work, not to individuals already in full-time work or those looking for full-time work.

On the matter of the project guidelines the need to write guidelines was invaluable. It forced the convenor to attempt to put down in writing what was expected of students. Secondly it started the 'tradition' of 'materials development' that would serve the programme well in future years.

5.4 "Coming of Age" (1994 and 1995)

Having surmounted the first two years of project implementation the next set of challenges were those of a programme which would either take "root" or 'wither on the vine'. By **1994** the number of enrolled students had risen from 160 to 260 students. There were two reasons for this increase. Firstly the first year intake of medical students had increased from 160 students to 200 students, and secondly, first year students from the departments of Physiotherapy and Occupational Therapy joined the programme. At the start **1994** academic year the programme challenge centred on how to manage a large cohort of students and with an even larger cadre of part-time staff. It was decided that the programme could manage by:

- Recruiting more staff
- Providing students and staff with the necessary support so that students could realistically meet the project requirements

The programme met these challenges as follows:
On the question of the need to recruit additional staff, there was the real prospect of not being able to recruit sufficient staff in time for the commencement of the **1994** programme. The various networks that had been used had only provided replacements for existing staff who were leaving, not the additional staff now required. It was almost by accident that the solution to this challenge was provided. The convenor had been grappling with the various administrative conundrums created by the faculty's rigid timetable. It was in the course of dealing with these conundrums that he realised that he could use faculty's timetable to his advantage when it came to the issue of project supervision. In essence the timetable divided the student

cohort into three separate segments and these segments were rigidly allocated to specific afternoons for their project work (ie. either on a Tuesday, Wednesday or Thursday). This meant that each afternoon had a fixed number of students and that students could not switch between afternoons to do their project work. This timetable arrangement meant that it was possible for a supervisor to supervise more than one project group during the course of a week (ie. they could supervise a group on a Tuesday and on a Thursday afternoon). This arrangement was investigated to determine its feasibility.

By using the opportunity provided by the timetable the need to recruit more than eighteen facilitators became unnecessary. On the contrary the number of facilitators required was **reduced.** By offering selected staff one additional group each week only sixteen facilitators were needed as opposed to the notional twenty-one. Secondly an unintended [but beneficial] consequence was the retention of a greater number of experienced staff as the additional work made it worthwhile for them to remain on the programme rather than to look for alternative work.

By end of **1993** student feedback pointed to the need to consolidate and amplify the project guidelines to provide a usable document of reference. This document could in turn play a benchmark role by requiring a basic level of consistency in the work submitted by students. This in turn would make it easier to mark the projects, as a level of expectation would be established. By commencement of the 1994 programme the first ever project handbook was made available to students and staff.

The **1994 handbook** did serve as the document of reference. Student and staff queries about project requirements were reduced significantly, as the handbook provided them with explanatory guidance and information on how to complete the project requirements (i.e. the report, oral presentation and poster). Secondly the handbook conveyed to students a strong sense that the field studies programme had been carefully thought out. Thirdly the handbook was an important marker as it established the "boundaries" of the programme and gave the convenor the confidence to deal with periodic criticism that came his way from students and staff.

The 1995 student feedback highlighted an issue that went to the heart of the field studies programme – the group project mark. Students were adamant that a 'fairer' system would be the awarding of a project mark to each student. The group mark had been originally introduced to signal to students the importance of group participation. This intention had been compromised by the size of the groups that allow a disinterested student to benefit at the expense of involved students. The convenor recognised that this arrangement could negatively influence student motivation. The student proposal that an individual project mark be instituted was problematic from a management point of view as it would greatly increase the marking load of staff and this would have to be paid for.

For two years the staff grappled with this issue without providing a satisfactory response to student criticism.

5.5 Refinement and Consolidation (1996-2000)

Between **1996** and **2000** a number of challenges emerged as the programme moved from its infancy, through "coming of age" and into its final stage of maturity. The key challenges of this period were:

- merging of a course module with the second field studies project
- project assessment
- adapting the timetable to support the programme
- the changing staff profile
- getting students to recognise that project work is a combination of task and process

a) Merging a course module with the second field studies project

By the end of **1995** two things became apparent. Firstly the field studies programme was well established and the decision to provide the handbook had [in the view of the convenor] been an appropriate one. Secondly it was evident that unnecessary overlap had occurred between the second project ['Case Narrative' project] and a module called " Contemporary Health Issues". This overlap was the consequence of the introduction of a new course " Health and Society" in 1995 and the inclusion of the field studies programme within the course without carefully determining whether potential overlap occurred between the two. The challenge then faced by the convenor lay in developing a mechanism that would eliminate this overlap without compromising either the module or the second project.

The issue of overlap lay unresolved for several months and then the idea was mooted of eliminating the overlap by merging the course module and the second project by reconfiguring the module into a research prologue for the second project. The research prologue would then strengthen the second project by providing it with an explicit research/theoretical framework. The project on the other hand would provide the practice context that had been missing from the module.

The research prologue had the desired effect in three ways by eliminating duplication, strengthening the *theoretical* dimension second project and finally by requiring students to write an examination paper on their second project.

The prologue had one unintended consequence — it brought about a major change in the profile of staff. Between 1992 and 1995 the role of the supervisors had been essentially to support their students by using the project guidelines/handbook. This changed in 1996 when for the first time staff had to provide their group with a research prologue. This meant that staff had to familiarise themselves with a particular topic and then identify key research and practices issues linked to the topic. For a number of staff this task proved too onerous and they left the programme at the end of 1996 because they felt they lacked the expertise and skills to master the art of developing a research prologue. Those that replaced them entered the programme on the basis that they could amongst others skills develop a research prologue.

b) Project Assessment

Since the institution of the programme assessment was a thorny issue. In the early days of the programme the primary concern was to use

assessment activities as one of the means whereby students would take the programme 'seriously'. Thus assessment was viewed as a means of endowing the programme which "due academic weight". Overtime there was growing recognition amongst the staff of the need to provide *variation* in assessment and to give students sufficient information to enable them understand *what* was being assessed and *why*.

Group verses an individual project mark.

Until 1996 there was no adequate response to student dissatisfaction concerning the group project mark. **1996** marked a turning point with the introduction of an assessment protocol to be used in cases where a student had not satisfactorily participated on the project. By using the protocol a differentiation could be made between those who had worked on the project and those who had not. This assessment protocol had been devised based on the recognition that the group mark was most often contested in those instances where one or two students had not participated satisfactorily but still 'earned' the same mark as other students. The assessment protocol sought to provide the remedy for such situations.

Written examinations

They were introduced in 1996 and 1998. In 1996 a written examination paper became part of the requirements of the second project. It "inherited" an examination requirement from the module "Contemporary Health Issues". A written paper for the first project was introduced two years later to ensure a degree of assessment parity and consistency between the two projects.

Assessment of report, poster and oral presentation

Prior to 1997 the project handbook provided students with generic frameworks that was used to assess their report, poster and oral presentation. By 1997 it became apparent [via student feedback] that these frameworks were inadequate, as it did not provide students with sufficient information on how their work was *qualitatively* assessed. This recognition was indicative of the programme's increasing recognition of value that such information plays in signalling to students what is expected of them. Between 1997 and 2000 the type of assessment information concerning the report, poster and oral presentation was continually revised to provide students with appropriate information.

With the introduction of the *assessment protocol* and *written examinations* student criticism became more muted, as greater mark variation between students was achieved. It would be correct to say that students would have preferred a project mark solely based on their **own** project performance.

From implementation point of view what was of more interest was the provision of detailed assessment information between **1997** and **2000**. This resulted [in the staff's view] in improved project work. For instance the assessment weighting shifted strongly in the direction of analysis and evaluation, and away from the reproduction of discrete facts and figures. Secondly word limits were introduced for the report and poster to alert students to make the important distinction between the *quality* of work as opposed to the *quantity* of work.

c) Adapting the timetable to support the programme

During the early stages of project implementation the challenge was to obtain sufficient scheduled time to allow student to complete their project work. This challenge arose out of the fact that the field studies programme had to fit within the confines of an already existing course timetable. This meant competing with other existing scheduled activities such as tutorials and practicals. With the introduction of the " Health and Society" course in **1995** and the incorporation of the programme within this course, the concern became how to adapt and shape "Health and Society's" timetable so that it could more directly support the programme.

Between **1992 – 1994** the focus on creating an essential amount of consolidated time for students to complete their project work. Within this two-year period the amount of scheduled time expanded from the original six afternoons to twelve afternoons.

In **1995** the convenor took on the additional responsibility of the convenorship of 'Health and Society' and during the next four years worked within the constraints imposed by the timetable. In essence the response was directed at ameliorating the effects of the timetable had on the field studies programme, by creating uninterrupted blocks of project time.

In the period (**1999** and **2000**) the focus was more pro-active, and directed towards ways in which the timetable could actively support project-based learning. By 1999 the convenor had become fully conversant with responsibilities and vested powers of a course convenor and so was willing to "experiment" with the timetable. In that year [1999] course activities were re-organised so that lectures and

academic tutorials were completed first, followed by project work. The course had in effect been divided into two discreet sections.

The consolidation and adaptation of the timetable to support project work proved positive. In the early stages of the programme [1992-1996] staff often mentioned how the timetable disrupted flow of project work, as students had to switch between project work and other scheduled activities. However once the consolidation and sequencing of scheduled time had been achieved, staff reported that students engaged with their project work with more interest and commitment, because the timetable was supporting their work, instead of acting as a hurdle.

d) The changing staff profile

In **1996** the second project ("Case Narrative" project) was merged with a course module "Contemporary Health Issues". By the end of that year it was apparent that a different type of facilitator would be needed for the programme because of the demands created by the research prologue. These demands had proved too burdensome for a number of facilitators and they left the programme. The challenge that faced the programme was to "source" facilitators who had both facilitation skills as well as the capacity to develop a research prologue.

The convenor decided that the way forward lay in attracting registered social workers and senior postgraduate students from disciplines such as psychology and sociology. Between **1997** and **2000** advertisements were placed in the departments of Psychology and Sociology (University of Cape Town), inviting post graduates to apply for work as

a field studies facilitator. A similar advertisement was placed in a local newsletter for social workers in private practise.

Through these advertisements the programme gained wider access to a larger pool of potential facilitators. Drawing on previous experience and identified need most staff selected were professionally trained social workers. Notwithstanding this informal selection process it was understood that some staff would only provide an essential level of supervision because the work was modestly paid and of a part-time nature.

To deal with this fact the following was implemented:

- a new facilitator was given a 'strong' group to supervise
- new staff were paired with a more experienced supervisor and both met periodically to discuss their groups progress
- quarterly staff meetings were instituted to encourage and support new staff
- new guidelines were drawn up to help student research and devise their research prologues and copies of 'exemplar' prologues were provided to new staff

In some respects the programme was the "victim" of its own success as the issue of recruiting and retaining quality staff remained an "internal matter". In other words the faculty never had to address the issue that the programme was almost entirely run by part time staff not on the faculty establishment. If on the other hand there had been a continual struggle to secure staff and the programme was jeopardised as a result, the faculty might then have been forced to address this issue. The

convenor however took the view that the faculty's concern for the programme only extended as far as providing core finance and there was an implicit expectation that there would be no further calls on the faculty's resources.

e) Helping students recognise that project work is a combination of both task and process.

For most of the review period the programme was structured in such a way that students were given little information and preparation on how to work effectively in groups and secondly the emphasis of the programme was on the completion of the project requirements. Often students only became conscious of process 'issues when conflicts arose between them and they were forced deal with these conflicts before they could complete their work. By the end of **1999** the need to help students recognise the importance of group process and to help them create and maintain a functioning project group was recognised as important issue.

In an effort to address this two things were done. Firstly a special section in the Introduction to the **2000 Student Handbook** entitled "Creating a functioning field studies group" was provided. The section drew students' attention to the importance of creating a functioning group and provided a checklist that could be used by students to create a functioning group. Secondly students were required to submit a written evaluation of their project experience. The aim of the report was to enable students to critically reflect on their project roles and contribution, and to describe how (in the student's opinion) members of their group worked together. At the conclusion of **2000** programme

it was apparent that students required more than a written checklist to help them create and maintain a functioning group. This was confirmed by the written reports that students submitted on their project experience. What was required was scheduled time for a systematic and thorough introduction on how to work in groups. In the following year [2001], four afternoons were allocated to prepare students for working in groups. On the issue of student reflections on their project experience staff indicated that the majority of their student reports had been written in a thoughtful and considered fashion. Students had used "critical incidents" to illustrate their points/ arguments. In essence students had become more conscious about how their project group functioned and their roles in the group. Some students also consciously drew parallels with their group experience and their future professional roles and responsibilities.

The students' verdict on the **2000** programme was broadly positive. The feedback indicated that the programme had met its aim by providing students with the chance to develop an understanding of the various factors that can affect the health and well being of individuals, groups and communities. For the majority of students the programme was more demanding when compared to lectures and tutorials. The handbook had been well received with a clear majority of students indicating that it had been useful in providing them with a framework and clear instructions on how complete their work. Another positive feature of the feedback was the perception by students that they learnt new skills (such developing an argument and using evidence to support such an argument). Linked to this was the other perception that to achieve high marks in the programme required students to do more than simply reproduce facts and information.

Negative feedback provided on the programme was not unexpected such as comments that the size of the groups was a barrier to student learning. But even this criticism was ameliorated by other comments to the effect that the group size had provided students with the additional capacity to successfully complete their project requirements. On student recommendations concerning changes to the field studies programme the one recommending that there be only one project rather than two coincided with staff views on the matter and as a consequence the 2001programme comprised of only one project.

5.6 Conclusion – challenges, responses and results

If one takes a bird's eye view of the period under review one sees a programme that moved a long a particular trajectory.

The preparation phase tested the commitment and resolve of the convenor and he used the time to pilot and refine ideas about project activities. He thus turned the severe budgetary constraints from a threat into an opportunity. The question arises could the convenor have done more during this period to secure the necessary finance? Perhaps approached an external agency and convinced them of the value of the programme and secured 'seed money' until the university provided the necessary core finance? On reflection this was not an avenue that the convenor considered and in retrospect he was fortunate that the university did eventually provide the budget. On the other hand is it appropriate and realistic to expect a junior staff member to raise funds for a core activity of the institution?

The first two years of project implementation (**1992** and **1993**) were the convenor's apprenticeship in project management. During the first year

circumstances were such that the programme was not put at risk by the two incorrect assumptions that had made concerning *recruiting staff* and developing *project materials* for students. This was because there was time to make things "right", a relatively rare situation in academic settings. Nevertheless the difficulties in recruiting staff for the 1992 programme had a lasting effect on the convenor. From then on he never took it for granted that there was an easy supply of potential staff. In the case project materials the convenor recognised the intrinsic value and importance of developing materials rather than rely on other programmes' materials.

During the Coming of Age phase (**1994** and **1995**) the programme had to face the issues of:

- managing a relatively large cohort of students on limited resources with a cadre of part-time staff

To do this the programme went the "materials route". This meant that a handbook was the chosen mechanism to deal with these issues. This was based on the premise that a handbook afforded a number of advantages. Firstly through the handbook a base line of expectations could be set that all project groups were expected to work towards. Secondly a handbook could provide students and staff with a map for their project journey.

The two years (**1994** and **1995**) were crucial years in the formulation of the handbook's template. The importance of this template cannot be underestimated because the template was the catalyst for the development of the handbook. The handbook in turn became the mechanism for implementation and thereby strongly influenced the character of the field studies programme.

1996-2000 was the period of refinement and consolidation. Firstly there was the focus was on providing students with appropriate information on how and why their project work was assessed in a particular fashion. This focus developed as a result of a review of student work that revealed that despite the handbook, students were not entirely clear on how to meet the various project requirements. As the assessment guidelines were revised and strengthened the staff became increasingly aware of the educational value of providing students with such information. Coterminous with the recognition of providing students with quality information on assessment, was the greater understanding of the role played by the timetable in either hindering or supporting project-based learning. Efforts were thus directed towards providing students with a sufficient amount of uninterrupted scheduled time to complete their work.

It was only in the last two years of the programme that the some attention was paid to the need to adequately prepare students for project work. A major reason for this was the programme's strong reliance on the handbook to drive and support project-based learning. Too late it was realised that students were seeing project work purely in terms of task and under valuing the process side of project work. Some amelioration was provided, but this lack attention to group process can be regarded as an inherent weakness of this project programme.

The student review of the 2000 programme was instructive. Firstly it provided a degree of validation for the time and effort [in previous years] on developing and refining the handbook. Secondly the feed back indicated that the programme by the year 2000 had a key attribute claimed for project-based learning [viz. It provided opportunity for

students to develop academic, personal and transferable skills]. Thirdly it underscored the role that design and planning does play in programme implementation in a context of resource constraints.

In summary it can be argued that from modest and uncertain beginnings the field studies programme developed into a coherent and academically demanding programme. A contributory factor in its development was the ongoing process of refinement managed by one convenor. This continuity of convenorship provided the programme with a degree of stability and reservoir of experience. On the other hand it meant that the programme took a particular direction favoured by the convenor, and thus did not benefit from other perspectives that others might have introduced into the programme. For example the central role accorded to the handbook was emblematic of the convenor's view of how implement project-based learning with a large cohort of students. A different convenor might have taken a different route and been less "determinist" in guiding the project work of students. Furthermore the issue of " working in groups" might have been addressed at a much earlier stage in the life of the programme and an appropriate balance attained between task and process within the programme. Secondly a different cadre of supervisors might have been recruited bringing with them different ideas and expertise.

What also needs to be acknowledged that this programme was something of an exception as it was programme for *first year* students, while most project-based learning takes place in the senior years of undergraduate learning (Luck 1998 and Marshall 2000). This achievement can be easily overlooked because its 'longevity'.

Finally the reality of project-based learning at most South African universities is that there will seldom be more than the bare essentials for its implementation. The task for interested staff lies in using these bare essentials creatively to develop and implement a programme that can open up for students the learning potential inherent in project-based learning.

Chapter 6
"From theory to practice"

6.1 Introduction

Most university teachers when asked the question 'does your programme /or course encourage deep learning amongst students?' they would probably answer in the affirmative or say they did not know. The fact is that fostering deep learning amongst students is a complex and not fully understood process. Indeed the evidence seems to suggest that many students graduate from university without ever becoming deep learners (Chalmers and Fuller 1996). The learning path that leads students in the direction of deep learning comprises many 'stepping stones' and one of particular interest is the one marked 'project-based' work, as project-based work is a central theme of this study.

This chapter first identifies some of the key descriptors of deep learning and project-based learning and then goes on to:

Review the field studies programme's efforts at fostering deep learning amongst students.

- Identify characteristics of the programme that made it a project-based enterprise
- Discuss the importance of planning for project-based learning and
- Determine whether this programme made any difference to students learning [i.e. did the programme's activities help

students, however modestly, shift away from the surface approach to learning towards deep learning.

- Finally conclusions are drawn about the intentions and efforts of this programme to foster deep learning amongst students.

6.2. Project-based learning

Proponents of project-based learning argue that such learning is in keeping with the broad goals of university teaching as it encourages:

An increase student motivation

- A personal interest in a subject area
- The transfer knowledge and skills from one course to another (Luck 1998).

By encouraging the above students will some of the 'qualities' of a successful university graduate (Chalmers and Fuller 1996).

Project-based learning opportunities can only be realised if projects are carefully designed and implemented to promote such qualities. Some advocates of project-based learning contend that the inherent strengths of projects will only be realised if the projects are unstructured to give students the maximum space for exploration and discovery. They argue that structured project work on the other hand circumscribes students' autonomy and sense of 'ownership' of their project learning (Williams and Horobin 1992). On the other hand advocates of a more structured approach to project-based learning argue that students value structure as it gives them focus and reduces the possibility of them drifting around in a direction-less manner (Marshall 2000).

The utility of project-based learning means that students can experience such learning as an individual or group-based activity. In most instances students encounter such learning in their 'senior' years of their undergraduate study or more usually as post-graduate students. Full scale project-based learning is seldom used in amongst first year students, as the perception is that first year is about developing foundational knowledge rather than about developing a deeper understanding of a particular subject or research skills (ibid. and Marshall 2000).

6.3 The Field Studies Programme and the aim of fostering deep learning

In this section I will consider whether there was any discernible link between the four aspects [the handbook, programme assessment, group size and supervision] of the programme and the fostering of aspects of deep learning amongst students.

6.3.1 Project Handbook and Requirements

During the early phases of programme implementation [1992/1993] the focus of the staff was on getting the 'mechanics' of implementation right:

moving students off campus and into the community without incident

- ensuring that students completed their work on time

The project guidelines were framed to help achieve this and consequently when examples of written student work were read by the researcher it appeared to him that the work was characterised by

reproduction of factual information and data, with limited efforts at application.

The introduction of the first handbook and the subsequent two versions marked a move in the right direction. What the handbook attempted to do was to provide students with explanatory details concerning the format of the report as well as a 'Score Sheet' on how the report would mark. Both the format and the score sheet signalled the importance of providing comment and analysis, rather than reproduction of information. Despite the improvement in the instruction student work provided little 'evidence' that they were shifting, sorting and organising their information in a qualitatively different way. Students were not apparently able to clearly distinguish in their own minds the qualitative differences between the 'Findings' section of their report and the 'Discussion' section. Instead these two sections conflated and comments and observations in the 'Findings' section were frequently repeated in a modified form in the 'Discussion' section. The limitations of these early versions of the handbook was the failure to give strong enough pointers on how to achieve an appropriate balance between description, comment and explanation within the reports. Secondly these versions did little to challenge student notions that quantity was equal to quality. In other words students believed that if they submitted a report of sixty pages they would invariably obtain a higher mark than a group that had submitted a smaller report. When this did not happen, students felt short-changed by the programme. Another factor that probably undermined student efforts was the fact that these projects had to be researched and assembled under considerable pressure.

Inclusion of a 'marking schedule' was a further attempt to help students move away from simple reproduction of factual information. The schedule provided students with explanatory information on the 'markers' that would be used to assess their reports. In spite of the provision of the schedule project reports did not provide convincing data that the schedule's inclusion had made any material difference to the quality of student writing. Two reasons could explain this. Firstly no attempt was made to discuss and 'interpret' the marking schedule for students. Secondly the schedule was really written for a different audience – the staff to help them provide appropriate written feedback to students.

In providing a new preface and revised framework for the second project, the 'Case Narrative' project was yet another effort aimed at fostering forms of deep learning. This preface had become necessary because students had been struggling to develop credible and coherent 'management' plans for their 'paper' patients. These 'management plans required students to assemble, sort and organise in an integrated manner. In other words gather appropriate background information, and using the planing framework to work out conceptually what their 'paper' patient required.

The reason for their difficulty was the fact that the framework had overtime become too elaborate and as a consequence students found it hard to 'decipher' and use it. Secondly the 'planning' dimension of the second project far too demanding. As a staff member observed – the project required students to construct management plans with a degree of insight that few professionals in the field could achieve.

The revisions had a positive impact and student management plans were more credible and realistic. Yet it would be difficult to suggest that this provided 'evidence' that the revisions acted as a trigger in the direction of deep learning. The improvement in these plans was more likely the result that students had been more strongly 'cued' to produce the 'desired' management plan. Underscoring this point is the fact that despite these revisions students still appeared to favour quantity over quality. This quantitative notion was particularly noticeable in student poster work of 1998. The poster guidelines had been introduced to help students to design posters that were systematically laid out and were more 'academic' i.e. provide the readers with citations for the information and data provided within the poster. These guidelines were at best only partially successful – the layout of the posters improved substantially and the reader was helped along their 'reading journey'. The negative consequence was that the guidelines triggered a 'riot' of dense ill -digested text as students attempted to cram as much information between 'crusts' of diagrams and illustrations.

In the penultimate year of implementation page and word limitations were introduced for both reports and the posters. These limitations were introduced as a means of retaining staff rather than shift students' beliefs about quantity versus quality.

Notwithstanding this motivation concerning page limitations some effort was made to frame them in a way that students were given strong pointers on how to distribute their page allocation. In other words the instructions indicated that students should apportion pages according to the relative value of the various sections of the report. The instructions had the desired effect, as more pages were allocated to comment and explanation than to description. In the past no such

discrimination had occurred with the Introduction receiving a similar page amount to that of the 'Discussion' despite the fact that the Introduction was only worth 10% while the 'Discussion' was worth 30%. On the surface the word limitations had the effect required, but this was really a function of the very strong cues provided by the word limitations. In other words this was a strategic move on part of students, rather a genuine preference to reduce the 'size' of their project reports. The strategic nature of this re-apportioning is seen by the fact that there was no equivalent re-apportioning when it came to the posters. While there were overall word limits there were no explicit cues on how to breakdown the word limit between the sections of the poster. Instead the posters still reflected a mal-distribution between the various sections of the poster. The following year these instructions were revised in line with those of the reports and the posters reflected a more appropriate internal balance with a greater emphasis given to comment and explanation.

Overall the project handbook and the requirements attempted to 'cue' students so that their project work was more than an extended exercise in reproduction of unrelated units of information/data. As the programme 'matured' the 'cues' become stronger and students were able with greater confidence to:

collect and record information/data from a range of different sources [government reports, annual reports, research bulletins, newspapers and interviews]

- sift, sort and organise the accumulated information/data
- provide limited comment and basic explanation based on their 'research data'

By the end of the programme, the handbook, played the role of actively 'cueing' students. It can't be claimed that this 'cueing' resulted in students shifting in any meaningful way towards deep learning. At best it could said that students recognised that to 'succeed' in their project work they had to demonstrate that they had made some effort to 'organise' and re-constitute the information/data they had collected in the course of their project research.

6.3.2 Programme Assessment

The programme's system of assessment like the handbook, changed over time, as the staff became more aware of the need to more strongly 'shepherd' students in the direction desired by them.

This intention to shepherd students in the right direction is apparent in the ways in which the reports and posters were assessed [viz. the 'Score Sheets' and 'Marking Schedules']. Where intention started to have the desired effect [as far as the reports and posters were concerned] was with the introduction of the page and word limitations. With their introduction students were forced for the first time to consider what information/data they should include in their reports and posters. In previous years [without word/page limitations] students indiscriminately included a host of non-essential information /data because it provided 'padding' and made their report look sufficiently 'weighty' i.e. important. Furthermore the explanatory commentary that accompanied the page limitations provided students with the 'missing' triggers that helped them more clearly recognise the value of comment and basic explanation over mere description.

Overall, the intention of assessment to promote deep learning amongst students was not achieved. This was despite efforts to synchronise the project requirements with those of the written examinations. At best this synchronisation achieved a higher level of shepherding' of students away from surface learning to 'cued' learning i.e. the achieving approach to learning.

6.3.3 Group Size

The size of the project groups was perhaps the most problematic aspect of the field studies programme. For the entire period of programme implementation the average group size was fourteen. [The literature indicates a group size of between eight and ten allows the advantages of group learning to be satisfactorily realised (Jacques 1995 and Jenkins 1997)]. The size of the group thus had a direct bearing on student learning. This factor was identified as primary barrier to student learning as students found their groups:

Inefficient and difficult to manage

- Frequently divided into various sub-groups which affected group cohesion
- Allowed disinterested students to 'coast' along and yet obtain the same group mark as other more hard working students

These factors then impacted on student learning by discouraging a personal interest group-based project work, so that many students finished their project work having acquired only a superficial understanding of their topic and their 'world view' was largely intact. Efforts aimed at minimising these difficulties [via the handbook and

extending the scope/demands of the project requirements] made little positive difference. Compounding the situation was the fact that it was only the last year of the programme students were given any preparation in working groups and how to manage large groups. Instead students were expected to make a 'go of it' with supervisory intervention provided if the group started to disintegrate.

In essence therefore group size was a major factor that militated against the fostering of deep learning. For those who disliked group work their worst fears had been confirmed [i.e. that group work was difficult and unrewarding]. For other students the large groups meant that the potential and possibilities of working in-groups was never properly realised [i.e. the sharing of ideas and knowledge and experience].

6.3.4 Supervision

Supervision was another problematic feature of the programme. As a consequence of ongoing resource constraints the level of supervision was uneven and limited. As a result much of the supervision provided was concerned with the 'mechanics' of programme implementation [i.e. achieving deadlines] rather than providing opportunities for:

'unpacking' the educational intentions of the projects

- exploring how and what ways the project requirements expected students to approach their work
- reflecting on whether the project work had influenced the way that students approached the 'world'

Another problematic feature of supervision was the quality of feedback provided to students. Because of resource constraints the full burden of assessment fell heavily on the supervisors – they were expected to mark the project reports and the student assessments, often under pressure. For inexperienced staff this was a difficult undertaking and they tended to over compensate for their inexperience by either marking too strictly or too leniently. While a system of moderation existed this only acted to neutralise the more florid instances of inappropriate marking. Thus in a number of cases the mark and written feedback provided to students was not an accurate barometer of their project performance or the learning that might or might not have taken place.

On the positive side the supervision provided to students provided students with a structured opportunity for them to discuss and plan their project work. Secondly the supervisors played an essential role in facilitating student entry into 'communities' and the various agencies that provided the 'bedrock' experience for students. Thirdly in the faced of considerable resource constraints supervisors did their level best to provide students with supervision that was encouraging and reliable.

In summary therefore supervision [like group size] was where the effects of resource constraints were most acutely felt, and so strongly contributed towards the programme's inability to:

- strongly open up learning opportunities for students
- encourage students shift away from entrenched ideas on what constituted 'real' learning

6.4 The features of the field studies programme that 'made it' a project-based learning enterprise

From its inception the programme was designed around students undertaking some form of project work, and its ambition always was that students should complete a piece of substantial 'research'. Overtime students were required to undertake two projects and convey their research in three different mediums – a report and poster and oral presentation.

In certain respects the field studies programme was a hybrid of Morgan's project work and project component. Firstly the programme served as an introductory experience in university project work for first year students, as no other course required them to undertake project work. Secondly it required students [by the end of the programme] to demonstrate a degree of hierarchical development in their knowledge and skills. This is apparent when one looks at the requirements of the second project. For this project student were expected to research and then develop a management plan for their 'paper' individual or family. This requirement was designed on the premise that by the time students entered the second project that would be in the position to draw on and develop their knowledge and skills derived from their first project experience. Secondly the projects and posters of both projects obliged students to draw on and organise information and data from a variety of sources. Thirdly the reports, posters and examinations provided students with different opportunities to demonstrate a basic level of understanding and the skills they gained. Fourthly the programme did allow students the chance to develop a deeper elementary understanding of a subject. This occurred during the second project where through the research prologue students were

able to 'excavate' a particular topic [e.g. Autism] in way that went beyond a brief survey of the subject. Fifthly the programme created opportunities for students to start to develop basic research skills [analysing information, using evidence to develop a basic argument].

The counterfactual is the fact that while the programme offered students opportunities to

- engage in a deeper understanding of a topic area
- begin to develop research skills;

these opportunities were not taken up every student, but rather confined to a committed core of students [within each group] who worked every year to complete the reports and posters.

Notwithstanding the above mentioned limitations, it can be argued that, the programme had all the essential features for it to be called a project-based learning enterprise viz.:

It expected students to work over an extended period of time by researching a topic area and

- to 'document' their project 'research' by producing a report, poster and sitting written examinations.

6.4.1 Planning for project-based learning

Planning was an essential component of the field studies programme for without it project-based learning would not have taken place no matter how well researched had the original idea had been. Yet the literature is generally silent on the 'planning steps' for project-based learning [Luck 1998]. Yet the success or failure of project-based

learning is located as much in the planning process as in the other 'educational' aspects of project-based learning. One the reasons that planning is not discussed in the literature, is that planning, is under rated by academic staff. They tend to view it as comprising a series of banal administrative tasks [i.e. dividing students into groups, allocating supervisors, drawing up timetables and booking venues] that are of little academic consequence.

The difficult gestation period of the field studies programme bears testimony to the importance of seeing planning more broadly. In the case of the field studies programme planning was conceived as including the piloting potential project requirements. Thus the enforced delay of implementation, instead of becoming a wasted opportunity, become instead an educational 'opening' to plan and 'pilot' new project requirements [i.e. the posters and the organisational inventory] before the first year of programme implementation.

Apart from planning being useful in overcoming the initial barriers, it became essential to help realise the aim of moving large numbers of student into the 'community' on a tight schedule, with limited resources and provision of part-time supervision. For planning to achieve this ambitious aim it required that the planning process be infused with a qualitative understanding of the educational purpose of the field studies programme, viz. 'to help students gain a holistic outlook that recognises that the determinants of health and varied'. This qualitative understanding of the role of planning found expression in the decisions to:

Create two separate projects (1993)

- Provide a handbook (1994)
- Gradually reconfigure the timetables so they could more actively support project-based learning (1995 onwards)
- Institute the research prologue (1996)
- Introduce written examinations (1996 and 1998)
- Provide a separate handbook for supervisors (2000)

These decisions could not have been considered let alone implemented without a firm grasp of planning, as each of these decisions had consequences that had to be planned for. For example the institution of the research prologue resulted in a change in the staff profile and these staff changes had to be planned for [i.e. new staff had to be recruited and ready]. Had this not happened the programme would have encountered severe difficulties and then possibly disrupted student learning. Similarly the reconfiguration of the timetable was achieved because the impact of timetable changes on the other course activities was neutralised through careful planning.

One final aspect of planning was the balance achieved between continuity, change and refinement. This balance becomes apparent when one compares the 1992 project requirements with the 2000 project requirements. While both sets of requirements shared the same origins the 2000 project requirements are qualitatively more demanding than their 1992 predecessors. Yet successive cohorts of students were able to complete successively more demanding

requirements without major difficulty because they had been carefully planned for.

6.5 Conclusion

What is striking about the description of the field studies programme's attempts to foster deep learning amongst students, is the fact that is was a much an apprenticeship for students as it was for staff. Like the students the staff entered the programme with certain ideas as how students learn and the 'best' ways of achieving results. Overtime and with insight the programme attempted to align the factors [the handbook, the requirements and assessment activities] that could cue deep learning. With this attempted alignment successive cohorts of students were afforded limited opportunities to move in the direction of deep learning.

Notwithstanding the attempts at alignment two key factors [group size, and limited supervision] acted as a significant countervailing force that militated against a shift by all students in the direction of deep learning and remained in force through the period of implementation. In the case of group size, it meant that students had to complete their project work under difficult conditions [e.g. large groups that ended up splitting into sub groups with differing work routines and approaches to project work]. This difficulty was compounded by the lack of formal training for students in how to work and manage groups.

Limited supervision meant that students were not given the type of supervision and feedback that could have more strongly triggered aspects of deep learning. This meant that supervision was mostly 'routine' driven with the focus on project deadlines rather than

providing students with the space to explore and reflect on what they had learnt and whether this had changed their views/ perceptions.

As a project-based learning enterprise the field studies programme was an example. It enabled groups of first year students to engage in group-based learning opportunities. Secondly it required students to extend their academic repertoire of knowledge and skills by meeting a range of project requirements.

On the matter of planning it is contended that its role was vital helping to try and realise the programme's overall aim [i.e. helping students develop a holistic outlook]. Planning also enabled the 'management' of difficulties created through resource constraints in such a way that the difficulties did not overwhelm or actively subvert the learning opportunities available to students.

In summary the field studies programme during its eight years of implementation was an amalgam of the 'appropriate' and the 'inappropriate'. For the students it meant moving beyond the safe confines of campus and entering the 'community' to observe, record and learn. On occasions especially during the first project, how they observed, recorded and learnt appeared no different to what they done before entering the programme. At other times they began to show that they were beginning to outgrow their past and established ways of engaging with and learning from their environment in ways that indicated that their view of the 'world' was changing.

For the staff there was the gradual and deepening realisation that a number of factors [both direct and indirect] powerfully influence the quality and type of student learning. In the case of direct factors [e.g. the handbook, project requirements and assessment] these were factors

that are under the direct 'control' of the programme staff and over the course of the programme they were adjusted and adapted to try and more actively support students in their project work. The indirect factors [e.g. resource allocation, university timetables and broader environment] on the other hand could not be actively 'controlled' as they were determined by the faculty and left their 'mark' on the programme. In some instance no modification was possible [as in the case of the budgetary allocation] while in other instances modification took place overtime as it did with the timetable. In the early days of the programme the lecture centred timetable was a serious barrier to project-based learning, but gradually the timetable was so modified that it did play a role in supporting project work. Thus over time the central task of the staff shifted from 'mere' programme implementation to the more complex task of orchestrating the various factors in such a way that a project framework was created that might cue aspects of deep learning.

Chapter 7
Concluding Observations

7.1 Introduction

This case study has documented the 'life history' of a particular project-based programme that spanned an eleven-year period. This chapter looks at:

- some observations about project-based learning that can be drawn from this life history and key factors that influenced its character
- key lessons learnt
- further research that could be done
- the role that project-based learning can play in undergraduate medical education
- final conclusions

7.2 General Observations

These observations serve two purposes. Firstly these observations can serve as a cautionary statement of intent for those contemplating using project-based learning. As a method it is versatile, but to realise its' full potential in a context of resource constraints, can require of the would-be practitioner knowledge, skills and tenacity. This is because the prospective practitioner needs to manage a broader environment that is frequently "at odds" with the aims of project-based learning.

Secondly it serves as a valedictory statement on the field studies programme:

- that it had a difficult gestation period
- that its' formative years were marked by managing various critical incidents in particular ways
- whose subsequent maturity reflected resilience and innovation as well as opportunities lost.

When looking back over the eight years of implementation what are some of the general observations that can be made about the field studies programme?

The first observation is that programme gave students a foundational experience [apprenticeship] in project-based learning in their first year of study. No other first year faculty course required students to work together and learn in this way. Secondly it provided students with an "off campus" learning experience. For students this meant that they explored Cape Town in new ways and met people they would otherwise never have met. Moreover it provided them with learning experiences that were seldom replicated within the confines of a lecture, tutorial or a laboratory, where "learning" in these contexts is often safe and anodyne.

The third observation is that the programme allowed students to draw on or develop a range of different academic and interpersonal skills. Confirmation of this observation is provided from the 2000 evaluation. Students indicated as a result of the programme they had learnt:

- to use evidence to develop an argument

- new ways of gathering data
- to communicate with each other
- group work skills

Moreover over programme gave students a range of options within which to apply their skills [when completing their projects]. For some it was learning how to do basic research and compiling a report, for others it was creating and developing a poster, and for others it was developing and giving an oral presentation. Likewise for other students it was the opportunity to meet and interview people from different "walks of life" and then to use this experience to construct for themselves a future professional role that went beyond the hospital bed and the consulting room.

The fourth observation is about project design and management. For the programme, the central design issue was about the development and refinement of the handbook. Between 1994 and 2000, eight versions of the handbook were 'published' for use. Another important dimension of this design process was the progressive 'deepening' of the programme's academic requirements. In other words overtime the requirements became progressively more challenging for students both at a group level as well as at an individual level.

On the matter of management the primary concern was implementation. Over an eight-year period 1 700 students completed their projects. To have achieved this, meant managing a range of diverse factors both internal and external to the programme. Central amongst these were:

- recruiting staff
- allocating sufficient scheduled time
- obtaining off campus venues
- negotiating access to health and social services
- securing interviews with residents and other interested parties

Programme management was less successful when it came to *group size*, and *quality supervision*. This lack of success was due to resource constraints imposed on the programme by the faculty. This resulted in project groups that were too large. The size of the groups in turn negatively impacted on how student experienced the programme. For a number of students it provided direct confirmation for their negative perceptions about group work [ie. that working in groups was difficult, time consuming and provided opportunities for non-involved students to earn a project mark without effort].

Likewise resource constraints meant that project supervision was limited both in *time* and in *quality*. If more resources had been available supervision could have been on a more regular basis, perhaps twice a week – at the beginning and the end of the weekly cycle project work. In this way issues [both practical and process] could have been more rapidly identified and addressed. Secondly time could have been spent 'unpacking' what students were learning. As it was the hour of weekly supervision could only address issues in a very cursory manner. Furthermore had more resources been available the programme might have been able to attract and retain a greater number of experienced staff.

A fifth observation concerns assessment. In the formative period of the programme [1992 – 1995] assessment was viewed in too narrow a sense – as a means to oblige students to take their project work seriously. However over time the notion of assessment was broadened and steps were taken used to it to encourage students to engage more deeply with the issues/ideas generated by their project work. Secondly assessment became more nuanced by moving away from a unitary group mark to a composite project mark, which could more accurately reflect a student's individual project contribution.

Another limitation of assessment was the late recognition of its value in helping students recognise that project-based learning was also about how they functioned as a group. This facet of assessment was only introduced in the last stages of the programme's existence.

A sixth observation is linked to the above in that students were not prepared adequately for project-based learning. It was an implicit assumption of the staff (for most of the period of implementation) that the students had, the skills, aptitude and experience for this form of learning, or if not, they would develop the necessary skills and aptitude as the programme unfolded. The reality was that students did not easily adapt and respond to this form of learning; especially since the project groups were on the large side. Instead an orientation in ' how to work in groups' should have been an integral part of the programme from the start, so that students could have covered essential issues about group work viz.:

- how to form and maintain a functioning group
- creating ground rules

- defining roles within the group
- organising and sharing work
- how to "trouble shoot" and resolve problems

By providing students with such orientation they would have been far better prepared for the "ups and downs" of project work and alerted to the fact that effective group work is as much about *task* as it was about *process*. Secondly that all groups go through 'rough' patches and the effective groups are ones that surmount these patches.

7.2.1 Key lessons learnt

Like any educational enterprise the field studies programme's character and ability to provide a project-based learning experience for students was strongly influenced by:

- faculty context
- structural limitations imposed by this context
- convenorship of the programme

7.2.2 The Faculty Context

When planning to introduce such a programme within an existing curriculum it is important to clearly establish from the start whether the programme has secured the necessary faculty resources for implementation. This was the hard lesson learnt by this programme's convenor – he embarked on a venture without any such guarantees

from faculty. Amongst academics there is often the naivete that makes them believe that because their idea has academic merit resources will surely follow. The reality is that in an environment of continuous resource constraint any new programme needs a 'street wise' advocate who will use their networks to secure the necessary resources from faculty. Once initial resources have been secured the task then becomes to ensure the continuity of the programme. A way to promote such continuity is to 'embed' the programme within the academic 'mainstream' of the faculty and encourage faculty 'ownership'.

A sign of a programme's 'coming of age' is the amount of scheduled time that is given to the programme so it can mature. Like funding scheduled time is a reflection of its educational importance within faculty. All too often faculty want new programmes to address new requirements in established ways with built-in limitations. [For instance a community-based programme is expected to operate within the confines of a lecture-based programme]. Thus from the beginning new programmes are undermined by the constraints imposed on it. In the case of the field studies programme was to overcome its initial timetable constraints because its convenor was in the fortunate position to be able to initiate changes and so remedy the timetable deficiencies. Had this not been the case the programme would probably have remained undeveloped and hamstrung by timetable constraints.

Another influential aspect of the faculty context that new programme's have to deal with relates to learning activities and modes of assessment. Often one of the reasons for introducing a new programme is to introduce into the existing curriculum different learning activities and modes of assessment. What can happen as the programme unfolds

it faces a shifting coalition between disaffected students and sceptical staff who make it their business to contest the value of the programme by questioning the activities and how these activities are assessed. For staff implementing the programme in these circumstances it is important to address the challenge posed by this coalition. This can be useful done by recruiting influential members of faculty to participate the programme [e.g. as an examiner] and then mobilising them to engage with the sceptical staff. In the case of students it is important to engage the 'hearts and minds' of students. Firstly there needs to be recognition that students will not automatically take to the learning activities of the programme. Thus for example if the chosen mode of learning is working in groups students need an orientation on how to work in groups [ie. establishing ground rules and alerting students to the 'ebb and flow' of such work]. Secondly staff need to demonstrate to students an enthusiasm. It is a truism that students show a greater willingness to engage in new activities if they relate to staff who are enthusiastic and 'believe' in what they are doing.

7.2.3 Structural limitations that can face a new programme

The field studies programme was structured in particular ways because of various constraints it had imposed on it in the early and formative phases of its development. In essence these constraints were about resources. (In 1989 the convenor was prepared to tolerate such limitations because he was wanted the programme to succeed despite such limitations). In accepting these constraints he imposed on the field studies programme a number of "structural" limitations.

The first structural limitation was group size. Resource limitations meant that students had to work in large groups [sometimes in groups as large as fifteen]. This resulted in groups splitting into sub-groups with attendant difficulties:

- lack of cohesion and co-ordination
- poor communication between students
- inter-group tension/conflict

The second structural limitation was the use of part-time staff on modest salaries. While part-time staff are not of themselves problematic, their appointment did generate problems for the programme. Firstly there was continual staff turn over so that experience and expertise was consistently lost to the programme. Secondly resource constraints meant that the programme had limited ability to attract and select suitable staff. This in turn affected the quality of supervision provided. To compound matters in-service training for staff was not provided because of lack of funds.

The third structural limitation was the circumscribed time available for project work, particularly in the early years (1992-1994). In these early years the students were given insufficient time to do justice to their project work. Instead the programme resorted to the expedient of requiring students to do a considerable amount of their project work in their "private time" ie. over weekends and during their holidays. This severe imbalance was rectified over time, when it was belatedly recognised that student holidays were not there to compensate for poor timetable arrangements.

Responses to these structural limitations

The truth of the matter is that most new programmes will face structural limitations in one form or another. The question therefore is how can one most effectively 'manage' these limitations?

In the case of the field studies programme the provision of a detailed handbook and a range of project requirements was the strategy chosen to manage these structural limitations. In one sense it 'worked' and enabled eight years of project-based learning to take place, during which 1 700 students passed through the programme. On the other hand this strategy had negative consequences. Firstly it allowed the handbook to assume too central a role in the 'life' of the programme. This meant that student / staff role was largely reduced to 'interpreting' what the handbook required rather than it being a catalyst for students to explore, debate and reflect on core issues [e.g. notions of community, health and service delivery]. In other words the handbook was the 'expert' and students were expected to validate this 'expertise' by completing their project work in accordance with requirements laid down by the handbook. This had the effect of creating a distancing between the students and the projects. This was particularly noticeable when it came to the 'Community View' project, as they were unable to strongly identify with the questions and categories devised for this project. In this respect students were allowed to become passive disengaged learners.

An alternative response would be to use the handbook as a resource that students and staff could draw on. In other words it would be a catalyst / starting point for students when they commence their project work. This would avoid the situation where the handbook is seen as an imposition and students struggle to identify with pre-determined

questions and research categories. Linked to this question of requirements. All to often as a programme progresses the requirements become more and more ambitious and student learning is seen in terms of 'achieving' these ambitious requirements through concrete verification [ie. completing a project report]. What is then overlooked are those intangibles of group-based project learning [e.g. how students interacted with one another and learnt from one another]. Thus these 'intangibles' should receive as much attention as that given to formulating project requirements. In other words efforts should be made to ascertain whether students have the skills to work in groups and if not provide students with the necessary training for such work. Moreover the preparedness of students to work in groups should be taken into account when devising project requirements.

Another lesson learnt was the need for ongoing staff development when using new part-time staff. This must be a sine qua non when using such staff, for without such training the quality of supervision for students will always be a matter of concern. An important aspect of in-service training should be on helping staff to understand and monitor the 'process' and 'content' elements of project work. Moreover a helpful way to encourage this understanding amongst staff is to ask them to provide one with episodic progress reports on their students groups. Linked to this requirement is it useful to devise a job description that outlines in concrete terms the roles and responsibilities of staff. By devising such a job description one begin 'benchmark' minimum expectations. An another benefit of such a job description is that it can be used to motivate for better conditions of service for such staff.

7.2.4 Convenorship of a programme

The field studies programme was probably unusual in having only one particular convenor. This arrangement had both positive and negative aspects. On the positive side it provided stability through continuity. On the negative side it resulted in the programme strongly reflecting the educational and administrative assumptions of one person.

The lessons learnt from this arrangement are as follows. Firstly convening a programme requires a range of responsibilities that straddle both the academic as well as the administrative domains. While the academic responsibilities are often more easily itemised, the administrative duties are frequently seldom mentioned. Thus what often happens is person is appointed to convene a programme because of their academic expertise and then find out that they are expected to be able to formulate budgets, recruit staff and ensure that there is an administrative infrastructure that can support both students and staff. Few in the academic world straddle these two domains with ease or interest. Consequently a prospective convenor should candidly assess what their strengths and weaknesses are in this regard, and plan accordingly to minimise future difficulties. Part of such planning should be to network with staff who have the experience and knowledge of how to 'operate' within the university environment.

On the matter of the academic domain the establishment of an informal 'reference/support' group of fellow academics can be helpful. In other words the convenor can use this group as a sounding board on the range of issues that inevitably surface when implementing a programme. Secondly such a reference group provides the convenor with a 'conduit' of re-assurance particularly when a course of action results in unexpected consequence. Thirdly this group [if drawn from

within the faculty] can serve as a potential 'advocacy' group for the convenor if the programme comes under attack from within the faculty.

7.2.5 Project-based learning and fostering deep learning

The field studies programme was never explicitly designed to actively foster deep learning. The lessons learnt in this regard are that such a programme has the *potential* to play a constructive role in fostering deep learning amongst students.

Notwithstanding the above it is contended that the field studies programme provided a form of apprenticeship in deep learning as it did for project-based learning, although to a much lesser extent. The opportunities for foster deep learning were most apparent during the second project [the 'Case Narrative Project]. A number of reasons can be advance for this. Firstly students more readily identified with the project topics. Secondly the students were able to draw on their first project experience. With these two factors students approached their project work with greater confidence and were able to engage and reflect on the issues, arguments and theoretical constructs generated by the second projected. Added to this, students were able to 'test' these issues and arguments against what they had found out in the 'community'.

For some students the project experience helped foster aspects of deep learning. Firstly the programme allowed students to observe first hand how other students tackled project tasks and then use these tasks to learn. In this way students were introduced different learning approaches and styles. This in turn gave students the opportunity to

consider their own learning priorities and styles against what they had observed. Secondly the group experience revealed to students their strengths and weaknesses as a 'group' learner. With such knowledge students could begin to develop an increased understanding of the various dimensions of learning. Fourthly the programme gave students the opportunity to value those intangible aspects of learning [such a change in attitude and respect for social diversity] that would stay with them long after they had 'passed' through the programme.

7.2.6 Project-based learning can play in undergraduate medical education

The role that project-based learning can play in undergraduate medical education hinges largely on the extent to which such learning is accommodated within the undergraduate curriculum. As this study points out for project-based learning to play a constructive educational role certain basic requirements need to be met (e.g. sufficient resources and a learning and teaching environment that supports project-based learning). If these basic requirements are at hand, project-based learning can add value to student learning.

Firstly it can provide students with the structured opportunity to learn together that are not available when students meet together at a lecture, in the laboratory, or in tutorial or seminar group. Secondly project-based learning groups can provide students with an apprenticeship in team work. Teamwork is now an integral part of a medical graduate's professional life in both the private and public sector [Mogensen, Elinder, Widstrom and Winbladh 2002]. Thirdly project-based learning can provide students with the opportunity to

develop in-depth knowledge of a particular subject/topic, skills of 'initiative, organisation and creativity' [Jacques 1995 pg. 96]. Fourthly project-based learning can be the vehicle for students moving beyond the walls of the academy into the 'community'. In so doing the students' learning context is opened up in ways that cannot be replicated in a lecture, tutorial, laboratory or hospital ward. For instance in a lecture one can illustrate health and social inequalities in a lecture through statistics and graphs, but it is when students face these inequalities 'on the ground' through their project work, that such inequalities become more than a set of 'sanitised' statistics and graphs. Fifthly project work [as this study illustrated] can allow students to 'imagine' for themselves a professional role that can extend beyond the hospital bed.

7.3 General Recommendations arising from the case study

First general recommendation – that project-based learning be more actively considered by teaching staff for use in first year courses. This recommendation appears to go against current practice, which avoids using project work in first year as students are viewed as insufficiently prepared to benefit from such learning [Marshall 2000]. Nevertheless this recommendation is made is based on the researcher's ten years of involvement in project-based learning and the contention that despite the recorded limitations of the field studies programme it was of educational merit. This merit resided in the fact that it allowed groups first year students the opportunity to explore health issues in ways that would not have been available to them had they attended lectures or tutorials or been required to write an extended term essay.

The second general recommendation- that project-based work be incrementally introduced within undergraduate courses. In other words project-based work in first year can be viewed as providing students with an 'introductory apprenticeship' in project-based learning. During this apprenticeship students can begin to develop **basic skills** in:

group work [e.g. managing meetings and developing deadlines]

process skills [e.g. gathering and organising information, writing and computer skills]

presentational skills [e.g. data presentation, oral communication and report writing]

'management' skills [e.g. project planning, setting objectives, time management and conflict resolution]

personal skills [e.g. independence, self –confidence and self-reliance] (Williams and Horobin 1992)

In the subsequent years of project work these skills can then be developed to an intermediate level, and then perhaps even to an advance level.

By using project-based work as an *incremental* activity over the course of a student's undergraduate career, this activity can be another educational 'resource' that can help students mature into 'successful' graduates. That is to say graduates that can think critically, reason logically, problem-solve and work constructively in a team (Wellington 1998).

7.4 Research Possibilities

Having viewed project-based learning from a general as well as particular vantage-point what are some of the research possibilities?

Firstly given its wide application in various university courses it would be useful to explore how such learning could be more *effectively* implemented in learning environments where a range of other learning methods are used in tandem with project-based learning. For example would tutorial work if properly structured support group-based project learning? Secondly could laboratory work and practicals also be designed to create appropriate opportunities for students to learn collaboratively in groups? If so student experiences of learning in groups could be widened so that project-based group learning would then not be viewed by students as a learning activity that is at variance with their generic learning experiences.

Secondly it would be of value to determine whether the *particular* design of a project-based programme can positively or negatively influence the way in which students engage and complete project work. For example does the provision of detailed materials inhibit students and prevent them from engaging deeply with their project work?

Thirdly if appropriately designed and supported can project-based learning be a *primary* catalyst for fostering deep learning amongst students. In word words does project-based learning have particular characteristics that can be harnessed to help students make the transition from surface learners to deep learners?

Fourthly are the advantages claimed for project learning (e.g. development of personal and transferable skills) materially different

from the claims made by other teaching methods such tutorial and seminar groups? Does project-based learning provide opportunities for students to develop a knowledge base and skills that cannot be easily realised in a tutorial / seminar group?

Fifthly in the context of resource constraints can the conundrum of poor student/staff ratios to be better managed through 'efficiencies' achieved by using well designed project-based learning? Could an alternative case be made for using it in settings where student-staff ratios are smaller (as in some post graduate courses) and that undergraduate activities focus rather on preparing students for such learning?

Sixthly are large-scale and obligatory programmes the most appropriate way to introduce students to "community-based" learning? Could not a case be made for such programmes to be limited in size and restricted to students who 'volunteered' to learn about community issues via project-based learning? While it could be said that large programme can achieve certain efficiencies [e.g. larger student / staff ratios] are these efficiencies in realty the hidden cost that such programmes have to bear by having large and inefficient student groups that have limited staff support? Do not these hidden costs actually vitiate these cost efficiencies and prejudice students against project-based learning?

Finally can a case be made for limiting the role and duration of an individual convenor? Can student learning be better served by encouraging a regular infusion of fresh perspectives and ideas? Secondly are there feasible ways in which part-time staff can be encouraged to make a more active role within project-based learning?

By obtaining greatly clarity on these issues one might determine more precisely the role and function that project-based learning could play in an undergraduate curriculum.

7.5 Conclusions

This study commenced as an evaluation of the use of project-based learning in medical education. As the research unfolded key research themes emerged:

- student approaches to learning and their learning styles
- teaching approaches encountered by students
- the potential of project-based learning to foster appropriate learning amongst students [ie. deep learning]

Against these themes a particular form of project-based learning was 'benchmarked' and the strengths and the limitations of the programme were itemised. The limitations identified pointed to the fact that potential opportunities for fostering deep learning were not taken advantage of and thus full learning potential of students who entered and 'graduated' from the programme was not realised.

Notwithstanding the identified limitations of the field studies programme had a number of strengths. In the first instance it provided 1700 students with learning opportunities that were material different to those they encountered in their other courses. Secondly it provided them with an apprenticeship in how to work in groups and to complete a range of learning tasks. Thirdly it provided students with opportunities to either develop or refine skills that could be used in

other learning contexts. Fourthly from a staff point of view the field studies programme gave them the means to surmount the hurdles of resource constraint and institutional inflexibility and enabled them to pioneer and then develop a particular form of project-based learning. This form of learning encouraged students to venture beyond the safe confines of the campus and to start to engage with the complex world beyond. By so doing students were helped recognise that this world does reach into and powerfully affect what goes on in those apparently detached domains of the hospital ward and consulting room.

Appendix One

An example of the handout that was given to students to help them write up their report of the 'community'/suburb they had investigated.

University of Cape Town

Faculty of Medicine

1992

Consolidated Report

Each group of students will be required to submit a 15 paged typed report. The report will be divided into two parts: part one, dealing with their community attachment and part two dealing with the organisation they have studied.

To help students complete their report the following guidelines are offered.

Introduction

This introduces the study to the reader and sets out the main aims of the study. Where appropriate reference is made to relevant published literature on the subject. In the introduction reference is also made to the study's findings and their implications.

Methods

Here students discuss how they obtained their information and what sources were used. For example information obtained through

interviews and reference material. Students also need to discuss how and why various people /organisational officials were chosen to be interviewed.

Results

Under this heading students can use the handout (dealing with community study and organisational profile).

Summary and Conclusion

Here the students briefly summarise the major findings of their study and draw appropriate conclusions.

Appendix Two

What follows is an example of the guidelines given to students to complete their 'Community Diagnosis' Project

University of Cape Town

Faculty of Medicine

1993

Guide to Project on Community Diagnosis (1993)

1. Community Profile

a.Name of the community, when it was established, how it developed?

b.What is the estimated size and composition of the population of the area?

c.Classification: what type of community is it e.g. residential, industrial metropolitan centre, informal settlement?

d.What is the form of local government? Is there a ratepayers' association or community organisation? Does a city councillor represent the area? How much control does the community have over its own affairs?

e.Is the community represented in parliament? If so, what political party represents the area?

2. Resources in the Community

a. Housing – private, state-provided, informal, high or low density?

b. Economic – shops, factories, businesses, and hawkers?

c. Transport –buses, trains, taxis, private vehicles

d. Infrastructure – roads, water supplies, sewerage, electricity?

e. Educational – crèches, schools, colleges, universities?

f. Health and Medical – clinics, hospitals, medical and dental practices, pharmacies, ambulances?

g. Recreational and community facilities – parks, sports fields, swimming pools, halls, theatres, cinemas, libraries?

h. Civic services — fire and police services, social welfare organisations, self-help schemes?

i. Religious – churches, mosques, synagogues?

3. Social Issues in the community

a. Are there significant problems, conflicts or sources of tension in the community e.g. crime, violence, gangsterism, alcoholism, drugs, divorce, child abuse, overcrowding, squatting?

b. Are there serious economic problems within the community e.g. poverty and unemployment?

c. What is it like to live as a resident in this community? — Interview a resident to find out.

4. Implications for Health care

How do all of the above factors influence health care in the community?

a.What are the health needs and problems of the community?

b.What medical resources are available to the children, adults and senior citizens of the community? How adequate are they?

c.What access do members of the community have to health services in the area? Do they have to rely on public transport? Do they have to go outside the community for proper medical attention? To what extent can they afford medical attention? What happens in the event of a medical emergency?

Guide to Consolidated Report on Community Diagnosis Project

Introduction

This sets out the main aims of the study, makes reference, where appropriate, to relevant published literature on the subject. It also discusses briefly the implications of the main findings of the study.

Methods

Here the researchers discuss how they obtained their information, and what sources were used, such as reference material and personal interviews. How and why various people or officials were chosen to be interviewed, should be explained.

Findings

Under this heading, the students set out the information obtained during the study – in this case, the community profile, resources and social issues (see project guidelines, sections 1to 3).

Conclusion

Here the findings are analysed in the light of the main aims of the study, and the main conclusions are then summarised – in this case, how health care is affected by various factors in the given community (refer to section 4 of the project guidelines).

Appendix Three

An example of the Handout given to all students in 1994

University of Cape Town

Medical School

Course: Human Biology (MBI 100W)

The Field Studies Programme 1994

Community based medical education

Formal learning medicine, occupational therapy and physiotherapy has tended to concentrate on theoretical and clinical aspects of disease. Many feel that there should be more emphasis on health and strengths, on the individual's capacity for choice and well being. UCT's Faculty of Medicine has recognised that health care practice will in future concentrate more on primary health care in the community. Accordingly, students will want to learn about community factors that affect the health and well being of individuals, groups and communities. Such learning will best take place in the community itself.

The Field Studies Programme

The field studies programme of the Human Biology course provides students with just such an opportunity. This programme is given equal academic value to that of lecture and laboratory teaching, as it can be regarded as the foundation for much of later course work. And, in turn,

experience gained in this programme will be of practical value when students learn about the clinical management of patients.

The learning context of this programme is the community itself. Students will find that they are using skills and insights that are qualitatively quite different from those required in a lecture or laboratory setting. They will be expected to develop an ability to problem-solve and work creatively and co-operatively within a group.

Semester 1

Community View

Students will study the personal and community functioning of the people of a given geographical area, including economic, health, political and social aspects. Students will be able to develop for themselves a clearer understanding of what a community is, and the factors within it that influences the well being of its members. On the surface, factors such as housing, sanitation may appear far removed from health care. On closer study, however, and especially in poorer communities, these factors are the very foundation of health. Similarly, it will be discovered that the absence or inadequacy of social infrastructure and support networks can impact negatively on a community's health.

Semester 2

Case Narrative and Resource Study

Building on their learning and experience gained during the community View section, students now have the opportunity to study an individual patient or family, focussing on significant psycho-social issues that affect health, and to learn at first-hand about community services (formal and informal, state and voluntary) that might – or might not — be helpful to the patient or family.

Academic Requirements of Students in the Programme

The field studies programme accounts for 14 percent of the year mark for Human Biology. For each section of the programme, students are assigned to a project group and must attend all meetings of this group. A register is marked, and each project group works under the guidance of a facilitator.

The mark given to each individual student is the mark earned by the project group. However, there have been instances when individual students when individual students have not made a contribution comparable to that of the group as a whole, and have therefore not been awarded the group mark. The facilitator in consultation with the individual student concerned would make (such a decision).

Marks are awarded for:

a)A typed and bound consolidated report

b)An oral presentation to facilitators and fellow students

c)A poster

Section One

Community View

Content

The purpose of the Community View study is to help students gain a holistic outlook that recognises that the determinants of health are many and varied: just as important as clinical medicine are public health issues like prevention (immunisation, sanitation), health promotion, and social and personal resources which give a community a sense of well being.

To help students understand their assigned community, a number of guide questions are offered. When collecting information for this section, students should focus on how resources contribute or fail to contribute to the quality of life in the community.

Profile of the Community

Here students will collect information about the historical, political, social and economic context of the community. [A range of questions was provided to help students collect information for the community profile]. What follows is a sample of these questions.

a) Name of the community, when it was established, how it developed.

b) Size and composition of the population

c) Classification of the community, e.g. residential, industrial, informal settlement

d) Civic services – ambulance, fire police

e) Educational Services – crèches, schools, colleges

f) Economic resources – shops, factories, businesses, hawkers

2. Health Services in the Community

Those who frequently use health services include mothers with children, women, persons with chronic illnesses or physical disabilities and the aged. [What follows is a sample of questions provided].

a) What access do people have to health services in the area? Are all their health needs catered for in the community? Are the available services affordable/accessible/appropriate? What happens in the event of a medical emergency?

b) Is there a clear understanding on the part of the health services of the real health needs and problems of the community?

c) Is the local health service integrated and providing preventative, promotive, curative and rehabilitative care?

d) What types of services do the local authority clinic, day hospital, private hospital, state hospital and general practices in the area provide?

e) What function do the allied health professionals and complimentary health practitioners play in meeting the health needs of the community?

3. Social Services in the Community

The origin of much ill health lies in emotional or stress related problems. In turn health care practitioners make use of social services to help their patients. An understanding of the personal and social functioning of the residents, and knowledge of local social services, is therefore relevant.

a) NGOs working in the area.

b) Programmes for specific target groups (e.g. street children, the disabled, and the aged).

c) Local programmes addressing community issues, such as crime, alcoholism, drugs and abuse.

d) Local initiatives promoting individual and community development.

Sources

Students should distinguish between different types of sources and information.

Formal and official sources

Examples of official; sources are state and city departments and local government and ratepayer/civic associations, through whom one can gain helpful documents and reports. Other formal sources would be neighbourhood traders and professionals (banks, shops, pharmacists), schools and local clinics.

Informal sources

These would include residents, action groups (neighbourhood watch), clubs and churches, from all of which one can gain helpful anecdotal information and insights.

To find out what it is really like to live in the community, students should interview a variety of residents who differ in terms of age, gender, and occupation. Ask them their personal views and feelings about the community, their knowledge and expectations of local facilities, and about social and health issues in the community. An interview with the residents counterbalances and complements "official" information.

Consolidated Report

Students are assigned tasks by the group and may find they are working in pairs or alone on specific aspects of the study (for example aspects of the profile or the health services). All the information is then sorted and analysed by the group and gathered into a consolidated report.

1. Format of the Report

a) The report must be typed (double-spaced) and bound on A4 paper with pages numbered.

b) The report must have a cover sheet with the title (name of the community studied), the facilitator's name, and the students' names and initials in alphabetical order.

c) Please proof read your report before submission.

2. Organisation of the Report

a)Introduction. This sets out the main aims of the study. It concisely outlines the implications of the main findings of the study.

b) **Methods.** Here students discuss how they obtained their information and what sources were used, such as reference material and personal interviews, indicating how and why various sources were chosen.

c) **Findings.** Under this heading information concerning the community profile, health and social services and residents will be presented.

d) **Discussion.** Here the findings are analysed in the light of the main aims of the study and the group's conclusions are summarised – in this case, how the health and social functioning of the community is affected by various community factors. Original thinking as to causation and possible improvement is particularly appropriate here.

e) **List of Resources.** Here students will list relevant community services and discuss how adequate these resources are.

f) **References.** The consolidated report is a document of record. Consequently all information must be properly acknowledged. A list of references must appear at the end of the report so that a reader can easily determine the various sources used in compiling the report.

g) **Appendices.** Students may wish to append illustrative material, which they consider helpful, such as maps, tables, brochures and interview transcripts.

3. Score Sheet for the Report.

Using the following will arrive at the facilitator's mark.

Introduction	Scored out of 10
Methods	Scored out of 10
Findings	Scored out of 20
Discussion	Scored out of 30
Resource List	Scored out of 10
References	Scored out of 10
Presentation	Scored out of 10
TOTAL	**100**

Appendix Four

An edited example of a research prologue used by students to research a particular research topic.

"Health and Society" PRI 100W

Field Studies Programme – 1996

Case Narrative and Resource Study Project
Topic: Street Children

Background

Street Children are a phenomenon of our cities. They evoke a range of responses from pity to hostility. They are a visible sign of the dysfunction of social institutions in our society. It is noteworthy that these children are all "other than white".

The capacity of children to survive on the streets could be viewed as evidence of their resilience, strength and "health". In reality, however, they are susceptible to various diseases like malnutrition, measles, syphilis and tuberculosis. In addition, even though health care is available, these children are afraid to go to local health services.

Aims

The aims of this project are to

- consider what laws and rights apply to street children

- establish the incidence and various causes of the phenomenon of street children in Cape Town
- identify existing resources and services for them
- assess how far current resources are adequate in meeting their basic needs
- use your knowledge of the above to suggest ways to help the child (Faried) discussed in the case narrative

Case Narrative

Refer to the document provided by your supervisor.

Issues to be Examined

To place your case narrative in its wider context, you will need to consider the following:

(a) Policy Issues

What are the main principles of the UN Convention on the Rights of the Child, and how might these affect street children?

What are the main provisions of the Child Care Act, and how do these apply to street children?

(b) Understanding the phenomenon of street children

What is the incidence of street children in the City Bowl area of Cape Town?

Explain the economic, social and political causes of this phenomenon

(c) Practice Issues

What are the health, educational and social needs of street children?

What resources, services and organisations exist to cater for street children?

How adequate are they in meeting the needs of street children, and to what extent do they reflect the PHC principles of prevention, rehabilitation and promotion?

(d) Intervention and management

Using what you have learnt from your above research, draw up a "management" plan of action for assisting Faried.

Appendix Five

The following assessment protocol is taken from page 16 of the 1997 Project Handbook. Every student received a copy of this handbook.

Assessment of the contribution made by individual group members towards the Community View project.

The mark given to an individual student is generally the mark that has been earned by the group. To help establish what has been the relative contribution of each member to the project a peer-assessment protocol has been devised. This protocol has been devised to help ensure that the group mark is an accurate reflection of each group member's contribution. For example a group might obtain 70% for their project mark. The protocol can then be used to ensure that only those group members who legitimately contributed to the project will receive the awarded mark of 70%. Those students who did not adequately contribute would have their project mark adjusted accordingly.

Community View Project

Name of student being assessed

Research area (e.g. health services)

For each of the questions below you are asked to rate the student with a score of 1 to 3 as follows:

1= Contribution on a par with that of the group average

2= Contribution somewhat less than the group average

3= Contribution markedly lower than the group average

At the end of this assessment form there is a space for any comments you wish to make.

Did the student in your opinion contribute towards?

a) the design of questions /questionnaire?

Your rating: 1☐ 2☐ 3☐

b) collection of data?

Your rating: 1☐ 2☐ 3☐

Did the student in your opinion

a) meet pre-arranged deadlines?

Your rating: 1☐ 2☐ 3☐

b) when requested provided information on time?

Your rating: 1☐ 2☐ 3☐

c) demonstrate a willingness to do group tasks?

Your rating: 1☐ 2☐ 3☐

Consolidated Report

Name of student

In your opinion did the student make a contribution in drawing up the report by:

a) helping to collate and summarise the data from the various research groups?

Your rating 1☐ 2☐ 3☐

b) contributing towards the layout, editing, or printing of the report?

Your rating 1☐ 2☐ 3☐

Poster

Name of student

In your opinion did the student help in the tasks that were necessary to complete the poster by:

a) helping to collect material and information to illustrate the poster?

Your rating: 1☐ 2☐ 3☐

b) contributing to the design and layout of the poster?

Your rating 1☐ 2☐ 3☐

Oral Presentation

Name of student

In your opinion did the student participate in the preparations needed for the group to give its presentations to the class by:

a) collecting, summarising and preparing the required information?

Your rating 1☐ 2☐ 3☐

b) helping to design the format of the presentation?

Your rating: 1☐ 2☐ 3☐

Comment

Appendix Six

From page 21 of the 1997 Project Handbook

'Community View' Marking Schedule

The following Schedule to be used in conjunction with the mark protocol

< 50% The report fails for a number of reasons. The content of the report is inadequate as little attention gas been paid to answering basic questions about the **profile, health services, social services** and **residents** of the community. As a consequence the findings of the report give no evidence of research having happened. The discussion provides no analysis and is in effect a repeat of the Findings Section. The report has no systematic form of referencing, while the resource list and appendices are merely a list of randomly collected names and publications. The report shows no evidence of being edited, but is rather a collection of separate pieces of writing.

50-59% The report gives the impression of being rapidly put together. While the content of the report provides information about the **profile, health services, social services** and the **residents**, it is limited in scope. Thus the findings section provides a 'patchy' picture of the community. The discussion section is marked by a superficial analysis of the community. In the place of measured analysis, the discussion features sweeping generalisations that are not supported by facts/data. There are some signs that efforts have been made to integrate the information – but a number of writing styles are present. The resource list and appendices have been organised but the reader is unable to

understand on what basis were drawn up. References are provided on an intermittent basis.

60-69% The report has been put together in a careful way. The content of the report gives a clear indication that serious effort has been made to ensure that a broad picture of the community is provided. Consequently most of the questions dealing with the **profile, health** and **social services** and the **residents** have been conscientiously done. The findings of the report provide the reader with a range of interesting information about the community. The discussion shows that effort has been made to provide the reader with a commentary on the factors that contribute or hinder the health and well being of the community. There is systematic referencing throughout the report and the resource list and appendices have been carefully laid out to help the reader deepen their understanding of the community and its resources.

70-74% This report shows a high degree of thematic integration. The content of the report indicates that the research areas of **profile, health** and **social services** and **residents** have been carefully covered. The findings provide the reader with an in depth understanding of the community, its resource base and the challenges that it faces. The discussion provides the reader with insights into the ways in which the various factors make a contribution or hinder the health and well being of residents of the community. Original thinking as to causation and possible improvement is evident. There is systematic referencing throughout the report. The resource list and appendices are organised in such a way that the reader is able to determine what roles these resources/organisations plays in the community.

75% This report is outstanding and provides the reader with a vivid account of the community. The discussion is characterised by range and depth [with respect to the **profile**, **health** and **social services** and **residents** of the community], with careful attention to detail. The discussion section is well developed with the correct use of specialised terms (such a primary health care). The writing in this section gives evidence of original thinking particularly when it comes to analysing and interpreting the research findings. The report correctly acknowledges all sources of information. The resource list and appendices have been carefully complied giving the reader a clear idea of the role that these services/organisations play in the community.

Appendix Seven

The following extract is taken from page 13 of the 1998 Handbook.

1998 Score Sheet for the 'Community View' Poster

When designing the poster the group needs to take the following marking criteria into account:

Content

Introduction: here the poster provides an overview of the community studied. This section will give the reader the reader **key** information about the geographical location, profile, residents, health and social services of the community. (10 marks).

Community Issues: here the poster gives the reader a clear idea of the **important** health and social issues facing members of the community. (20 marks).

Conclusions: Here the reader is given an analysis of what the group understands are the **significant** factors that are contributing to, or are preventing members of the community achieving a sense of well being. Well-argued observations and use of evidence are of particular importance in this section. (40 marks).

Presentation

Impact: Does the poster "invite" the reader to learn about the subject area? Is the information put across in such a way that when the reader

finishes viewing the poster they are left with a strong sense of the subject area? (10 marks).

Presentation: Is the layout of the poster such that it helps the reader more fully understand the subject area? The layout is the **most important aspect** of a poster's presentation. This is because layout involves the *spacing* and *size* of text ("writing"), use of *diagrams, graphs,* as well as the **balance** between text and visual material. (20 marks).

CORA Framework

The purpose of the case narrative is to give students the opportunity to learn how health and social issues can impact on the lives of individuals and families, as well as having the chance to develop and formulate a coherent management strategy to address the health and social issues indicated in the case narrative. Pivotal to the development and application of a management strategy is a guiding framework, since the collection of information and the identification of appropriate services is not a haphazard process, but one which is goal directed. The purpose of a guiding framework is to help one achieve your identified goals. There are many frameworks available to a health professional; the following is offered to help students develop the skills of research and formulating a feasible management plan.

The CORA Framework is adapted from Michael Payne's book 'Social Care in the Community'.

CORA is a mnemonic that stands for *Circumstances, Options, Resources* and *Action*.

Circumstances: this refers to the personal and social circumstances that have led the individual or family to seek professional help, or their circumstances have brought them to the attention of health professionals.

Options: this refers to the choices that are available to the individual or family after their circumstances has been thoroughly investigated.

Resources: this refers to the services and associated work that will need to be done to enable the individual or family to realise their choices.

Action: this refers to how the individual or family will be helped to realise their choices.

Appendix Eight

"Community View" supervisory responsibility was divided into administrative, process and assessment tasks.

1. Administrative tasks were to:

- select a geographical area within the Cape Peninsula that was accessible by public transport
- become familiar with the resource infrastructure of the selected area
- make personal contact with key people living and working in the area (e.g. residents, health care professionals and social workers) and set up appointments with these people for students to interview them
- secure a venue in the area that would serve as the meeting place and the entry point for students

2. Process tasks were to:

- establish a learning contract between the group and the supervisor (items covered in the contract would include the meeting times of the group, roles and responsibilities of the students and supervisor)
- encourage students to formulate a set of "ground rules" that guide group interaction

- help students to draw up a "skills inventory " within the group, so that this inventory would help in determining which specific project task group members would be best suited to undertake
- support students in their efforts to create a functioning group.

3. The assessment tasks were to:

- mark the project report by using the instructions in the handbook
- set and mark the group's open book examination questions
- mark the individual student reports
- co-mark their group's oral presentation

For the "Case Narrative Project " a similar set of tasks was identified.

1. The administrative tasks were to:

- identify the range organisations and services in the Cape Peninsula that students might consult during the course of the project
- select the key organisations and services that students would have to consult in order to successfully complete their research
- set up interviews for the students with these key organisations/services.

2. The process tasks were to:

- revisit the learning contract and make changes if deemed appropriate
- continue to strengthen the group's functional capacity
- enable students to revisit the "ground rule" and the skills inventory and make changes to both if appropriate.
-

3. The assessment tasks were to:

- devise the research prologue that would guide their students' research
- mark the group report (as per the instructions in the handbook)
- set and mark their group's open book examination questions
- mark the individual students reports

- co-mark their group's oral presentation.

Appendix Nine

The following is an example of the type of examination questions based on the "Community View" project.

Research Area: Wynberg

Question One

Using the WHO definition of health and the PHC principles of **intersectoral collaboration** and **community participation,** evaluate the efforts made by the Civic Services of Wynberg to address the issues of drug abuse and vagrancy.

500 words/ 200 marks.

Question Two

Using the PHC principle of **accessibility**, explain whether you believe that the private and public sector health services of Wynberg are accessible to all residents of Wynberg.

500 words/200 marks.

Question Three

You have been elected to the Wynberg Health Forum with the task of devising a plan to promote health amongst all the residents of Wynberg. Using the health promotion tools of **advocacy, enabling** and **mediation**, describe how your plan would promote health amongst all the residents. In your answer pay particular attention to the tasks of

encouraging *community action,* developing *personal skills* and re-orientating the *private health services.*

1000 words/400 marks.

Appendix Ten

University of Cape Town

Faculty of Health Sciences

Department of Primary Health Care

"Health and Society" (PRI 100W)

May — October 2000

Please give your ratings, observations, or information as required from the questions below. The Field Studies Staff value constructive comments and observations. Your feedback will help the staff in planning the field studies project next year.

Field Studies Projects

1. How useful were the *Community View* and *Case Narrative* Projects in developing your understanding of the various factors that can affect the health and well being of individuals, groups and communities?

Rating system

1. = Of no use at all

2. = Of limited use

3. = Useful

4. = Extremely Useful

Rating 1☐ 2☐ 3☐ 4☐

Please support your rating with written comments

_____

_____

_____

2.At the beginning of the field studies projects (in May of this year) you were asked to tick the statement that most closely matches your own view on health. Please re-read these statements, and then tick which statement most closely matches your own view on health. If none of the statements match your own view, then write a statement, which reflects your view on health.

i). ☐ Health is freedom from illness

ii). ☐ Health can be defined as "a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity"

iii). ☐ Health is complete physical and mental equilibrium

iv). ☐ Health is not a static state but a dynamic process, which includes the continuous interaction of physical, social and environmental factors, as well as illness and the recovery from illness.

v). Your own statement

3. Given your answer in Question Two, have your *ideas* about health changed in any way, as a result of the field studies projects? If so, in what way(s)?

4. Have your ideas about working and learning in groups changed in any way(s) as a result of the field studies projects? If so in what way(s)?

5. In your opinion did the project tasks (such as writing up the report and designing the poster) require the same amount of thought and effort as attending a lecture and attending tutorial? If not, in what ways were the project tasks different in terms of thought and effort?

_____

_____

_____

6. How useful was the Project Handbook in helping you and your group complete the various project requirements (e.g. the report, poster and oral presentation)?

Rating System

1= Of no use at all

2= Of limited use

3= Useful

4= Extremely Useful

Rating 1☐ 2☐ 3☐ 4☐

Please support your rating with written comments.

_____

_____

_____

7. In your opinion did the projects help you develop skills in (please tick next to the statement(s) that you agree with:

☐ Collecting information

☐ Analysing information

☐ Using evidence to develop an argument

☐ Writing an academic report

☐ Presenting research results in different ways (ie. oral presentation and academic poster)

☐ Other (please specify)

_____

_____

Please support your rating with written comments.

_____

_____

_____

_____

8. What were the barriers/obstacles that you faced as a learner, when working in your project group (e.g. prefer to work on my own, prefer to learn from lecture notes)?

_____

_____

_____

9. Did the size of your project group make a difference to your ability to complete the project tasks (e.g. the report, the poster and oral presentation)? If so in what way(s)?

_____

_____

_____

10 In your opinion, can you obtain high marks in your project work if you:

☐ provide facts

☐ give information

☐ develop an argument

☐ analyse and explain a problem/issue

Please support your rating with written comments.

11. How helpful was your supervisor in assisting you and your group to complete your field studies projects?

12. What community did you research for you first project?

13.What subject did you research for your second project?

14. If you were responsible for the Field Studies projects would you make any changes? If so, in what ways?

Appendix Eleven

A summary of student ratings and comments concerning the **2000 field studies programme**

1. The aim of the programme. To the question "How useful were the "Community View" and "Case Narrative" Projects in developing your understanding of the various factors that can affect the health and well being of individuals, groups and communities?, students answered accordingly:

- **38** students found the projects extremely useful
- **101** students found the projects useful
- **26** students found them of only limited use
- **3** students found the projects of no use at all

These ratings were supported by written comments. Students who were negative about the projects argued that the projects were a burden. Students who were positive commented that the projects had:

- given them a clearer understanding of health issues
- challenged perceptions that health was only a biological issue
- developed a clearer understanding of primary health care and how to implement it
- affirmed what had been taught in lectures
- shown how important it is for health professionals to work together

- helped students develop new skills (e.g. communication skills)

2. Project Tasks. Students were asked ' in your opinion did the project tasks (such as writing up the report and designing the poster require the same amount of thought and effort as attending a lecture and a tutorial?

- **162** students answered the question
- **46** replied no, and **16** replied yes.

The students who had replied **no** to the question gave a range of positive comments such as:

- project tasks required more work and were more challenging than lectures
- lectures were not as stimulating a the projects
- more time outside of "working hours" was spent on project tasks
- projects made us think for ourselves and forced us to start questioning issues normally taken for granted
- projects required more skills and talents, in lectures you were passive
- projects required self motivation and ownership of the learning process
- writing the report and designing the poster required more involvement

- abilities were far better use in projects and more satisfaction was gained

Students also made negative comments about the work required by the project tasks:

- tutorial assignments stimulated more thought, project tasks just created stress and did not teach us anything
- project instructions not always clear and so a lot of time was wasted
- project tasks were more tedious
- project tasks were taxing on a student's private time.

a) Project Handbook. Students were asked how useful the handbook was helping them and their group to complete the project requirements

- **17** students indicated that the handbook was only of limited use
- **75** students felt the handbook was useful and
- **79** students found the handbook extremely useful.

Positive student comments about were as follows:

- it provided a framework to build on
- it had all the instructions
- the handbook's questions helped us to conduct interviews
- the instructions were clear and easy to follow

- without the handbook, the projects would have been impossible to complete
- project marks were given if you followed the handbook's instructions

Negative comments about the handbook were as follows:

- instructions for the report were too rigid
- some of the instructions were ambiguous and this caused frustration
- the wording and terms used were difficult to understand
- the "Community View" project instructions were unclear

d) Projects and developing skills. Students were asked whether the projects helped them develop skills. In numerical order the skills learnt were:

- analysing information [**123**]
- presenting research results in different ways(i.e. oral presentations and academic posters) [**100**]
- using evidence to develop an argument [**83**]
- writing an academic report [**96**]
- collecting information [**38**]
- other skills – (group work skills, communication skills, conflict resolution and stress management) [**16**]

Written comments revealed that students felt that they had learnt to:

- more critical when reading information
- to obtain information from libraries and archives
- new ways to gather data
- use information for research purposes
- differentiate between relevant and irrelevant information
- develop an argument based on facts
- do a professional presentation

e) Projects and barriers to learning faced by students. Students were asked to identify what barriers they faced as learners when working in their project group. They felt that:

- project groups were too big to work constructively
- there were different work ethics within the group
- that there was a lack of communication between students
- that there was conflict within their group
- lack of co-ordination made project work difficult
- poor facilitation by supervisor
- difficulty co-ordinating work with different student timetables

f) Project group size and project requirements. Students were asked if the size of their group affected the ability of the group to complete the project requirements. For students who believed that the group size was a positive feature this meant that:

- it was easy to divide up the project work load
- the collection of data became easier
- there was a variety of skills and talents
- sub-groups could be created and these worked well.

For students who were negative about the group size this meant that:

- it was difficult to keep track of the overall project work as students were working in sub-groups
- it was difficult to arrange meeting times
- in a big group it was easier for students to get away with doing no work

f) Project work and marks. Student were asked to comment on whether it was easy to obtain high project marks if a student provided facts, gave information, developed an argument and analysed and explained a problem/issue. The order of importance students felt that a high project mark would be obtained if a student:

- analysed an argument and explained a problem/issue
- developed an argument
- gave information

- provided facts.

g) Recommended changes to the Field studies Projects. Students were asked 'if you were responsible for the Field studies projects would you make any changes? Student recommendations ranged from:

- I would abolish the programme
- limit the amount of work required as there are more important subjects like Anatomy and Biochemistry
- start the programme earlier in the year and finish before the September vacation
- have one project instead of two
- have smaller groups with fewer project requirements
- allow for more creativity in terms of the report, presentation and poster

Appendix Twelve

A set of questions that formed part of the "Open Book" Examination Paper for the **Case Narrative** and **Resource Study Project in 2000.**

Topic: People living with "mental illness".

Question One

You are part of a multi-disciplinary team in a general hospital. On your ward round you come across a patient who was admitted because of several self inflicted stab wounds. From what you can gather the patient claims that he ha a "special dream" where a voice told him to sacrifice a goat. The patient appears to be very confused; unable to make sense in his communication with you and the nurses' claim that he looked "possessed" when he was admitted.

a) Offer **three** possible diagnoses for his condition, and briefly outline the typical features of each diagnosis.

300 words/100 words

b) If the person is experiencing **ukuthwasa**, explain the positive, as well as the negative impact that **certification may** have on his recovery.

300 words/ 100 words

c) From your understanding of the concepts *"prevention, promotion* and *rehabilitation* " outline the role that NGOs play in ensuring mental health for people living with schizophrenia.

400 words/ 200 marks

Question Two

You have been contacted by a diverse group of people including health care providers, traditional healers and parents of people who have been diagnosed as having a "mental illness". This group would like you to provide them with an effective protocol to meet the needs of persons with a diagnosed "mental illness". Drawing on your research, outline a protocol which:

- details a management plan (**CORA**) for persons with a "mental illness", which implements the key principles of **functionality, linkage**, and **social/cultural/ community support**
- explains how traditional healers and psychiatrists can work effectively and creatively together for the benefit of people living with a "mental illness"
- emphasises the critical role that family members must play in the care of persons living with a "mental illness".

1000 words/400 marks

Appendix Thirteen

University of Cape Town

Faculty of Health Sciences

Field Studies Programme 2000

Evaluation of the Field Studies Project Experience: The Case Narrative and Resource Study Project

Introduction

The purpose of this second evaluation is to require students evaluate their project experience. The point of the evaluation is to compare this project experience (the Case Narrative Project) with the previous Community View project experience. To complete this task a student will need to demonstrate that they have:

- Reflected on their project role(s) and contribution
- Explained the ways in which their role(s) and contribution might have *differed* from the previous project
- Described how their group worked together

Framework

To help students complete this evaluation the following framework is provided as a guide to enable students to gather the necessary information for their report. The framework has two sections, one section dealing with their personal contribution and the second section

dealing with the project experience. It is recommended that students keep a weekly diary in which they record how they and other members of the group worked together, and outline in what ways did they contribute towards the completion of project tasks.

1. Personal Contribution

During the course of the project I contributed to the work of the group by being:

- An innovator(one who produced ideas, showed imagination, suggested solutions)
- An investigator (enjoyed finding out things, brought important information back to the group)
- A leader (guided the group, chaired group meetings, encouraged other members when faced difficulties, made things happen in the group)
- An evaluator (tested out ideas and group suggestions, helped the group avoid mistakes)
- A team worker (showed a strong concern for the way in which members related to another, put group needs before personal needs)
- An organiser (turned ideas into action, completed assigned tasks, could be relied on to complete their work and paid attention to deadlines).

2. Project Experience

Drawing on experience gained during the previous project I felt that I:

- Worked with greater confidence with other members of my group
- Was valued as a member of the group
- Was able to use my skills in such a way that I made qualitatively different contribution to the group
- Was better able to deal with periods of frustration and difficulty
- Was more able to help the group to work more effectively, and avoid unnecessary difficulties
- Was able to ensure that I did not end up doing the work of others

Format for writing the Evaluation Report

At the conclusion of the project students will be required to submit a typed report. The report must not exceed **1 600** words. The report must include:

- A face-sheet which provides your name, date of submission and the name of your project supervisor.
- A brief introduction that summarises your project experiences [100 words].
- A discussion of your contribution and role(s) undertaken during the course of the project. It is here that a student should indicate

whether their role/contribution differed in any way(s) from the previous project. [500 words].

- An analysis of the project process, and in what way(s) did the group work differently when compared to the previous project (ie. how the group worked together and why the group worked together in that particular way). [500 words].

- Conclusions. Here the student reflects on what they have learnt about working in groups. [500 words].

Bibliography

Adderley, K., Ashwin, C., Bradbury, P., Freeman, J., Goodlad, S., Greene, J., Jenkins, D., Rae, J., and Uren, O. (1979) *Project Methods in Higher Education.* London: SRHE Working Party.

Andreson , L (1994) *Lecturing to Large Groups: a Guide to Doing It Less, but Better.* Birmingham: Staff and Educational Development Association.

Ashcroft, K. and Foreman-Peck, L. (1994) *Managing Teaching and Learning in Further and Higher Education.* London: Falmer Press.

Barker, P. (1998) 'Interactivity as an Extrinsic Motivating Force in Learning'. In Brown, S., Armstrong, S. and Thompson, G. [Eds.] *Motivating Students.* London: Kogan Page.

Bassey, M. (1999) *Case Study Research in Educational Settings.* Buckingham: Open University Press.

Beard, R. (1972) *Teaching and Learning* (Second Edition). Middlesex: Penguin Books.

Beard, R., and Hartley, J. (1984) *Teaching and Learning in Higher Education.* London: Harper and Row.

Berg, B. (1989) *Qualitative Research Methods for the Social Sciences.* Boston: Allyn and Bacon.

Beswick, N. (1977) *Resource-based Learning.* London : Heinemann Educational Press.

Biggs, J. B. (1987) *Student Approaches to Learning and Studying*. Victoria: Australian Council for Educational Research.

Biggs, J. B. (1999) *Teaching for Quality Learning at University*. Buckingham: SRHE and Open University Press.

Biggs, J. and Moore, P. (1993) *The Process of Learning*. Sydney: Prentice Hall.

Bligh, D.A. (1972) *What's the Use of Lectures?* Harmondsworth: Penguin Books.

Bochner, D. Gibbs, G. and Wisker, G. (1995) *Supporting More Students*. Oxford: Oxonian Rewley.

Boud, D. (1995) 'Moving Toward Autonomy'. In Boud, D. [Ed.] *Developing Student Autonomy*. London: Kogan Page.

Bowden, J. (1988) "Achieving Changes in teaching practices". In Ramsden, P.[Ed.] *Improving Learning: New Perspectives*. London: Kogan Page.

Brown, A. and Dowling, P. (1998) *Doing Research/Reading Research:* A Model of Interrogation for Education. London: Falmer Press.

Brown, G. (1993) 'Effective Teaching' from *Quality Assurance for University Teaching*. Buckingham: SRHE and Open University Press.

Brown, G. and Atkins, M. (1988) *Effective Teaching in Higher Education*. London, Methuen.

Brown, G., Bull, J. and Pendlebury, M. (1997) *Assessing Student Learning in Higher Education*. London and New York: Routledge.

Brown, M., Fry, H., and Marshall, S. (2000) 'Reflective Practice' In Fry, H., Ketteridge,S. and Marshall,S. [Eds.] *A Handbook for Teaching and Learning in Higher Education*. Glasgow: Kogan Page.

Brown, S. and Knight, P. (1995) *Assessing Learners in Higher Education*. London: Kogan Page.

Brown, S., Rust, C. and Gibbs, G. (1994) *Strategies for Diversifying Assessment in Higher Education*. Oxford: Oxford Centre for Staff Development.

Bryman, A. (1993) *Quantity and Quality in Social Research*. London: Routledge.

Burns, R. (1997) *Introducing Research Methods*. South Melbourne: Longman.

Butler, K. (1987) *Learning and teaching Style in Theory and Practice*. Columbia, C.T. Press.

Chalmers, D. and Fuller, R. (1996) *Teaching for Learning at University: Theory and Practice*. London: Kogan Page.

Charles, C.M. (1998) *Introduction to Educational Research* (Second Edition). White Plains, New York State: Longman.

Clarke, J. (1982) *Resource-based Learning for Higher and Continuing Education*. London: Croom Helm.

Cohen, L. and Manion, L. (1984) *Research Methods in Education*. London: Croom Helm.

Cooper, L. (2000) "Project-based Learning: Enabling Active Citizens to Access Higher Learning", Centre for Higher Education Development, University of Cape Town.

Cooper, L . and McMillan, J. (2000) "Revolutionary patience! The possibilities and limitations of Project-Based Learning in a university adult education course". A paper presented at a staff seminar, Centre for Higher Education and Development, University of Cape Town.

Coulson, N,. Goldstein, S. and Ntuli, A. (1998) *Promoting Health in South Africa*. Cape Town: Heinemann Higher and Further Education.

Dennill, K,. King, L,. Lock, M. and Swanepoel,T. (1995) *Aspects of Primary Health Care*. Johannesburg: Southern Book Publishers.

De Vaus, D. A. (2001) *Research Design in Social Research.* London: Sage Publications.

Eley, M. (1992) ' Differential adoption of study approaches within individual students'. *Higher Education*, 23, 231-254.

Entwistle, N. (1990) *Styles of Learning and Teaching*. London: David Fulton Publishers.

Entwistle, N., Odor, N., and Anderson, C. (1988) 'Encouraging Reflection on Study Strategies: The design of a Computer-based Adventure Game'. In Ramsden, P.[Ed.). *Improving Learning: New Perspectives*. London: Kogan Page.

Evans, G. R. (1990) *Calling Academia to Account*. Buckingham: SRHE and Open University Press.

Evans, L. (1964) *The Crisis in Medical Education,*. Ann Arbor: University of Michigan Press.

Fisher, S. (1994) *Stress in Academic Life: The Mental Assembly Line.* Buckingham: Open University Press.

Fraenkel, J. and Wallen, N. (2000) *How to Design and Evaluate Research in Education* (Fourth Edition). Boston: McGraw Hill.

Freire, P. and Shor I. (1987) *A Pedagogy for Liberation.* London: Macmillan Education Ltd.

Fry,H., Ketteridge, S. and Marshall, S. [Eds.] *A Handbook for Teaching and Learning in Higher Education.* Glasglow: Kogan Page.

Gibbs, G (1992) *Improving the Quality of Student Learning.* Bristol: Technical and Educational Services.

Gibbs, G. (1995a) *Learning in Teams. A Student Guide*, Oxford, Oxonion Rawley Press.

Gibbs, G. (1995b) *Learning in Teams. A Tutor Guide*, Oxford, Oxonion Rawley Press.

Gibbs, G (1996) *Learning to teach: powerful ideas in teaching and learning.* Oxford, Oxonion Rawley Press.

Gibbs, G., Habeshaw,S. and Habeshaw,T. (1984) *53 Interesting Things to Do in your lectures.* Bristol: Technical and Educational Services.

Gibbs, G., and Jenkins, A. [Eds.] (1992) *Teaching Large Classes in Higher Education: How to Maintain Quality with Reduced Resources.* London: Kogan Page.

Glesne, C. and Peskin, A. (1992) Becoming Qualitative Researchers. New York: Longman.

Henry, J. (1989) ' Meaning and Practice in Experiential Learning'. In Warner,M.,Weil,S. and McGill,I.(Eds.) *Making Sense of Experiential Learning:*

Diversity in Theory and Practice. Buckingham: SHRE and Open University Press.

Heron, J. (1989) *The Facilitators Handbook.* London: Kogan Page.

Heron, J. (1995) 'Assessment Revisited'. In Boud, D. [Ed.] *Developing Student Autonomy in Learning* (Second Edition). London: Kogan Page.

Heywood, J. (1989) *Assessment in Higher Education.* Second Edition, Chichester: Wiley.

Hitchcock, G. and Hughes, D. (1989) *Research and the Teacher: A Qualitative Introduction to School-based Research.* London: Routledge.

Honey, P and Mumford, A (1982) *The Manual of Learning Styles.* Maidenhead: Peter Honey.

Jacques, D. (1989) *Independent Learning and Project Work.* Oxford: Oxford Centre for Staff Development.

Jacques, D. (1995) *Learning in Groups.* London: Kogan Page.

Jenkins, A. (1997) *Fieldwork with More Students.* Oxford: Oxonion Rawley Press.

Johns, A.M. (1997) *Text, Role and Context: Developing Academic Literacies.* Cambridge: Cambridge University Press.

Johnson, D. and Johnson, F. (1994) *Learning Together and Alone.* Boston: Allyn and Bacon.

Knights, S (1998) *The Hidden Curriculum.* New York: Alfred Knopf.

Lancy, D. F. (1993) *Qualitative Research in Education: An Introduction to the Major Traditions.* New York: Longman.

Lewis, J. M. (1993) 'Teaching Styles of Award-Winning Professors'. In Rogers, E. [Ed.] *Quality Assurance for University Teaching*. Buckingham: SRHE and Open University Press.

Luck, M. (1998) "Undergraduate Research Projects: Motivation and Skills Development". In Brown, S., Armstrong, S. and Thompson, G. [Eds.] *Motivating Students*. Birmingham: Kogan Page.

Marshall, S. (2000) "Supervising Projects and Dissertations". In Fry, S., Ketteridge, S. and Marshall,S. [Eds.] *A Handbook for Teaching and Learning in Higher Education*. Glasgow: Kogan Page.

Marton, F. and Ramsden, P. (1988) "What Does it Take to Improve Learning?". In Ramsden, P. [Ed.] *Improving Learning: New Perspectives*, Worcester: Billings and Sons Ltd.

McCulloch, G. and Richardson, W. (2000) *Historical Research in Educational Settings*. Buckingham: Open University Press.

Merriam, B. (1988) *Case Study Research in Education*. San Francisco: Jossey-Bass Publishers.

Miles, M (1981) *Learning to Work in Groups: A Program Guide for Educational Leaders*, New York: Teachers College Press.

Mogensen, E., Elinder, G., Widstrom, A. and Winbladh,B. (2002) ' Centres for Clinical Education (CCE): 'Developing the Health Care Education of Tomorrow – A Preliminary Report', *Education for Health*, 15, 1, March 2002.

Morgan, A. (1984) "Project based learning". In Hendersen, E.S., and Nathenson, M.B. [Eds.) *Independent Learning in Higher Education*. Milton Keynes: Open University Press.

Newstead, S. E. and Hoskins, S. (2000) "Encouraging Student Motivation". In Fry, H., Ketteridge, S. and Marshall, S. [Eds.) *A Handbook for Teaching and Learning in Higher Education*, Glasgow: Kogan Page.

Parsell, G. and Bligh, J. (1995) 'The changing context of undergraduate medical education', Postgraduate Medical Education Journal, 71, 397-403.

Pask, G (1988) "Learning strategies, teaching strategies and conceptual or learning style". In Schmeck, R. [Ed] *Learning Strategies and learning Styles*. New York: Plenum Press.

Perry, W.,G.(1988) "Different Worlds in the Same Classroom". In Ramsden, P. [Ed.] *Improving Learning: New Perspectives.* Worcester: Billing and Sons.

Prosser, M. and Trigwell, K. (2000) *Understanding Learning and Teaching: The Experience in Higher Education.* Buckingham: SHRE and Open University Press.

Punch, K. (1998) *Introduction to Social Research.* London: Sage Publications.

Race, P. (1998) " Teaching: Creating a Thirst for Learning?". In Brown, S., Armstrong, S. and Thompson, G. [Eds.) *Motivating Students*. Birmingham: Kogan Page.

Ramsden, P. (1992) *Learning to Teach in Higher Education.* London and New York: Routledge.

Rowntree, D. (1987) *Assessing students: how shall we know them?* London: Kogan Page.

Saljo, R. (1988) "Learning in Educational Settings: Methods of Inquiry". In Ramsden, P. [Ed.] *Improving Learning: New Perspectives*. Worcester: Billing and Sons.

Schon , D. (1987) *Educating the Reflective Practitioner: Towards a New Design for Teaching and Learning in the Professions.* San Francisco: Jossey-Bass Publishers.

Stenhouse, L. (1988) ' Case Methods'. In J. P. Keeves [Ed.] *Educational Research, Methodology and Measurement: An international Handbook* [First Edition]. Oxford: Pergamon.

Stone, B. (1994) "The academic management of group projects". In Thorely, L. and Gregory, R.[Eds.] *Using Group-Based Learning in Higher Education.* London: Kogan Page.

Taylor, I. (1997) *Developing Learning in Professional Education.* Buckingham, SRHE and Open University Press.

Thompson, G. (1998) " The Effect of Stressors on Student Motivation: A Report of Work in Progress at Sunderland Business School ". In Brown, S., Armstrong, S. and Thompson, G.[Eds.} *Motivating Students.* London: Kogan Page.

Toohey, S. (1999) *Designing Courses for Universities.* Buckingham: Open University Press.

Torrance, H. [Ed.] (1994) *Evaluating Authentic Assessment: Problems and Possibilities in New Approaches to Assessment.* Buckingham: Open University Press.

Tuckman, B. W. (1988) *Conducting Educational Research* (Third Edition). San Diego: Harcourt Brace College Publishers.

Undergraduate Medical Education Committee of the Faculty of Medicine of the University of Cape Town (1992) (*Undergraduate Preparation for Primary Care at UCT)* an unpublished discussion document.

Verma, G. and Mallick, K. (1999) *Researching Education: perspectives and techniques.* London: Falmer Press

Wakeford, R. (2000) "Principles of Assessment" In Fry, H., Ketteridge, S., and Marshall, S. [Eds.] *A Handbook for Teaching and Learning in Higher Education.* London: Kogan Page.

Warren D. P. (1997) "Learning and Teaching in Higher Education, with reference to the South African context of student diversity". Discussion paper to inform programmes planning at the University of Cape Town.

Wellington P. (1998) "Multidisciplinary Student Teams Motivated by Industrial Experience". In Brown, S., Armstrong, S., and Thompson, G. [Eds.] *Motivating Students.* Birmingham: Kogan Page.

Williams, M. and Horobin, R. (1992) *Active learning in Fieldwork and Project Work.* Sheffield :CVCP/USDTU.

Wolf, D.M. and Kolbe, D.A. (1984) "Career development, personal growth and experiential learning" in Kolbe, D., Rubin, I. and McIntyre, J. [Eds.] *Organisational Psychology : Readings on Human Behaviour* [Fourth edition]. New Jersey: Prentice-Hall.

World Health Organisation (1993) *Problem-Solving Education for the Health Professions.* Geneva: WHO.

Wyrley-Birch, B and Wright, J (2003) *Communication for Health Sciences.* Oxford: Oxford University Press.

Yin, R.K. (1993) *Applications of Case Study Research.* London: Sage.