ProQuest Number: 10702905

ProQuest 10702905

Modernising the Maltese Physiotherapy Curriculum:
An Empirical Study

Mark Sacco

A thesis submitted in partial fulfilment of the requirements of

Sheffield Hallam University

for the degree of Doctor of Philosophy

September 2008

Declaration

I hereby declare that the dissertation, submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy and entitled "Modernising the Maltese Physiotherapy Curriculum: An Empirical Study", represents my own work and has not been previously submitted to this or any other institution for any degree, diploma or other qualification.

<div align="right">

_____

Mark Sacco

</div>

Abstract

Purpose and Relevance

Following a poliomyelitis epidemic, physiotherapy was introduced to Malta in 1943 based on the curriculum of the English Chartered Society of Physiotherapy and has remained the core of Maltese physiotherapy courses. However, health services in Malta are undergoing major changes in policy and resources cumulating with the development of a new teaching hospital. The need was felt both from the clinical and academic perspectives that the inherited curriculum needed review to ensure it meets the current requirements of local stakeholders including those of overseas authorities.

Description

Various research methodologies were examined and a qualitative approach using an 'Action Research' paradigm was identified as the most appropriate. Seven cycles of planning, action and evaluation using documentary research and interviews with: educators, students, practitioners, patients, management as well as the professional body were undertaken. 'Thematic Analysis' was used to interpret and analyse the data. To triangulate the data collected during the previous cycles, Q Methodology was applied as a means to offer an empirical explanation to the qualitative data collected previously.

Observations

During the early stages of the study the data indicated that both students and academia were not content with the curriculum and expressed scepticism that the study will result in change. As the study developed their interest increased, becoming actively involved in the research process resulting in the empowerment of the primary stakeholders to ameliorate their curriculum, work and working environment.

Conclusions and Benefits

Throughout the study changes to the course design, content, teaching and assessment methods of the curriculum have occurred, encouraging students to become critical and reflective practitioners. The study resulted in two curricula being designed; a workable curriculum acceptable to the University which would satisfy the needs of both local and foreign requirements and an 'ideal' curriculum for future implementation.

Importantly this study offers a model and methodology for designing professional curricula that could be utilised by other professions, both locally and abroad. Finally, suggestions for further and future considerations are presented.

Acknowledgements

I would like to dedicate this thesis to

my mother, wife and daughter.

An Ode to the Future

"We need to stop and listen
To the echoes of the past,
To where we were and where we are
So what we build will last...

The answer is up to us,
Our construction, our design;
If we build on firm foundation,
It will stand the test of time."

(Dr. B.J. May & Dr. B. Lauden 1980)

Terms and Abbreviations Used in this Thesis

<u>Academic Member of Staff</u>: a full-time academic, employed by the University of Malta

<u>Common Core Study-unit</u>: these are the study-units in which students from different divisions within the IHC or faculties at university attend for lectures together

<u>C.P.C.M.</u>: Council for the Professions Complementary to Medicine

<u>D.H.</u>: The Department of Health

<u>Division</u>: the Institute of Health Care is comprised of eleven divisions, one of which is Physiotherapy

<u>European Network for Physiotherapy in Higher Education (E.N.P.H.E.)</u>

<u>Institute of Health Care</u> (I.H.C.): this institute was inaugurated in 1987, forming a part of the University of Malta and is concerned with the training of students in the professions allied to medicine

<u>Junior Member of Staff</u>: a member of staff with more than two but less than 10 years of post qualification experience

<u>Module</u>: a collection of study-units. These might be assessed individually or as a whole

<u>Newly Qualified Member of Staff</u>: a member of staff with less than two years post qualification experience

<u>Physiotherapy Curriculum</u>: for the purpose of this study this term describes the content, delivery and assessment of the physiotherapy course taught at the Institute of Health Care

<u>Senior Member of Clinical Staff</u>: a member of staff working at St. Luke's Hospital with more than 10 years post qualification experience

<u>St. Luke's Hospital</u> (SLH): the only teaching general hospital on the island, that is to be replaced by the Mater Dei Hospital by the year 2005

<u>Study-unit</u>: the title of a topic that forms part of content of the course programme of the physiotherapy course

<u>U.o.M.</u>: The University of Malta

Table of Contents

List of Figures

List of Tables

INTRODUCTION

1.1   Introduction

This thesis describes development of a modernised curriculum for an undergraduate degree course in physiotherapy. Physiotherapy was introduced to the Mediterranean island state of Malta following the poliomyelitis epidemic of 1943. For the next 30 years, the service was staffed by expatriate British physiotherapists and Maltese physiotherapists trained in the U.K. In 1976, a training course was begun on the island using the curriculum of the Chartered Society of Physiotherapy (C.S.P.), the physiotherapists' professional body in the U.K. The course tutor was a British expatriate and C.S.P.-approved external examiners conducted examinations. The advantage for diplomates was automatic recognition by the Council for Professions Supplementary to Medicine (C.P.S.M.), the registration body in the U.K., now the Health Professions Council (H.P.C.). The disadvantage was that, despite far-reaching changes in education of physiotherapists in the U.K. in the last quarter of the 20th century, the Maltese curriculum could be said to be stuck in a time warp, more suited to health needs in the U.K. in the 1970s and 1980s than to health needs in Malta in the 1990s and beyond. In 1992, the physiotherapy course was incorporated into the Institute of Health Care (I.H.C.) of the University of Malta (U.o.M.) and the qualification was upgraded from a diploma to a degree. Although physiotherapy degree courses in the U.K. had developed using a core curriculum that satisfied both the C.S.P. and the C.P.S.M./H.P.C., an out-dated model that was becoming increasingly less relevant to Maltese health needs was still in use and educators were struggling to reconcile it with requirements of the U.o.M. Modernisation of the curriculum to review it was essential to ensure that practitioners were educated to provide a service commensurate with the health needs of the population of Malta.

1.2   Background

Physiotherapy education in Malta is presently at the stage where the curriculum has to be reviewed and assessed to ensure that the quality of physiotherapy offered is abreast with the needs of the health services on the island. It provides a service for a population of 397,499, which is expected to increase to 415,000 by 2020. The Maltese Health Service boasts of its efficiency and

effectiveness (C.O.S. 2003). While life expectancy exceeding that of most developed countries (W.H.O. 2006) is a reason for self-congratulation it carries the demands and expectation of an increasingly aged population requiring further rehabilitation, and hence more physiotherapy. The health services on the island are undergoing changes culminating in the building of a new teaching hospital that is to be inaugurated in July 2007. Similarly, physiotherapy education in Malta must respond to changing demands in order to fulfil the needs of the health services on the island.

1.3   Objective of the Study

The objective of this study was "The Modernisation of the Maltese Physiotherapy Curriculum". Earlier investigation of locally trained physiotherapists' perceptions of the physiotherapy course at the I.H.C. revealed that past students were dissatisfied with certain components of the course (Sacco 1999). This quantitative research produced some alarming data. For example: 84% of all the respondents considered the course to be stressful, and only 11% thought that it allowed them to reflect on and critically evaluate their development as a physiotherapist. Only 18% of the respondents thought that the clinical teaching delivered during the course met their needs, and 64% were not satisfied with the clinical supervision available to them. These initial data, together with reports delivered by senior clinical staff regarding the quality of physiotherapy practised by newly qualified physiotherapists (Board of Studies 2002), led Sacco to the conclusion that a total revision of the course curriculum was required.

1.4   Research Question

Is the curriculum of study being offered to the physiotherapy course at the Institute of Health Care the most appropriate for Malta following the new millennium?"

1.5   Aims of the Study

The aim of the study was to initiate changes to the physiotherapy course curriculum in order to educate and train the Maltese physiotherapist to the high

standards the new health service expects and requires. This new physiotherapist is expected to be a) proficient in the skills necessary to practise the profession, b) clinically and research orientated, and c) confident enough to carry the responsibility of being an autonomous, diagnosing professional.

1.6   Contents of the Thesis

Following this opening chapter, chapter 2 introduces the reader to the changes that the Maltese physiotherapy curriculum underwent from 1976 to date. Chapter 3 discusses the theoretical underpinnings of curriculum design and development.   The next chapter deals with the theoretical basis of physiotherapy education.   Chapter 5 titled 'The Research Path' discusses the philosophies that led the author from using a constructivist paradigm to an action research methodology.   It includes section on reflexivity and the ethical issues that evolved during the undertaking of the study.   Chapter 6 is titled 'Original Observations' and describes the seven cycles leading to the formulation of the new curriculum and protocol to develop this curriculum. Chapter 7 discusses the findings that were directly related to the research question and the other findings that were revealed during the methodological changes.   The final chapter acts as a conclusion to the study emphasising that the outcome of this study was not the actual development of a new curriculum but the methodology how a new physiotherapy curriculum could be developed to match the local medical, cultural and political needs of a country.

THE DEVELOPMENT OF THE PHYSIOTHERAPY CURRICULUM IN MALTA

2.1 Introduction

This chapter sets the scene for the thesis (Appendix 1). It commences by giving a short yet detailed description of the changes that have taken place in the development of the Maltese physiotherapy curriculum. This is followed by a section that discusses the new health policy of the present Government, which influences the need for a new curriculum. The next section discusses the call for a change in the teaching and learning that will be required as the need to develop collaborative team working develops.

2.2 Development of the Local Physiotherapy Curriculum

The Maltese physiotherapy curriculum has undergone several changes during the last 30 years. These changes have influenced the entry qualifications, the course content, the mode of assessment and the clinical practice modules and assessment.

2.2.1 Entry Qualifications

The academic entry requirements to enter the physiotherapy course has changed from a pass in the Malta Matriculation Certificate or G.C.E. at Ordinary level in six subjects and a preference given to students in possession of Advance level passes in Biology, Physics and Chemistry to any two A-Levels becoming compulsory subjects. An alternative mode of entry included a grade 'C' pass from the newly inaugurated Pre-Vocational School. Following the transfer of the physiotherapy course to the I.H.C. of the U.o.M. the new BSc and diploma course commenced concurrently. The diploma entry qualifications were lowered to six O-Level passes in specified subjects or a grade 'C' pass from the Prevocational School or a maturity clause entry. The entry requirements for the BSc Honours in physiotherapy were any three A-Levels with grades of at least two 'C's and a 'D' together with a pass in Systems of Knowledge and the necessary six O-Level passes. Following the adoption of the Baccalaureate system in 1996 the entry requirements changed to two subjects at A-Level, one of which had to be Biology with a minimum grade 'C' pass, three subjects at Intermediate level that had to include Physics and a pass in Systems of Knowledge. All subjects had to be obtained in one sitting. In 2000,

following the advice of the external examiner and the Physiotherapy Division, a 'numerus clausus' of 15 students per intake was introduced. The criteria for entry to the course were based solely on academic achievement, with maximum points being awarded for a grade 'A' in Biology and or any other grade 'A' supporting subject at Advanced Level. A student could not obtain entry to the course via the maturity clause (Appendix 2).

2.2.2 Course Content

The course syllabus and learning objectives for the 1976 course were the same as those of the Chartered Society of Physiotherapy of that period (C.S.P. 1974; Appendix 3). This curriculum remained unchanged till the transfer of the course to the U.o.M. in 1992. Following this transfer the need to broaden the knowledge taught was considered necessary by the University including behavioural science subjects and research methods (Appendix 4). A difficulty encountered by the course following the merger with the University also experienced by other universities overseas (Brook and Parry 1985) was the formal accreditation of the clinical modules. Having reviewed various curricula from different institutions from different countries it became apparent that there is no harmonisation between physiotherapy curricula in Europe (E.N.P.H.E. 2005, 2006; Appendix 5). Another important observation of the present physiotherapy curriculum was that it did not reflect the medical needs and conditions of the Maltese islands. This issue was the original reason why this study was undertaken.

2.2.3 Course Assessment

The initial courses did not have any formal system of continuous assessment. These were introduced in 1985 using the same system as the Continuous Assessment Record Book used by the C.S.P. in the U.K. Clinical practice was not formally assessed. Course assessment took place by Annual Comprehensive Examinations that tested the theory and skills by unseen written papers and a practical exam similar to that of the C.S.P. Following the transfer to the University and the adoption of the European Credit System a student had to pass a stipulated number of the study-units allotted to that year

(Appendix 6). To be allowed to sit for the Final Comprehensive Examinations a student must have obtained 85 theoretical credits assessed in the following manner: 45 unseen written tests, 14 assignments, 12 practical skill tests together with 10 clinical placement assessments. In 2003 following the new General Regulations for the University (Appendix 7) the Physiotherapy Board of Studies abolished the written Final Comprehensive Examination at the same time amalgamating a number of study-units into modules. The number of tests was significantly reduced as modular testing was introduced (Appendix 8). The Examining Boards for the Physiotherapy course also developed from one that was totally medically dominated in 1976 to one that was composed solely by members of the profession including an external examiner (D.H. 1978; D.H. 1988; Brook 1985; I.H.C. 1993).

2.2.4   Clinical Practice and Assessment

For the courses from 1976 till 2005 clinical experience was obtained by supervised practice in the clinical setting. These consisted of six to eight week placements. Each student worked a twenty-five hour week that equated to one credit. The total number of clinical practice hours throughout the course has changed from 1750 hours to 1,250 (Physiotherapy Board of Studies 2004). Students are assessed for the skills and behaviours demonstrated during this clinical period and clinical supervisors mainly look out for professional maturity, subject knowledge, willingness to learn, dedication and communication skills (Cross and Hicks 1997). The clinical report-forms had to be signed by the students and clinical supervisors. Marks given by the Clinical Supervisors tended to be higher and unrealistic when compared to those given by the Clinical Educators. These marking discrepancies in clinical practice have also been reported in the U.K. (Bernard and Goodyear 1992). In 2005 a new scheme was introduced whereby students commenced a short period of clinical observation in their first year, followed by short clinical modules in the second and third year. The final year was totally dedicated to clinical practice. Half way during this final year students are examined on their assessment skills and the course comes to an end with a final examination that assesses their treatment skills.

2.3 Factors Influencing the Physiotherapy Curriculum

Physiotherapy education is increasingly subject to external influences. These forces are perhaps most pronounced and possibly exert a greater influence in programmes that prepare students to enter the health professions. These influences are going to be discussed in turn.

2.3.1 Professional

The level of medical services offered on the island is of a very high standard thus the quality of physiotherapy has to continually be improved to match these services. The transition from a course that was taught by the Department of Health to one within a University setting was expected to bring about change. Unfortunately, the changes that were carried out to the curriculum were the imposition of either an increased depth in certain subjects, especially the behavioural subjects, or the introduction of new study-units, like research. Essentially, the curriculum of physiotherapy remained that which was introduced to the island in 1976. The Maltese physiotherapist is an autonomous practitioner who is capable of producing a physiotherapeutic diagnosis, planning a treatment, altering this treatment to the patient's needs and finally taking the decision to discontinue treatment. One of the biggest influences on the curriculum came from the members of staff working at St. Luke's Hospital and this concerned medical dominance. The profession on the island has always prided itself as being very closely related to that being practised in the U.K. yet whereas the profession in England has continued to develop and become more autonomous while that in Malta has remained static. The present system of referral within the state hospitals is one of medical referral. There has been a growing concern amongst the physiotherapy profession that physiotherapists will loose the need and right to carry out a physiotherapeutic diagnosis on which to plan and implement a treatment plan. In the past the largest number of students who failed the course did so by not passing the final practical examinations. These consisted of carrying out a patient assessment and treatment. The fear that medical dominance via the I.H.C. Board would suggest the removal of these

examinations viewed as stumbling blocks and irrelevant as medical referral was already in effect would prevail.

The present physiotherapy curriculum did not encourage the student or the potential physiotherapist to enquire or be more demanding, but on the contrary this educational system was one that students expected to be given all the material to be taught. All the necessary skills to practise physiotherapy were also taught to very high standards; however the underlying taught processes were not given too much importance. The emphasis was on the application of skills rather than the rational logic required when, and how to use these skills. The 'training' and not the education of physiotherapists was the term utilized by the Department of Health. A large component of the course consisted of clinical practice. A popular method inherited from overseas used to train students to learn the skills they would require to practise their profession was the apprenticeship system this has been used successfully in the training of skilled personnel within the Malta Dockyards, the tourism industry and engineering (Azzopardi 2004). The manner that physiotherapy students did their clinical practice was very closely related to this system. Students originally learnt by observation, then practised under supervision and this was followed by a period of time that as the supervision decreased the management of the patient became the responsibility of the student. Physiotherapy practice was not evidence-based but depended very heavily on the 'grandma effect', a situation similar to that in the U.K. in the early 80s (Turner 2001). A move away from the 'apprenticeship' or 'experiential learning' towards a more intellectual education (Teichler 1999) became evident as physiotherapy education moved into universities (French 1992), however a certain amount of discordance still exists and the 'art or science' debate continues Selander 1990; Lindquist et al 2004). The new health service will dictate that clinicians are expected to deliver high-quality care, improve treatment outcomes, document those outcomes and reduce costs. However, all physiotherapists who have furthered their post-qualification education, including the academic staff have done so overseas, normally in the U.K. (Muscat 2004), these and any members of staff who have worked abroad noted the restricted manner that

physiotherapy was being taught. A sense of professional frustration was becoming evident, as this educational system was narrowing their scope of practice as opposed to their colleagues overseas.

2.3.2 Political – Health Care Policy

There can be no doubt that the present legislation intends to increase the size and quality of the health service being offered to the Maltese population, this will climax with the opening of the new teaching hospital in 2007. Health care commands 5.3% of the gross national product and constitutes 7% of the labour force (W.H.O. 2006). A new 250 bedded purposely built Rehabilitation Hospital is also expected to become operational by 2009. To provide the manpower for this new workforce, it is the policy of the government in office to try and enrol as many people as possible: both school leavers and mature workers, into higher education (Ellul Micallef 2006). The scientific and technological advancements of the new millennium have improved the ability for the health professions to diagnose and cure. In Malta, the socio-economic evolution that took place in recent years is characterised in particular, by the decentralisation, privatisation and globalisation of ideas. The emergence of an information society accompanied by a change in values and traditional life styles, peaked by the end of the last millennium (Abela 1999). These same improvements have also made possible the increased affluence of the modern Maltese state. Associated with an increased affluence are a better educated public, seeking more and more out of the health service. In the last decade new pressure started to be exerted on the health service and a number of changes were being expected. These included:

- improve access to health care in general
- improved quality of health care
- more accountability and effective control of expenditure
- improved cost-effectiveness
- the need for a new hospital.

In response to these pressures, the Department of Health commenced a restructuring system. The prospective benefits of change from this reorientation of health care are expected to include:

- Improved accessibility and continuity of care,
- Decreased wastage of specialised health resources
- Improved co-ordination of health care and social services
- Improved Primary Health Care
- A decrease in the number of patients requiring secondary health care

This strong movement towards primary health care calls for changes in the traditional partnerships between education and practice. In the past education for medicine and the health care professions has always been isolated; the medical school for the training of doctors, and various different schools for the training of the other paramedical professions. Following 1989 with the inauguration of the Institute for Health Care all the education for the professions allied to health care were transferred gradually from the department of health to the University. However, the various divisions continued to teach in a separate manner and targeted their specialised education towards a secondary health service. The educational system will have to reorganise its present practice. Presently, the curriculum does not put enough emphasis on the preparation for child development and health, social psychology and psychiatry, rehabilitation and other areas of community significance (Appendix 4). Priority has to be given to the growth of training opportunities in primary health care and this need is not only necessary for physiotherapy but for the whole range of health related professions. Models for such implementation have been proposed and implemented in the U.K., Canada, and most of the Scandinavian countries with Sweden and Norway being seen as the models to emulate. This new drive for change hinges upon insuring that students in all the health professions:

- Receive practical clinical experience in a variety of community and family settings, as well as the traditional specialised teaching hospitals;
- Participate in joint clinical learning experiences, so that they are better prepared for future teamwork;

- Become more familiar and skilled in dealing with the host of social forces that impinge on community health care.

Progress towards reorientation of health care and education will not be easy for a number of reasons. One of the major constraints must be economical; the country has seen a large portion of its budget targeted at the building of the new state of the art Mater Dei Hospital, hence primary education has presently been side lined. Most of the developed world has shifted the emphasis of health services towards the improvement and implementation of primary health care, yet in Malta this presently appears to be of secondary importance. Apart from financial constraints there are other important issues that influence the speed of transition including: previous capital investments, entrenched professional practices, established social hierarchies, statutory requirements and certification procedures, economic and labour market limitations. With respect to physiotherapy education in Malta the fact that it has been and will be following the new hospital, roots its education in secondary health care. To complicate the issue further, clinical physiotherapy education takes place in specialised units, under the supervision of specialised physiotherapists. This reinforces the issue that the present curriculum trains physiotherapists to treat specific conditions affecting a few people, rather than the majority of the population in the community. Students emerging from such an education lack appropriate training to work as a member of a multi disciplinary team necessary to work efficiently in either the primary or the secondary health care settings.

2.3.3 Inter-Professional Learning

The importance of inter-professional learning and education for health professionals is not a new concept and was emphasised in 1988 by the World Health Organisation (W.H.O. 1988) in their statement 'Learning Together to work together for Health' and this drive has been repeated by other legislative and policy requirements in several different countries. Examples of this include 'Learning together to work together' (D.H. 2000) in the U.K., 'The Inter-professional Education for Collaborative Patient-Centred Practice', supported by

13

Health Canada and public health legislation in France (Herbert 2005). Tryssenaar and Brett (1996) suggested that I.P.E. should be mandatory for all Occupational Therapy and Physiotherapy courses across Canada, whilst Pringle et al (2000) also reported the same suggestions for the nursing profession.

What the I.H.C. presently calls 'Common Core Learning' is in reality 'multi-professional education', which involves two or more professions learning the same content side by side, and this should not be confused with 'Inter-professional education' that focuses not just on the subject matter but also on the way different health care practitioners can work together.

In a modern healthcare system in which patients are cared for by multidisciplinary teams involving a wide range of healthcare and various other professionals, it is essential that team-work that includes collaboration and communication amongst equals takes place if patients are to benefit from the service (Buttigieg 2001). This teamwork is essential in both primary and secondary health care. The present situation at the I.H.C. is that the I.H.C. Board does not appear to be fully aware of the advantages associated with I.P.E., and that even though a lot of lip service is offered to working as a multidisciplinary team (M.D.T.), little or nothing is actually done to promote it. Another important issue to be raised is that even though the medical profession is included in this multidisciplinary team in Malta, there is very little, if any integration taking place during the undergraduate years. There is a stark difference between the attitude in medical education between some countries in Europe and Malta. In the U.K. for example there is official backing by the medical profession for shared learning, the General Medical Council in a report titled 'Tomorrow's Doctors' (2003) highlights the importance of communication skills and for medical students to learn and work with other health and social care professionals. In 2005 the British Medical Association in a report titled 'Health Care in a Rural Setting' recommends that I.P.E. should be a part of the undergraduate curriculum to allow healthcare professionals to respect and trust each other allowing professionals to work across traditional boundaries. This has been reiterated by the Royal College of Physicians of London in the report

14

'Doctors in Society' (2005). The introduction of a new physiotherapy curriculum coinciding with the opening of the new hospital and what the government is calling an improved health service (Gonzi 2007; Deguara 2006) offers the ideal opportunity for the physiotherapy profession to promote I.P.E. However, even though the physiotherapy division recognises the importance of I.P.E., due to the nature of more than one profession learning together it is therefore not in a position to implement it solely. As models of service delivery and changes to the workforce take place so too must the providers of education change. This was one of the driving initiatives for this thesis to come about. The Board of Studies of the physiotherapy division is a firm believer that I.P.E. is the way forward, and hopefully the changes being proposed within the new physiotherapy curriculum will act as a catalyst for change within the I.H.C. The values and norms of a multidisciplinary team working through I.P.E., thus building mutual respect and understanding could be a solution to the present gap that exists between the various professions at the I.H.C. and that between the medical course and the I.H.C.

The new health service will demand the collaboration between health and social care professions as well as that between the health and welfare/social care agencies arising from the multiple needs of specific service users and the variety of required service responses. All this will necessitate the need for effective information exchange and discussion with regards to care, planning and delivery. For the new health service to be really effective communication between the different professions and agencies is going to be the key to success. The present curriculum not only does not include any I.P.E. but also lacks a basic study unit in communication skills. Again this is an opportunity to include a study unit in communication skills within the new proposed curriculum to prepare undergraduates for I.P.E. and help any future physiotherapists to communicate within the M.D.T. and the patients. The lack of ability to communicate within a M.D.T. has been documented in the literature and has led to failure to respond to the needs of service users effectively (Conway and Macmillan 2003), and a failure of service (Glasby and Lester 2004; Hudson 2005).

The new physiotherapy curriculum should also prepare students for I.P.E. not only whilst learning theory at the institute itself but also during clinical placements. There is evidence to support that collaborative practice by practitioners from different professions is an excellent positive driver for student inter-professional development (Freeth et al 2002; Dickinson and Carpenter 2005); examples of this are the multi-professional training wards run in both the U.K. and in Sweden enabling students from different professional programmes to be guided by professions other than their own (Fallsberg and Wijma 1999; Fallsberg and Hammar 2000). A synergy should ideally be achieved between the inter-professional experience in the clinical placement as well as that during the I.H.C./university context.

A review of the literature also reveals that a variety of learning and teaching approaches amongst them problem based learning, case based learning (Lindquist et al 2005), collaborative enquiry, and continuous quality improvements (Barr 2003) can all promote I.P.E. However, these teaching methods are not practised at the I.H.C. Thus a domino effect is generated; if the physiotherapy division intends to introduce I.P.E. then changes to the teaching and learning have also got to take place. This is another urgent issue that drives the need for curriculum change.

2.4   Conclusion

This chapter can be summarised into two sections. The first part outlined the development and history of the Maltese physiotherapy curriculum. Physiotherapy education commenced in 1976 with a curriculum inherited from the Chartered Society of Physiotherapy in England (D.H. 1976). The course content of the Physiotherapy course in Malta might have started out as a 'clone' of the Chartered Society of Physiotherapy, but has developed as a 'hybrid', a cross between the C.S.P. course taken as a core together with the introduction of new subjects. The need for a curriculum that targeted conditions and pathologies specific to the island was highlighted, which together with the fear expressed by some of the clinical members of staff regarding medical dominance via the referral system also illuminated the

16

author of this research that the involvement of the clinical staff was going to be necessary, not just as participants to collect data, but as partners within an action research based study. The literature also highlighted the need for change within the assessment and the teaching and learning that is currently taking place, to review, improve and implement such changes will involve all the primary stakeholders of the physiotherapy curriculum. Hence, the need to involve the students, academic and administrative staff into the research team all working with one eventual goal, the development of a new curriculum that will meet all the needs that each stakeholder considers necessary. The second part of the chapter is concerned with the underlying philosophy behind health care policies and changes that will influence the health service and indirectly a new physiotherapy curriculum. The fact that two new hospitals were being built and the need for change from a secondary health care system to one that is going to have to place more emphasis on primary health care acted as the impetus to promote change and the reason why this study was considered necessary and urgent. On having read this chapter, it becomes evident that certain inadequacies needed to be addressed. Some of these issues were considered so urgent that they had to be deal with during the actual implementation of the thesis. These included the fact that the course was so over assessed encouraging students to develop shallow learning and a lack of inquisition leading to life-long learning, that immediate changes were considered necessary. The Final Comprehensive Examinations were a cause of unnecessary anxiety to both students and staff, and required change. The clinical component was not considered ideal for the students as they had to wait 24 months prior to becoming clinically effective and getting into contact with the practical aspect of physiotherapy. It has set the local scene for the reader, yet during this chapter a number of concerns have been raised. The curriculum was no longer considered appropriate to the locally trained physiotherapist to meet the health needs of the island in the new millennium. At this stage it became evident that the physiotherapy curriculum was outdated and that drastic changes were necessary, if the aim of the course was to produce safe and autonomous professionals. This is the platform from which this action research study has taken off.

17

2.5 Chapter Summary

The first part of this chapter outlined the development and history of the Maltese physiotherapy curriculum, which began in 1976 with a curriculum inherited from the Chartered Society of Physiotherapy (C.S.P.) in the UK (D.H. 1976). Although the course content began as a 'clone' of the C.S.P. syllabus, it developed as a 'hybrid' as new subjects were added to the core C.S.P. syllabus. The need for a curriculum that targeted conditions and pathologies specific to the island was highlighted. Importantly, the fear expressed by some of the clinical members of staff regarding medical dominance via the referral system showed that clinical staff should be involved in curricular development not just as participants to collect data but as partners within an action research based study. The literature also highlighted that the current methods of assessment, teaching and learning needed to be revised. Implementing changes would involve all of the primary stakeholders in the curriculum, students, academic staff and administrative staff.

The second part of the chapter is concerned with the underlying philosophy behind health care policies and changes that will influence the health service directly and a new physiotherapy curriculum indirectly. Two new hospitals were being built and change from a secondary health care system to greater emphasis on primary health care was not only the impetus for review of the curriculum but also the reason this study was considered necessary and urgent. It is evident that certain inadequacies needed to be addressed. Some of these issues were considered so urgent that they had to be dealt with during the study. For example, the course was so over assessed it encouraged students to develop shallow learning and not to develop skills for life-long learning. The Final Comprehensive Examinations were a cause of unnecessary anxiety to both students and staff. The clinical component was not considered ideal for the students as they had to wait 24 months prior to becoming clinically effective and getting into contact with the practical aspect of physiotherapy.

Above all, the curriculum was considered outdated and no longer appropriate to provide safe and autonomous physiotherapists who could meet the health needs of the island in the new millennium.

THE CURRICULUM

3.1 Introduction

The new Maltese physiotherapist should be one who is proficient in the necessary skills, clinically and research orientated, reflective and confident to carry the responsibility of being an autonomous professional (World Confederation for Physical Therapy 2003). The old curriculum did little to prepare the student with the skills necessary for the future development of the profession. These skills are difficult to teach or to quantify, but have to be incorporated throughout the whole process of a student's development.

To reach these aspirations a review of the curriculum had to be carried out. The literature has revealed that there is no single definition of the word 'curriculum', let alone a consensual definition for a 'physiotherapy curriculum'. For this reason, a definition of 'curriculum' for the purpose of this study is pertinent, at this stage. My definition reads as follows: "*The curriculum is the academic, practical and clinical content that must meet all the professional and academic needs, together with all the required teaching, assessment, interaction, and learning. In a professional course like physiotherapy this must include the implicit, hidden curriculum.*" The hidden curriculum is particularly important as values and beliefs that constitute a 'complete' physiotherapist are hidden within the curriculum. The new physiotherapy curriculum must also include any developments in science and technology and at the same time, have the ability to modify physiotherapy treatment from the traditional to a more evidence based practice, simultaneously encouraging life-long learning. Another essential feature of a curriculum must be its potential for translation into practice; this is particularly relevant to a health related course such as physiotherapy.

The idea of curriculum review is not new but its interpretation has changed over the years. At its simplest, the curriculum can be viewed as a body of knowledge, a syllabus that is to be transmitted. The definition given for this study is: '*The curriculum is the academic, practical and clinical content that must meet all the professional and academic needs*'. This is not only concerned with a 'body of knowledge', but as will be discussed, is also related to the

curriculum when viewed as a 'product'. When taken one step further the curriculum becomes a 'process', whereby it is not just a physical, objective composition, but the interaction between teachers, students and knowledge (Roger 2003). Finally, the curriculum can be viewed as 'praxis'. It is not simply action based on reflection but is a continual interplay between ends and means.

3.2 Curriculum as a Syllabus to be Transmitted

Many people, including staff at the I.H.C., still think of the curriculum as a syllabus where it is, described as a 'programme of studies' (Stivala 2004). This implies that it is a series of lectures or topics that have to be covered during an academic year, without any regard to the importance of content, or the order in which they ought to be covered or studied. As a result, a curriculum that is solely syllabus orientated is in reality only concerned with content. "*Education in this sense, is the process by which these are transmitted or delivered to students by the most effective methods that can be devised*" (Blenkin et al 1992 p23). Curriculum development along these lines results in consideration solely of the content that has to be transmitted.

3.3 Curriculum as a Product

The curriculum may be viewed as a product when education is seen as an exercise where the objectives are set, a strategy is planned and carried out, and the result is evident and measurable. This way of thinking has been influenced by the development of management strategy and practice.

> "*Since the real purpose of education is not to have the instructor perform certain activities but to bring about significant changes in the students' pattern of behaviour, it becomes important to recognise that any statements of objectives of the school should be a statement of changes to take place in the students.*"
>
> (Tyler 1949 p44)

This view of seeing the curriculum as a product is heavily dependent on the setting of behavioural objectives and a set of objectives that have to be implemented. The old physiotherapy curriculum was designed in this manner:

as a syllabus, viewed as content to be transmitted as well as a series of objectives that have to be achieved. The university administration, to a certain extent, still encourages this mode, as it annually asks for an update on study-unit objectives (University of Malta 2002). As a result, precise behavioural objectives predetermine outcomes and foster low-order thinking processes. The present definition of the curriculum leads the reader to accept that the course is still dependent on the accumulation of credits; consequently, students are encouraged, by this behavioural approach, to study thus acquiring a measurable outcome. This measurable outcome is what the university registrar's office is really concerned with (Appendix 28). Students are allowed progression from one academic year to the next, or are granted a degree according to the amount of measurable outcomes they have obtained. Behaviourism, thus, remains a popular educational approach, and tests and examinations are still assumed to be the manner by which one measures students' understanding and learning. This product model is an attractive model for any university administration as it is systematic, leading to better organization and control (Appendix 28).

3.4 Curriculum as a Process

Another way of reviewing curriculum theory and practice is as a 'process'. Curriculum is not just a physical objective as described previously, but should be the interaction between lecturers and students. It is an active process in which the outcome is no longer the defining feature. The curriculum is a process that defines the development of the educational procedures of both the teacher and the students. This process, "*together with all the required teaching, assessment, interaction and learning*", is an important component of the definition of the curriculum. This approach to the curriculum is important to this study, as it places 'meaning-making' and thinking at its core and treats learners as individuals and active participants, as opposed to objects. Physiotherapists have to have the thinking skills, but also the "*meaning-making skills*" (McKenzie and Higgs 2005 p51) to become the professionals required nowadays. The danger, as Grundy (1987 p77) describes it, is that this process describes the actions as though they were the end product, the processes have

become the product, and worse still *"whether or not students are able to apply the skills to make sense of the world around them is somehow overlooked."*

3.5 Curriculum as Praxis

The curriculum has also been described as 'praxis' that is, related action. "*The curriculum is not only a set of plans to be implemented, but rather is constituted through an active process in which planning, acting and evaluating are all reciprocally related and integrated into the process*" (Grundy 1987 p115). The latter two models, the process and the praxis models, associated with curriculum change have all the right ingredients for any new curriculum. Both models make the process of learning, meaning-making, and thinking the main scope of the teacher, and as a result, places less emphasis on the actual content and the assessment. This results in a lack of uniformity in the content of the syllabus and how it is taught. However, this approach to education encourages characteristics such as reflective and performance-based learning activities through inter-professional collaboration, divergent thinking and authentic, self-directed exploration of topics and issues. The new curriculum must stimulate a new breed of students into becoming self-directed learners, yet at the same time, be a member of a team dedicated to health care. This is one of the reasons why change to the curriculum was considered necessary. Curriculum, as praxis, should look at learning and practice that does not focus on individuals, but encourages collective understanding, a deeper inquisitive mind, and stronger values.

Over the last forty years, there has been a shift from a university education for the elite few, to a higher educational system (Halsey and Leslie 2003) available to all. The University of Malta has seen a dramatic increase in the number of students, from 364 students in 1959 to 11,284 in 2006 (University of Malta 2006). The need to alter the curriculum to meet new requirements is necessary as it is intended that all physiotherapy students, in the future, spend part of their undergraduate education overseas.

Finally, another paradigm shift regarding the curriculum is now evident. The old physiotherapy curriculum could be described in the terms of the 'classic curriculum' (Jarvis 2002) in which both educators and students were led to believe that there is only one truth, and that there is only one way to learn physiotherapy and finally, that there is only one way to practise it. In the same manner that education in the sixties realised that there is more than one interpretation to theory, the progression of physiotherapy education has developed along these same lines (French 1992). The new physiotherapy curriculum is going through the 'romantic' phase thus students are being given the reasoning skills to treat a patient, encouraging diversity of thought, treatment and care (Gangaway and Stancanelli 2008).

The previous physiotherapy curriculum was heavily dependent on the medical model of education, where people who are not in good health are defined by their illness or medical condition. This promotes the view of a disabled person as dependent, needing to be cured and cared for, in order to return to their healthy state. Important to the medical model is that control resides firmly with the professional (Miller and Miller 2005). The old physiotherapy curriculum based on this model of education, encouraged students to assess patients and produce a diagnosis, as specialised professionals. This narrowed the students' perception of a patient. However, the scope and practice of physiotherapy has changed, and a more social or open approach is now being encouraged, where rehabilitation promotes a closer relationship between the professional and the patient, and focuses on treating the person and not the illness. This study has highlighted this problem.

3.6   Political Influence on the Physiotherapy Curriculum

One of the aims of higher education today is to create a work force with the required skills to succeed in their place of work in a global environment. Malta, like many countries all over the world, is looking for a better way to educate its population. There is a paradigm shift, a whole new philosophy from education for employment, to education for employability. This is very pertinent to this study, as the island now has a 7.9% unemployed workforce (The Malta

Independent 2006) and the number of vacancies for physiotherapists has reduced dramatically, causing newly qualified graduates to seek employment overseas. Hence, the Maltese physiotherapist must not only have the professional skills to enable them to work overseas, but also the necessary basic skills that will enhance their overseas employability. This aim of a new curriculum must also be in accordance with the Bologna Declaration that is to be implemented by 2010. Its main two objectives are to increase the mobility and the employability of European graduates, thus ensuring the global competitiveness of European higher education. Only a better-educated, highly trained workforce can take Malta forward in this new competitive global economic environment. The curriculum, specifically the physiotherapy curriculum, has to adapt to all these issues. As a result of E.U. membership, our graduates now have to compete with physiotherapists from all other member states.

> "*The people of Malta must continue to engage in critical reflection and training that will enable them to confront the socio-cultural, economic, industrial and political challenges that characterise a small island state in a world that is evolving into a global village.*"
>
> Ministry of Education (2000 p16)

The policy of the Government of Malta is that the integration of work, the curriculum and improved learning experiences produce a greater economic return (Gonzi 2004). This policy, that a more highly skilled workforce can only come about through higher education, has been well documented (Yan 2003), (Commonwealth of Australia 1999; MacLeod 2002).

3.7 Competency Framework as a means of achieving Fitness for Practice?

One cannot talk about curriculum development without mentioning how different professions have based their curricula upon a set of competencies (Whiddett and Hollyforde 2003). A competency framework aims to outline a model of good practice in regard to the establishment of an environment that is

positive towards and supportive of a new and improved healthcare system. The climate is right to pursue this objective, and ensure that entrants to physiotherapy are adequately prepared for a career of changing roles, lifelong learning and continuing professional development. This implies that a new curriculum has to prepare a student both for 'fitness for purpose' as well as 'fitness for practice'. Harvey and Green (1993) have defined 'fitness for purpose' as fulfilling a customer's requirements, needs or desires. In education, fitness for purpose is usually based on the ability of an institution to fulfil its mission or a programme of study to fulfil its aims. Although straightforward in conception, 'fitness for purpose' is deceptive, for it raises the issue of whose purpose and how is fitness assessed? Fitness for purpose offers two alternative priorities for specifying purpose. The first puts the onus on the customer; the second places it on the provider. It is for this reason that this new curriculum was designed and assessed to meet the needs of all the local stakeholders.

By enforcing competencies, health care professionals establish expectations for best performance, resulting in a systematic approach to professional development, improved job satisfaction, better learner performance and finally promoting continued professional development (Le Deist and Winterton 2005). Competency models increase the effectiveness of training and educational programs by linking them to defined criteria. Competency frameworks aim to set out the attributes required for effective performance at various stages of the development of a physiotherapist. This, together with the establishment of modular programmes at the university has required that curriculum designers are to be more explicit about the educational competencies to be achieved. Thus learning outcomes have been designed in such a manner that they specify both what the learner has to be able to do at the end of each module and the level at which it is to be demonstrated again implying that a fitness for practice has been established at the different stages of the course.

Another advantage associated with competency frameworks are as Storey et al (2002) suggest that they support the need of the employer or the establishment by ensuring clarity of the role and responsibilities of a

physiotherapist within a healthcare system thus making physiotherapists more accountable. This again is consistent with the new targets set out by the Department of Health in Malta (Deguara 2007).

The new proposed physiotherapy curriculum is founded on a competency framework that has been formulated by European Network for Physiotherapists in Higher Education (E.N.P.H.E.) over the last four years after having reviewed the European project Tuning Educational Structures in Europe (2005), the Canadian Competency profile for the entry-level physiotherapist (2006), and the Australian physiotherapy competency standards (2001). The subject-specific competences in this framework have been developed by working groups at several E.N.P.H.E. conferences starting in 2003 with *entry requirements* (Valencia 2003); g*eneric and subject-specific competences* (Druskininkai 2003); *components of competences* (Dublin, 2004); *assessment, learning and teaching* (Estoril 2004); *research skilled students* (Warsaw 2005); *innovative learning environments* (Helsinki 2005); *learning in a clinical environment* (Istanbul 2006); the influence of the use of competences on *international education and mobility* (Brussels 2006); and ending with q*uality management and assurance* in Sofia, 2007.

E.N.P.H.E. (2006) has described competencies as the essential values, knowledge, attitudes, and skills necessary to practise physiotherapy (Ven 2007). However, competence is a multifaceted and dynamic concept that is more than knowledge and includes the understanding of knowledge, clinical skills, interpersonal skills, problem solving, clinical judgment and technical skills. It also incorporates the values and philosophy of the physiotherapist as well as the knowledge and skills necessary. It is important to note that competence changes and is dependent on the context in which an individual is working (Alsop 2001). In physiotherapy competence is dependent upon the ability to be autonomous and to be capable to self-evaluate and learn from past experiences. Thus a competency framework reflects the legal, ethical, regulatory, and political influences on the practice of physiotherapy in the midst of inter-professional health care. For the purpose of this study, competence is

27

viewed as a behaviour or set of behaviours that describe excellent performance in a particular work context, and there has to be a clear distinction between competence and capability. Capability has been described as an individual's ability to develop and is related to future competence (Alsop 2001). In health care, competencies are used to define discipline and specialty standards and expectations and to align practitioners, learners, clinical supervisors, and patients with evidence-based standards of health care and performance. Competencies in education create an environment that fosters empowerment, accountability, and performance evaluation which is consistent and impartial. The acquisition of competencies can take place via experience, or training (Ven and Vyt 2007). A competency model is a set of success factors that include the key attributes required for excellent performance in a particular role. The identification of competencies and the models for their implementation are therefore essential in present health care education. Another advantage of using a competency-based curriculum is that it could be easier to allow student exchange to take place. This is so as if a sending institution refers a student with a list of competences a student is capable of doing then the receiving institution can accommodate a clinical placement accordingly. However Campbell and Rozsnyai (2002) state that there is frequently a divergence of national views between "sending" and "receiving" countries as to both "fitness" and "purpose".

At the I.H.C. competencies are a signal from the Institute to the individual of the expected areas and levels of performance. They provide the student with a map or indication of the behaviours that will be valued, recognised and in some instances rewarded. Competencies can be understood to represent the performance in any setting, be them clinical or academic, articulating both the expected outcomes of an individual's efforts and the manner in which these activities are carried out. Originally the competency frameworks commenced as consisting mainly of behavioural elements. Eventually however, competency frameworks became broader and included more technical competencies and this was done in an attempt to improve the treatment skills of our undergraduate students.

Students at the I.H.C. have been working on a competency framework as it sets out a number of objectives to work towards, indicating how and to what extent they are expected to perform their tasks. There is a link between organisational and personal objectives. This has also resulted in a fairer and more open manner of assessment as the processes are measurable and standardised across organisational and geographical boundaries.

However, a competency-based system has a number of criticisms that are attached to it. With respect to the E.N.P.H.E. competency framework that the physiotherapy course at the I.H.C. has adopted, the most basic difficulty was language. Due to English being the official E.N.P.H.E. language some of the competences were either described in a manner that were off-putting or over-elaborate. It was difficult to strike the right balance between reviewing the competencies often enough for them to remain relevant but not so often as to become confusing or broken down into such small competencies that they loose their relevant importance. A danger also exists in that students working to a competency framework run the risk of becoming clones rather than individual thinkers with the right attitudes to become reflective practitioners for new ways to tackle with a case. The I.H.C. has noticed that competency frameworks can become out of date very quickly due to the fast pace of change in the profession and the health care system and it can therefore be expensive and time consuming to keep them up-to-date. Finally, as has been previously stated even though most Socrates exchanges are carried out with universities that are all E.N.P.H.E. members using the same competency framework the difference between institutions in different countries results in some competences being weighted differently or the underlying philosophy regarding the actual competence might be completely different.

3.8 Chapter Summary

The course has had the theoretical component praised by foreign modulators on more than one occasion (Selfe 2005, 2006; Lindquist 2007) and the Board of Studies are aware that the present curriculum provides a sound theoretical knowledge base, yet are also conscious that the reasoning and treatment skills are lacking. The early research showed (Sacco 2004) that there is concern that newly-qualified physiotherapists do not possess the practice skills expected of them by their employers about levels of preparedness for practice (Aquilina 2003) hence not meeting the fitness for practice expectations. However, it is the believe of the Board of Studies that following a short period of time at work, newly-qualified physiotherapists will develop, becoming effective, capable practitioners with critical reasoning skills. This new curriculum has been focused on the effective delivery and integration of theory and practice within the four year programme, because it is believed that the aim to produce 'knowledgeable practitioners' is right for the profession in Malta now and will continue to be so in the future. The aim of this study was to produce a curriculum that will match the health needs of the country. This new proposed curriculum has a validated competency framework, built around a new modular system. This curriculum ought to meet all the criteria to guarantee that new graduates will reach the standard to practise safely and efficiently as expected both by the profession and the state.

THEORETICAL BASIS OF PHYSIOTHERAPY EDUCATION

4.1   Introduction

The previous curriculum did little to address the manner in which the transference of knowledge took place. Teaching and learning were carried out in a traditional manner, with little attention given to the fact that physiotherapy students were adult learners following a professional course. A review of the literature regarding modern learning commences by introducing the fact that there has been a progression from education and training to learning. The traditional concept of education, of experts in the field passing on their knowledge to the next generation in a formal setting, is slowly giving way to the idea that learning is status free and available to all. Students can now learn at their own pace, in their own time, not necessarily at university and also to the depth they desire.

During the initial years of physiotherapy education, teaching and learning resembled the behaviourist theories described by Skinner. Tasks and skills were broken down into a series of independent components and a response was reinforced so that the probability that they recur in the future is increased. Clinical practice was apprenticeship based and the treatment of patients was dependent on the traditional 'grandma' approach. During this period, treatment effectiveness could not be measured and was biased.

During the 1970s, the trend in physiotherapy education, in some institutions, focused on the capability of qualifying students to carry out specific skills. This was the era of the Continuous Assessment Record Books (C.A.R.B.) both in the U.K. and in Malta. A specific examination at the end of the second year was introduced to test students on the skills necessary to practise physiotherapy. Skill-based curricula continued to be the trend in the 1970s and early 80s. Curricula, though based on a problem-solving approach, targeted the skills required to solve the problem rather than the critical thinking necessary. The process of problem solving and the method of inquiry were given more importance than the simple mastery of content (Barr 1977).

During the 1980s and early 90s, changes to the health care systems, which appeared to have taken place simultaneously throughout the western world, catalyzed changes in the education of all medically orientated curricula. The concepts of cost effectiveness, evidence-based practice, the reflective professional and life-long learning began to emerge in support of these changes.

To satisfy these demands, cognitive learning theories, such as those described by Bruner (1973) began to evolve. Learning was considered an active process, in which physiotherapy students understood certain facts and principles through a process of conceptualisation and categorisation. By the 1990s, this process of concept attainment was seen as a series of decisions. The emphasis was now based on decision-making, revolving around critical thinking and a problem-solving process.

In this proposed study, a framework for investigating the quality of physiotherapy education is being offered. The benefits of having a scholarly, well-developed theoretical underpinning for a curriculum model have been pointed out in the literature (Trigwell et al 1999), and having reviewed the different theoretical and practical models available, it was decided that the most appropriate framework for this curriculum development project would be the 3P model described by Biggs (2003).

This model also focuses on the notion of "curriculum integration" (Brophy 1999), that is the congruence between curriculum structure and learner attributes, as a conceptual underpinning for the analysis of the implementation of a physiotherapy course. It is suggested that Biggs' (1999) "3P" model of student learning provides a descriptive mechanism allowing for the evaluation of the analogy between learner, lecturer and curriculum components in the design, implementation and evaluation of this course.

Adopting a systems approach, Biggs maintains that a fully integrated system attuned to learning will support higher-order learning processes in students of

all levels. In Biggs' view, the constructive alignment of a curriculum presents the optimal conditions for quality learning and a teaching environment where teaching and assessment practices are aligned to the aims of teaching. According to Biggs (1999) the 'construction' is the process adopted by students to deal with the learning activities and environment they find themselves in, be they academic or clinical. The 'alignment' refers to the association between learning outcomes, learning activities and assessment in order that a student must learn what is intended by the lecturer.

4.2   The 3P Model

Much of the recent research on student learning in education has been summarised in terms of the 3P model described by Biggs in 1993. It is important to understand that the 3P model of learning has undergone many transformations over the last decade yet the basic components of presage, process and product have remained constant. The three main elements in this model are: presage, process and product. The 3P model of learning and teaching is a useful method for structuring discussion of the components and the dynamics of a planned educational experience.
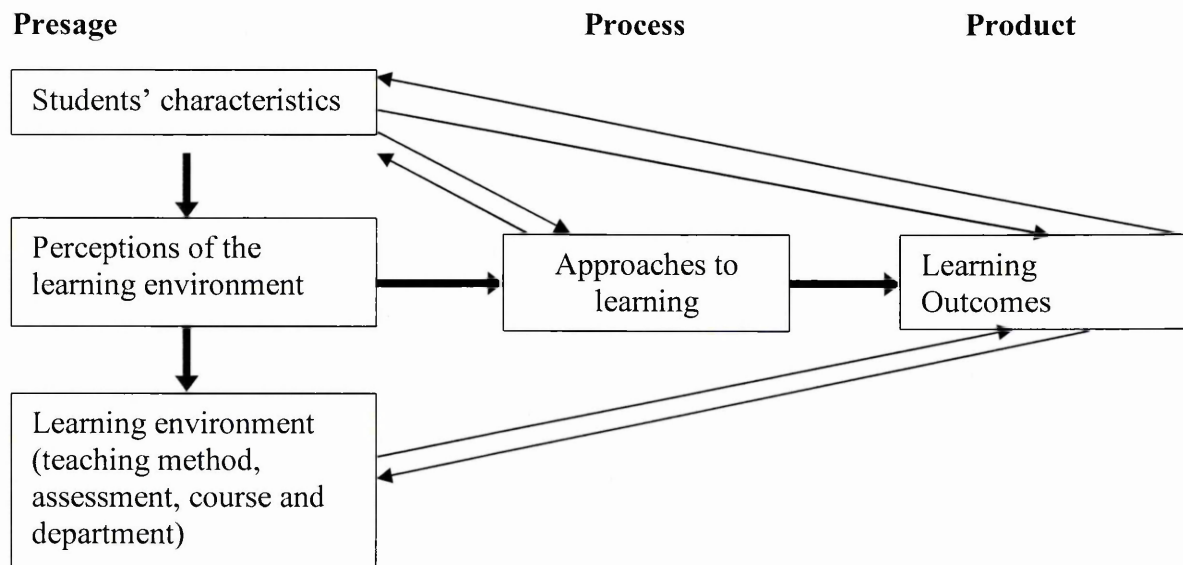
Figure 4.1: A 3P model for students' learning

(Adapted from Biggs (2003) and Prosser & Trigwell (1999))

Referring to the diagram there is a natural flow from left to right: presage factors exist before the learning experience and influence the creation, conduct and outcomes of learning experiences. Process factors describe a particular learning and teaching mix, leading to the product, the outcomes of learning. However, it is too simplistic to assume that knowledge of presage will allow the process to produce the desired outcomes. The 3P model represents a complex and dynamic system. Some presage factors influence the product directly others interact with each other. Feedback can occur at different stages of the model.

4.2.1 Presage Factors

The Presage Factors provide the context in which a learning experience is carried out, influencing the planning, form and outcomes. A prospective physiotherapy student brings personal elements such as prior knowledge and *motivational goals, self-regulated knowledge* plus all the characteristics of an *adult learner* including their own conceptions of learning to the learning experience. In addition, environmental influences such as *the curriculum* and *teaching manner* also play a role in this learning experience. The point of contact between the student and the learning environment is known as the *perceived learning environment* and depicts a relationship between these two domains (Prosser and Trigwell 1999). The learning environment includes the situational factors the teaching method, assessment, course and department.

The Adult Learner

Modern literature reviews describe adults as having special needs and requirements (Lieb 1991; Chall 1994). Jarvis (1987) describes Knowles as one of the pioneers of adult learning, who identified certain characteristics associated with how adults learn. Adult learning according to Mezirow (1991) involves the process of justifying or validating communicated ideas and the presuppositions of prior learning. Adults operate within horizons set by ways of seeing and understanding that they have acquired through prior learning. Formative learning of childhood becomes transformative learning in adulthood.

Transformative learning involves reflective assessment of premises, based upon movement through cognitive structures by identifying and judging presuppositions. Meaning schemes that constitute interpretations of experience become more differentiated, integrated or transformed by reflection on the content or process of problem solving in progressively wider contexts.

"*In its broadest meaning, 'Self-directed learning' describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes*" (Knowles 1975 p18). This last point is contentious in itself as it implies that all learning can take place by the students on their own, without any sort of guidance whatsoever. Self-directed learning should not be viewed as "*an intellectual Robinson Crusoe, castaway and shut off in self-sufficiency*" (Moore 1973 p669), but ought to be viewed as any form of study in which individuals have the primary responsibility for the planning, implementing and evaluating of their effort. However, Brockett and Hiemstra (1991) imply that self-directed learning is an instructional process founded on such activities as assessing needs, securing learning resources as well as implementing learning activities and evaluating the learning undertaken. In the same manner that Hiemstra and Sisco (1990) refer to this as individualised instruction, in essence this aspect of self-directed learning centres on factors external to the individual.

Adult learners should participate actively in what they are about to learn. Self-directed learning might imply that lecturers are no longer necessary and possibly ought to be made redundant, as learning will take place without any formal education or within a formal setting. In reality, however, the successful lecturer of self-directed learning is extremely necessary and assumes an active new role. This is the paradigm shift away from lecturers, seen as the 'fountains of all knowledge', standing on a podium transmitting knowledge in a unidirectional manner, to their new role as facilitator (Bauman 1987; Lieb 1991), involving negotiation, exchange of ideas and views, as well as offering

the resources and the eventual validation of outcomes. Readers, not from an educational background, might think that the lecturers' role has suddenly become much easier, yet this change is very challenging to the lecturers as they are not yet familiar with the required new skills.

A move away from learning by rote, to learning by a means of reflection is taking place. The rapid changes in the modern world have resulted in previous knowledge being disclaimed and new knowledge being generated (Beck 1992). This is particularly true in the physiotherapy profession as it is becoming more and more evidence based. As a result, staff no longer encourage students to learn by rote, but rather encourage them to seek to understand and to become more critically aware of any information being imparted to them. This again ties in with the statement that lecturers can no longer be viewed as the sole possessors of truth, and their new role has to change to one of an interpreter of knowledge (Bauman 1987).

Another problem associated with self-directed learning is that University administrators find it difficult to place any value on what is learnt individually or outside the formal university setting. The physiotherapy division is experiencing this current problem. Students are only awarded credits for the number of clinical hours that are supervised and not for any spent in self-study, necessary for clinical practice.

Finally, Knowles (1987) talked about the de-institutionalisation of education. Allen Tough's (1993) previous work in Canada supports this theory. However, with the advent of the internet, distance learning has become so much easier; reducing the dependence of students on lecturers and formal environments nevertheless as stated previously, it is unlikely to replace the traditional mode of teaching (Peters 2002). If one of the aims of this study is to promote life-long learners, then self-directed learning as the literature has shown must be incorporated into the new curriculum.

Motivational Goals

These are a key element in the learner's pursuit of further education. Winne (1995) viewed motivation as a form of knowledge for reaching learning goals that are inherently valued. No similar studies on physiotherapy students could be found in the literature so a survey of Australian nurses is being used. This paper revealed that the most important reason for undertaking graduate study amongst nursing students was personal or job satisfaction (42%), increased professional status (22%) and better job opportunities (17%) (Pelletier et al 1998). The extent of motivational goals will impact on the quality of learning outcomes. Conversely, the physiotherapist's perception of learning outcomes will influence motivation.

Self-Regulated Knowledge

Another key element attributed to the Learner's ability to learn is the concept of self-regulation. Self-regulation is a complex interactive process involving cognitive, motivational and behavioural components (Boekaerts 1995). Self-regulation refers to the perceived self-control the learner holds with regards to his/her learning acquisition. It is the students' awareness of themselves as learners and the approaches they use to finish their work, how they will eventually use their knowledge about learning will allow them to organise, plan and monitor their learning (Archer et al 1999; Boekaerts 1995).

Teaching Manner

The teaching styles offered by the Physiotherapy Division of the I.H.C. are very traditional comprising mainly lectures and tutorials. Student-lecturer interaction is minimal. Certain lecturers only seem intent on delivering the detail (Stabile 2005). 'Chalk and talk', with much regurgitation from books or notes, is still a teaching method, practised at the U.o.M. (Physiotherapy Board of Studies 2003). The problems associated with lecturing are old and well documented throughout the literature. This teaching method has to be reviewed and improved, as previous research into the curriculum (Sacco 1999) indicated that this mode of teaching was found to be dissatisfactory to a large percentage of respondents. Since the early 1990s (Kezar 2000), a new trend has emerged,

placing more importance on the manner a curriculum is delivered rather than its content. There is an increasing concern with the imparting of relevant knowledge and developing the appropriate skills in the limited time available (Barnett et al 2001).

A broad definition of teaching used by Ramsden (1992) includes the design of the curriculum, choice of content and methods, various forms of lecturer-student interaction and the assessment of students. His criteria for good teaching have been divided into six principles:

i. Interest and explanation
ii. Clear goals and intellectual challenge
iii. Concern and respect for students and student learning
iv. Independence, control and active engagement
v. Appropriate assessment and feedback
vi. Learning from students.

Burroughs-Lange (1996) defined three different ways that teaching can come about:

i. As the transfer or transmission of knowledge
ii. As the facilitation of learning
iii. As reflective practice.

Prosser and Trigwell (1998) have classified teaching into two. The first is 'teacher-focused', whereby knowledge is transmitted from expert teacher to inexpert student. This is not sufficient, as the teacher must also increase the students' understanding of the concepts necessary to learn the discipline. Prosser and Trigwell (1998) also suggest that modern teaching ought to be 'student-focused', using strategies, which focus on how students acquire knowledge. The emphasis is on what students do to achieve this understanding that is important, rather than what the teacher does.

Prosser and Trigwell (1998) and Biggs (1999) talk about three 'common theories of learning', which are:

i. Learning that comes about as a direct result of interaction with students;

ii. Learning is primarily the result of appropriate teaching;

iii. Learning is the result of student-focused activities, which are carried out by students as a result of the previous two statements.

They then go on to describe three progressive levels of teaching, each having a separate focus. The most basic level is very teacher-focused whereby the purpose of teaching is to convey the information. The onus for learning is on the student; students have to attend lectures, listen carefully, take notes, and do the required reading. The teacher has done her/his duty and presented the material. If students do not reach the required standard then a 'blame-the-student attitude' is brought into effect.

The next level is again teacher-focused, but takes the transmission of knowledge a step further. In this situation, apart from the information, the concepts required to understand the information are imparted. The responsibility again rests with the teacher; this time not only in what the teacher says but also in what the teacher does. To satisfy these demands a teacher may be required to use various teaching skills.

The final level of teaching is 'student-focused'. The focus is on the student and depends on how well the teacher can guide student activities, so that learning may take place. Teaching at this level is not just concerned with the transmission of information, but also with how students understand, and apply the knowledge gained. The important factor at this level of teaching is not what the teacher does but what the students do to be capable of engaging in learning and understanding the required information.

Therefore, two generalisations, regarding teaching in institutions of higher education can be made. The first is that lectures continue to dominate as the

main form of instruction (Lockwood 1996), and secondly, that the dominant pedagogical transaction is that between a single lecturer and individual students (Rettinger 1995). These two generalisations are true for many university courses, including those at the I.H.C. The dominant paradigm of the teaching responsibility remains that of the authority in the field imparting knowledge and skills to individuals. This criticised method of teaching will always exist, to a certain extent, yet alternative methods of imparting knowledge have to be encouraged (Lorenzo & Abbott 2004).

There are, however, some disadvantages associated with lectures as a primary teaching method that ought to be discussed: the most prominent being that they do not provide students with individual feedback. Lectures do not promote active learning and cannot be adapted to individual learning. This fact means that they do not promote independent learning, neither does it encourage the notion of life long learning. An effective lecture requires extensive research and preparation as well as good delivery skills to maintain students' attention and motivation. Should any of these not be delivered, then the lecture ceases to be an effective teaching method. Lecturers may be under the impression that because they have prepared a lecture with excellent content that learning must take place leading them to think that their responsibility has been fulfilled because they have imparted the right knowledge and it is now the students' duty to learn it. Lecturers may think that if their lectures are well prepared and contain excellent content, then learning should take place, freeing them of any further responsibility. It is this attitude towards teaching and learning that this study intends to tackle. An important aspect that the old curriculum did not take into account and that the literature is now recommending is the whole paradigm shift away from the traditional teacher-centred lecture, to a more learner-centred approach (Mangena and Chabeli 2005).

The Curriculum

The curriculum design must take into consideration the learners' and lecturers' attributes, the available resources, the learning environment and assessment

relative to the desired learning outcomes. There must be alignment/congruence between aims, objectives, and assessments within the curriculum (Biggs 1999, Brophy 1999). Assessment tasks should be reflective of clearly stated aims, objectives and desired learning outcomes (Biggs 1999). Assessment methods should encourage the development of analytical and critical thinking abilities and reflective practice (Boychuk 1999).

Environment

Overly competitive (Archer et al 1999) or hostile environments can increase anxiety levels to such an extent that they interfere with the students' ability to make use of relevant self-regulatory strategies (Bandura 1993). It is mandatory that physiotherapy education has a strong clinical focus and involves close collaboration with the appropriate care provider. The learning environment is crucial for the success of any under-graduate education programme, especially one in the caring professions like physiotherapy. Conducting under-graduate physiotherapy education from a combined hospital / university based setting is an optimal learning environment. It minimises the theory and practice gap, providing current "hands-on" application of knowledge and skills acquisition (Benner et al 1999).

4.2.2 Process Factors

This component of the interactive model is affected by all the elements involved in the Presage section. Process factors refer to the way students interact with learning situations. During this process, deep versus surface learning approaches are analysed. Successful learning and teaching processes capture both the student's reasons for learning and the student's methods of tackling a learning task will lead to improved quality of learning outcomes (Entwistle 2001). Biggs (1999) hypothesised that the approaches to learning mediate between the stated presage factors and the learning outcomes.

The way students learn

The method whereby people learn and the technique to enhance their learning has been the subject of research amongst psychologists for most of the

twentieth century. In its most simplistic form learning can be defined as a 'relative permanent' change in behaviour as a result of experience. The point has to be stated that both students and lecturers have a role to play to ensure that learning takes place. Over the past 30 years, general agreement has emerged on the basic ways in which students approach learning (Biggs 1999; Entwistle 1991; Prosser and Trigwell 1999). They have a constructivist theory of knowledge in common, which recognises that it is the learner who constructs knowledge, not the lecturer who imparts it. Research into approaches to learning has derived from two theoretical frameworks: student approaches to learning (S.A.L.) and information processing (I.P.). The S.A.L. framework is derived from qualitative work on student learning (Biggs 1993; Prosser and Trigwell 1999). This S.A.L. framework is generally viewed as having a student-focused methodology underpinning its development. Conversely, the I.P. framework is derived from cognitive psychology (Schmeck 1988; Meyer 2000). Biggs (1993) criticizes the IP framework as being too narrow and ignoring the role of the teaching context and in the same manner that Biggs considers the IP framework too narrowly focussed, the proponents of the more recent perspective on learning consider S.A.L. to also be too limited (Meyer 2000; Prosser and Trigwell 1999; Vermetten et al 1999). They are of the opinion that the separation of the person from their perceptions of their environment to be inappropriate. They suggest the individual's awareness of each learning task is influenced by their previous learning experiences and that the individuals perception of the learning task, based on this awareness is vital to the student's choice of learning approach. It is important to recognise the dual manner of approaches to learning. Some researchers (Eley 1992; Schmeck 1988) state that approaches to learning are traits and therefore do not change, however Biggs (1999) contends that students have a predisposition to one approach to learning that may be influenced by a range of presage factors. The literature however suggests that researchers agree that the approach to learning adopted by a student influences both the quality and the quantity of their learning (Biggs 1993; Richardson and King 1991).

Marton and Säljö (1976) are thought to be the pioneers of student learning research. They concluded that students have either a *surface* or a *deep* approach to learning. At the same time that this research was taking place in Sweden, Biggs in Australia (1987) was also working on students being active in the learning context, and some strong outcomes for teaching emerged. Both Marton and Säljö's (1976) and Biggs (1987) definitions of deep and surface learning share a motivational or intentional component that effects the approach that a student uses when learning. There are however two major differences between their research towards approaches to learning. Both have identified deep and surface approaches to learning, however Biggs describes a third approach one that he describes as 'Achieving' (Biggs 1987). Marton and Säljö (1976) made use of interviews encompassing the S.A.L. methodology while Biggs (1987) used a quantitatively based questionnaire. During this same period Entwistle (Entwistle 1991, 1998; Entwistle and Tait 1994) and his colleagues in the U.K. also researched learning approaches using a similar approach to Biggs and found four constructs related to approaches to learning namely meaning (deep), reproducing (surface), achieving and non-academic. Non-academic being those aspects of learning associated with a lack of motivation, negative attitudes, disorganised study and a desire not to be a participant in the learning environment (Entwistle and Tait 1990). Comparing Entwistle (1991) to Biggs (1993) results in a number of similarities beyond the definitions provided for deep and surface learning. Both researchers independently used questionnaires to measure approaches to learning, both agree that although the student's approach to learning can be influenced by the context and the content of learning, this is helped by their predisposition to use one approach over another and finally that both consider the process of learning and the intention of learning to be of importance. Cognitive psychologists also offer an insight into a theoretical understanding of approaches to learning, Schmeck (1988) in particular focuses on the relationship between strategies, tactics and learning outcomes. There appear to be differences between the cognitive psychologists and the work done by Biggs, Entwistle and Marton and Säljö but a closer inspection of the research suggests that the differences are semantic.

The modernist thought which has been the dominant scientific paradigm for the last three centuries influences the traditional educational curriculum with emphasis on the teacher and a one-way transmission of knowledge. More recent theories, such as post-modernism, the chaos theory and the complexity theory reject positivism and reductionism. Instead self-organisation, unpredictability and randomness are now advocated (Classen 1998). The learning paradigm that had been followed in education is scientifically known as an objectivist paradigm, whereas the one that is now in place is known as a transformational or constructivist paradigm (Norris 2001; Gericke 2002). There are two main theories of learning: "Phenomenography" introduced by Marton (1981) following his original research with Säljö and "Constructivism" with its several forms mainly: individual, social, cognitive and post modern (Steffe and Gale 1995). Even though there are differences between constructivist-driven and phenomenological-driven teaching, Biggs (1999) favours constructivism, with a strong blend of phenomenology, suggesting that teachers use a theory that helps them reflect on what they are doing. In the past, knowledge was taken as something true and definitive that had to be learnt and possibly memorised. Nowadays however, the status of knowledge itself is often questioned (Lyotard 1984) and the need to consider and reflect on the extent of truth within knowledge is considered more important.

The way students learn is one of the key issues that this study intends to tackle. Learning is dependent on the teaching methods and unless the new curriculum addresses the need to change the present teaching methods students will continue to be influenced adversely. "*Meaning is not imposed or transmitted by direct instruction, but is created by the student's learning abilities*" (Biggs, 1999 p60). Learning is a way of interacting with the world, and as a result of this, the world is viewed differently. Yet, it is not just knowledge that brings about change, but the way we organise and make use of this information. The modern physiotherapist requires all of these skills.

Learning theories, which have their foundations in cognitive theories, are the basis for a constructivist perspective. Traditionally, learning was based on the assumption that a teacher transmits knowledge to a student and that knowledge is an objective reality. On the other hand, constructivist-learning theories state that learners actively construct their realities by developing knowledge (Biggs 1999, Guba and Lincoln 1989) via their experiences, beliefs and biases (Poplin 1988). The constructivist view of learning is an evolving process leading to conceptual development in which students use their past and current experiences. (Poplin 1988)

To facilitate and encourage this type of learning process the use of educational methods, based on the constructivist learning theory, such as collaboration/ group learning, situated authentic contexts, cognitive apprenticeship and whole-part-whole learning, are being recommended for adoption by the physiotherapy division at the I.H.C.

Collaboration/Group Learning

Discussion amongst peers or together with their educators during group work, allows students to attain a higher level of understanding, which in turn promotes a deeper learning. Problem-based learning is one example of how this approach is now being used in physiotherapy education. It encourages students to reflect on their previous knowledge promoting conceptual development (Albanese and Mitchell, 1993) thus making their learning deeper.

Other ways of promoting discussion within physiotherapy education may include the use of tutorial groups, and opportunities to engage in collaborative learning with one or more peers. Buddying or mentoring among students promotes discussion (University of Birmingham 2000).

Authentic Contexts

In institutions offering physiotherapy education, most of the actual physiotherapy skills are taught through simulated situations, while the non-theoretical components are usually taught in laboratories. Students are then

46

expected to transfer or apply this knowledge to the authentic context of the clinical setting. This is not the ideal situation. To help overcome this situation, closer ties with clinical facilities must be present. Ideally, all physiotherapy skills ought to be carried out on actual patients, or at least, students should observe these being carried out by the lecturer on a patient and then practise amongst themselves (Larin et al 2005). Another alternative would be to bring patients to the classroom or practical laboratories and allow students to interact with them. If students can learn from simulated situations and clinical placement, then the ideal context for learning through actual experience should be provided. Clinical placements provide opportunities for students to experience the clinical setting at first hand. This learning method involves both discussion and experience and is closely associated to the situated/authentic context.

Cognitive Apprenticeship

The apprenticeship method of learning is a very old one, usually associated with the learning of skilled professions. The aim of cognitive apprenticeship is to introduce the students to authentic practices of the field, discipline or profession (Brown 1989). In physiotherapy education, this equates to the students being exposed to qualified physiotherapists practising their acquired skills on 'real' patients in the 'real' setting. At St. Luke's Hospital in Malta, which is the main teaching hospital, students are also exposed to 'clinical educators'. These clinical educators are University based staff whose duties differ from those of the clinical supervisors. Their role is to help bridge the gap between what is learnt in the classroom and the application of skills and knowledge in the clinical setting. These clinical educators not only encourage discussion between the students and their supervisors, but are also responsible for students maintaining a personal portfolio of the patients they have treated. This encourages 'reflection', and stimulates the thinking processes that encourage learning.

Poplin (1988) describes another method of how 'constructivist' learning takes place. The pupil begins to learn a topic with a generalised view of the concepts to be learnt. He then gets to know specific details, and this possibly increases his interest in the subject. Finally, the student puts all the details together viewing the concept as a whole. In some instances where an authentic context cannot be reproduced, the lecturers, mainly those who are still clinically effective, often share their experiences with the students. The advantages to this method of learning are that students can develop a context for learning, even when they do not have the necessary experience in that area. Presently, this situation often exists, as students might not always have the necessary background knowledge or clinical experience to be able to understand the concept as a whole. This learning method encourages a holistic approach to the understanding of a subject rather than a focus on specific detail. This lessens the emphasis on the memorisation of details and facilitates a greater understanding of the concept as a whole. Students can also make use of visualisation as a means of recalling a concept without relying too much on memorisation.

Constructivist learning theory appears to be the foundation for the modern trends in physiotherapy education. Both *problem-based learning* and *reflective practice* are included in this learning theory. The relevance of this to this study is that lecturers at the I.H.C. have to be given all the necessary support if any changes to the teaching and learning methods are to take place. Finally, Papo (2002 p1) reminds us that learning is a "*never-ending process*" and should open up teaching opportunities. There will always be a need for re-thinking old ways and formulating new approaches to teaching and learning.

4.2.3   Product Factors

The product factors describe the quality learning outcomes of the new under-graduate physiotherapy curriculum include two categories. The first category refers to quantitative outcomes that are the actual knowledge and skills the student has acquired over the four years. The second category describes the

qualitative outcomes including the student's feelings regarding their motivation and course satisfaction. Specific to this study the main outcome of the four year curriculum would be to produce a *reflective*, safe practitioner capable of *critical thinking*.

Critical Thinking

The new curriculum ought to be designed in a way that stimulates students to ask questions, to seek answers for themselves and to explore various possibilities on how to solve a problem through critical thinking (SAQA 1997). This is what the old curriculum lacked and what literature is demanding from modern educators. As previously mentioned, the modern educator has to change from the traditional role of information provider to 'maestro'; to guide students to different knowledge sources, yet be present to answer any queries and to stimulate thought processes. According to Shin (1998), critical thinking is a combination of practice, communication, and problem solving. This is what the profession is expecting from our graduates, yet the old curriculum did not permit this to happen. Adult learners should be encouraged to decide which topics are the most important to them and how to understand and learn them since they come with a wealth of experience and knowledge that has been accumulated over the years. It is this knowledge that the modern educator has to try to draw on. In this manner, the students will be relating theories and concepts relative to their experiences and contributing them to their learning (Jarvis 1987). The setting of goals and objectives, very early on in the course, is another factor associated with adult learners. This is important, as students nowadays want to set their own targets to reach specified goals (Barell 1995). The role of the modern educator is to help them achieve these goals. A goal should not only be to pass and obtain a particular credit, but also more important, be the acquisition of understood knowledge.

The literature describes adult learners as being relevancy-oriented and practical, and who ought to be shown the respect they deserve (Lieb 1991). The aim when teaching physiotherapists is to develop professionals who are broad minded, objective and committed to learning. Critical thinking is the way

forward and Glen (1995) goes as far as to say that it ought to be regarded as an indispensable component of education. However, one cannot teach critical thinking, unless one is a critical thinker oneself (Van der Horst and McDonald 1997). Most academics on the teaching staff were taught in the traditional manner and are predisposed to the transmission of knowledge in the same manner.

To conclude, staff must be supported, when a change in teaching methods is to be introduced. It is easy to state that change is required, but is more difficult to implement. Staff development must go hand-in-hand with any curriculum development. However, sometimes, students themselves might be the ones to oppose a move away from traditional methods of teaching. Most of the students attending the physiotherapy course come directly from secondary schooling where traditional teaching is the norm. Their first aim is to pass exams with the necessary grades required to enter tertiary education, further stifling critical thinking (Botes 2000).

One of the aims of this study and of the new curriculum is to motivate the staff who will be involved in the teaching concerned. The literature (Davis 1993; Ragan 1999) when analysed describes certain features that are consistent with good teaching: these are knowledge, communication, interest and respect. The lecturer has to be an expert in his field and this must be taken as a prerequisite for any teacher at undergraduate level. Communication is the key to success in modern teaching. Communication should not only be between the teacher and the students, but also between the students themselves. Good teaching is as much about passion as it is about reason. It involves hours of preparation of which students are unaware. It includes the building of a strong relationship with the students, together with the mentorship that takes place. Good teaching is not only about good teaching methods but also about the capacity to be versatile, and to vary the teaching methods according to the students' needs. Good teaching must involve integrity on the part of the teacher. One must not forget the influence a teacher has on any student. Finally, good teaching must also include an element of fun and accomplishment.

50

Reflective Practice

Reflection normally means a mirror image, however in adult education it does not give back what it is, but what it might be, an improvement on the original (Biggs 1999). A definition of reflective practice according to Johns in 1995 is the '*practitioner's ability to access, make sense of and learn through work experience to achieve more desirable effective and satisfying work*' (p23). Schon (1991) differentiates between two types of reflection. Reflection-in-action, that is associated with "*critical treatment and is a dynamic process in which thinking serves to reshape what we are doing while we are doing it*" (p26). He also describes reflection-on-action, which is a retrospective thinking-process, making sense of an action after it has taken place. Unfortunately, both types of reflection are individualistic and are usually in a written format. Reflective practice is insular and does not promote discussion and transference of ideas (Errington and Robertson 1998). Cross (1997), on the other hand, suggests that since the outcomes of reflection are documented, then this private knowledge should and can become public. Rothstein (1998) also supports this claim if written debates are published in professional journals. Physiotherapy education at undergraduate level in the U.K., has adopted this documented reflective practice with the use of professional development diaries (Cross 1997, Morrison 1996). Consequently, reflection in physiotherapy education has become inextricably linked with diary writing.

Clouder (2000) and Errington and Robertson (1998) suggest a third type of reflection, that of 'dialogical reflection'. This type of reflection is the type of reflection that takes place on a day-to-day basis in the clinical setting. The reflective practitioner discusses the new difficult patient he has treated or is about to treat with his colleagues. He may research the condition on the internet or in the library, or discuss the case at a multi-disciplinary meeting. At undergraduate level, the student can carry out reflection with his/her peers, clinical staff, clinical educators and the patients themselves. A combination of dialogical reflection and written reflection is what literature is recommending. Reflection does not stop at the individual but may also be dialogical, interactive and socially constructed. No one doubts the need for a reflective practitioner

51

especially as the profession moves away from medical dominance. The fact that physiotherapists perceive themselves as autonomous practitioners (Canadian Physiotherapy Association 2006; Australian Physiotherapy Association 2001) and not subordinates to the medical profession, reinforces the need for reflection. Reflective practice is associated with higher intellectual skills and professional responsibility (Clouder 2000).

The notion of reflective practice is not evident amongst clinical physiotherapists in Malta. Yet using the above definition, it can be argued that the aims and objectives implied in the definition are obvious and that any physiotherapist, to a certain extent, can be deemed a reflective practitioner. The term 'Reflective practice' is relatively new to the I.H.C. All the other divisions within the Institute seem to be familiar with the term 'Reflective practice' or the 'reflective practitioner' yet none incorporate any applications within their courses. On the other hand, curriculum development in the U.K. has led to reflective thinking being incorporated into the Curriculum Framework of the Chartered Society of Physiotherapy. Physiotherapy is not the only profession that has incorporated this 'reflective practice' into its education and practice. Teacher Education (Clark 1995) and Management Education (Cunliffe and Easterby-Smith 1998) and, closer to home, Occupational Therapy and Social Work (Errington and Robertson 1998) have all done so in the U.K.

However, not all have accepted this close association to Reflective Practice. Nursing, within the U.K. for example, questions its usefulness (Clarke et al, 1996). There are some voices, who are also questioning reflective practice within physiotherapy (Clouder 2000).

The new proposed curriculum will promote professional socialisation at every level and incorporate strategies that facilitate dialogical reflection, rather than solely written reflection, thus helping to improve the quality of physiotherapy practised on the Island. To encourage this type of reflective practice, the academic setting could make more use of role-play, case studies and videotapes to prepare the students for their clinical placements. Once in the

clinical setting, clinical educators can play a vital role in helping students develop their reflective practice. Workshops and seminars, involving clinicians, I.H.C. staff and the clinical educators, together with students, can discuss treatment regimes. All this promotes debate and encourages the individual to reflect deeper on the quality of practice offered. The intention of this study is to take dialogical reflection one-step further, making it inter-professional. Once this inter-professional reflective practice is initiated, the maturity of the student in the clinical setting should improve and should tackle 'reflection-in-practice' and 'reflection-on-practice' helping students view patients in a holistic manner.

4.3   Chapter Summary

The education of physiotherapy has undergone a number of changes as the profession and its education has developed over the last hundred years. The behavioural theories of education were followed by the cognitive learning theories in which a problem solving approach was utilised. By the early 80s the concepts of critical thinking and reflective practice were introduced to the education of physiotherapists. The modern approach to physiotherapy education now revolves around problem solving by means of critical thinking. Modern educational theories adaptable to the education of physiotherapy were researched. The general conceptions of deep and surface learning appear to be consistent, and the factors including the teaching manner and course assessment have to be convergent to influence learning. The theory underpinning the model for curriculum development considered the most suitable was the '3P' model described by Biggs (2003). This model appears to be linear flowing from left to right. The student approaches education with a set number of attributes, called the presage factors. These are then influenced by a process that describes the approaches to learning that the institute where the education is taking place undertakes. Finally Biggs describes the learning outcomes as the product, taken as a conscientious, efficient, reflective practitioner.

4.4 Conclusion

These chapters commenced by describing and discussing the development of the physiotherapy curriculum in Malta. A review of the literature led to a definition of the term 'curriculum' specific to this study, and the selection of a specific curricular model that would suit the education of physiotherapy in Malta.

The literature has highlighted a number of inadequacies in the present curriculum. These, together with data from the previous research carried out by the author, confirmed the need for curricular change. The outcome of these chapters is that literature has revealed that there are more efficient ways to teach physiotherapy than the manner in which it is currently taught. The most striking change is that there has been a transition from education and training to learning. Literature has demonstrated that the curriculum is much more than just a syllabus of study, but ought to be viewed as a programme of learning.

Students, nowadays, have become more demanding and no longer accept what is being taught as truth that has to be memorised. As a result, a paradigm shift has come about: instead of learning being teacher led, it has become student led. Learning by doing, discussion and independent learning all have to be encouraged. This has resulted in a secondary research question: Does the present curriculum motivate students to become critical, independent and life long learners?

These chapters have convinced the author that not only did the content of the physiotherapy course taught at the I.H.C. need to be updated, but that a radical change, in the manner teaching and learning takes place, is necessary. The methodology, by which the course is to be assessed, requires addressing if deeper learning, critical and reflective thinking are to be encouraged. The scene has been set to enable this research.

THE RESEARCH PATH: PHILOSOPHY AND METHODOLOGY

Figure 5.1   The Research Path
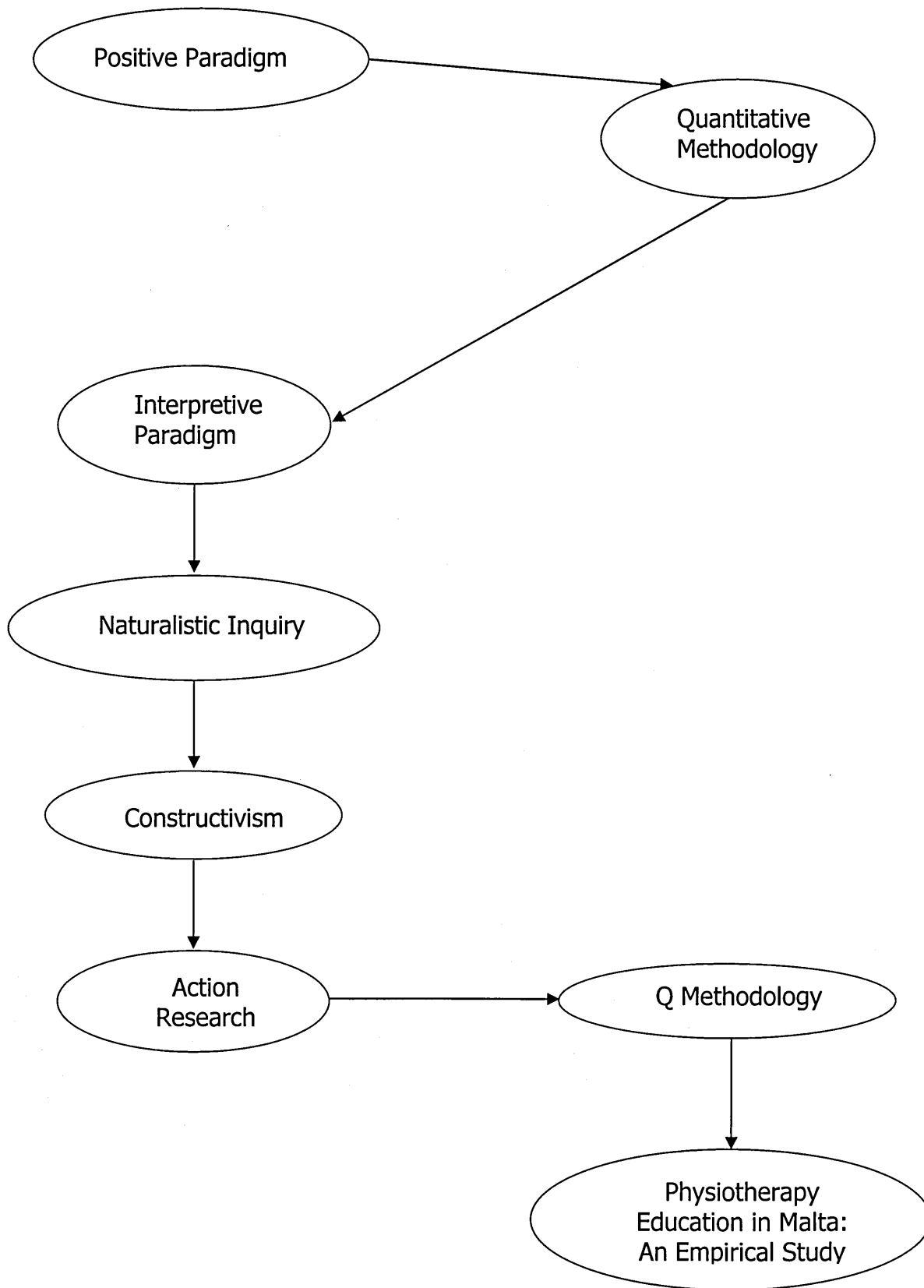
5.1 Introduction

This chapter describes how the methodology evolved as the study developed.

Rejection of a positivist approach in favour of a more interpretive approach is the first major issue. Figure 5.1 illustrates the two bubbles 'Positive Paradigm' and 'Quantitative Methodology'. The second is the evolution from constructivism as the paradigm of praxis in the early stages to Action Research as the paradigm chosen to research the curriculum (O'Brien 1998). The final subsections concern the dependability of findings.

Typical of the classical participatory action researcher, Action Research became the methodology of choice because of the dual role of the author: that of course leader and participator, meaning that of practitioner and interventionist. Hence, Action Research became the methodology used to improve the physiotherapy curriculum at the I.H.C. The study delved deeper than the limited scope of designing a new 'ideal' curriculum. It led to a methodology that added to the existing theories of knowledge and was designed to cater for the needs of a profession or institution that intends to commence a course from scratch or improve on an established one. Action Research comprises a family of research methodologies that aims to pursue and formulate action, critically reflecting upon this knowledge, testing the research outcomes and finally implementing change, monitoring and modifying this change as necessary, typical of the Action Research Spiral (Kolb 1984). This is symbolised by the bubble 'Action Research' that precedes 'Q Methodology' in Figure 5.1. A short section introduces 'Q Methodology' and 'Documentary Research' that were two other research methods used in this study. This is followed by a section titled 'Rapport and Neutrality' and another titled 'Trustworthiness' that have been included at this stage to give the reader an indication of the research thoroughness applied to this study. The final sections discuss the 'Ethical Considerations', 'Issues' and 'Reflexivity' that the author encountered and dealt with as the study unfolded.

5.2 Positivism

Initially, methodological considerations focused on the content of the curriculum, with the intention of investigating the contents of courses at institutions within the E.U., comparing them with the contents of the course at the I.H.C. and formulating a new curriculum with generic and locally specific content. Furthermore, based on previous knowledge of survey methods and experience with SPSS, the methodology should be as systematic and positivist as feasibly possible. Colleagues endorsed quantitative analysis of questionnaire data, so that the method would appear 'more scientific' and the findings 'more acceptable': *"So that it would be 'real' research!"*

Positivism is rarely present in a fully developed form in contemporary research, but is usually associated with quantitative research (Rotheray 1993; Thyer 1989). Conventional biomedical research assumes the positivist paradigm – that there exists an external reality separate from the researcher. The mode of observation assesses its properties, which can be determined through measurement and experimentation and whose behaviour can be predicted from laws thus derived.

Guba and Lincoln (1990) argue that these assumptions deny the role of human judgement and experience, and that 'data' are given a voice louder than those involved. These shortcomings indicated that this positivist paradigm was inconsistent with this study. Additionally, Marshall and Reason (1994 p2) have argued that *"research is a social process negotiated and pursued in relationships with others".* Data collected from students, clinical staff and colleagues at the I.H.C. showed that much of the rich texture of social relationships would have been lost if the positivistic survey approach had been pursued.

5.3 Philosophical Background of Qualitative Research

Preparatory research confirmed that researching the curriculum means much more than just researching the actual content. For the content of the curriculum to be pertinent to local health needs and meet academic, professional, cultural

and political needs imposed upon it, input from all the stakeholders is necessary. Denzin and Lincoln (1994 p2) assert that "*Qualitative research is about other people studied in their own social setting and understood in terms of the meaning those people themselves bring to their situation*". Patients and students are major stakeholders as much as qualified practitioners and health purchasers, such as the Maltese Ministry of Health.

As the qualitative paradigm views the human being as the primary research instrument, it is more fitting to the research aims and philosophy. Within the paradigm, constructivism reflects the belief that humans construct reality and hermeneutics has come to mean an analysis of a curriculum in the broadest sense (Schubert and Schubert 1990). (See Figure 5.1: 'Interpretive Paradigm' leads to a 'Naturalistic Inquiry' and the 'Constructivist Paradigm'.)

In comparison with its long history in primary and secondary school curriculum research (Newman 2000; Page 1997; Kemmis 2001) the interpretive paradigm is new to research in education of health professionals. Colleagues who had carried out Masters and Doctoral research using quantitative methods were assumed to be a critical audience who would either challenge the choice of research methodology or the intellectual rigour and quality of qualitative research.

Denzin and Lincoln (1994 p2) define qualitative research as "*multimethod in focus, involving an interpretive, naturalistic approach to its subject matter*". Lincoln and Guba (1985) use the term 'Naturalistic Inquiry' to cover research attempts in the new paradigm and they offer an introduction into some of the philosophical assumptions that lay behind the 'old' and the 'new' paradigms, or sets of beliefs that guide action. Denzin and Lincoln (1994) define the view of the researcher-as-bricoleur.

> "*The researcher, in turn may be seen as a bricoleur, as a maker of quilts, or as in filmmaking, a person who assembles images into montages. Thus, the methodological bricoleur is adept to performing a large number of tasks. The theoretical*

bricoleur reads widely and is knowledgeable about the many interpretive paradigms. The interpretive bricoleur understands that research is an interactive process shaped by his or her personal history, biography, gender, social class, race and ethnicity, and by those of the people in the setting."

(Denzin and Lincoln 2000 p4)

Lincoln and Guba (1985 p130) began by asking the question '*Can there be a human Science?*' They promoted 'Constructivism' as an alternative not only to the positivistic view that the goal of knowledge is simply to describe the phenomena that can be observed but also post-positivist critical realism that tempers positivism by recognizing that all observation is fallible and prone to error and that all theory is revisable. Their critique of post-positivism raised important issues and brought to the surface ideas and theories that became more suitable. Guba and Lincoln (1985) identified four philosophical paradigms: positivism, post positivism, critical theory and constructivism. They defined science as 'our need to know'. This suggests that conventional science/research has assumed the form of positivism but the post-positivists and constructivists have all challenged this theory. Guba and Lincoln pose three fundamental philosophical questions:

1. The ontological question: What is there to discover?
2. The epistemological questions: What is the relationship between the knower and the known?
3. The methodological question: How can one go about researching this?

The answers to these questions are the fundamental beliefs of each theoretical position. Using this paradigm, the first stage of this study found its niche in the constructivist paradigm.

5.4　Constructivism

Lincoln and Guba are amongst the best-known advocates of constructivism. They see sufficient risks within Critical Theory's goal of transforming the world, on the one hand, and Positivism's goal of predicting and controlling the world, on the other. They argue for an ontological position of accepting no one reality, and support an acceptance of multiple interpretations of any given

event. They advocate multiple socially constructed realities which, "*When known more fully, tend to produce diverging inquiry*" (Guba and Lincoln 1989 p75).

They summarised constructivism as realities existing in the form of multiple mental constructions: not the 'real world' as seen by the positivists but one dependent on the form and content of the persons who hold them. The underlying philosophy is that the inquirer and inquired are fused into a single entity. Research findings are the creation of the process of interaction and a degree of consensus between the two, supporting the stance of wanting and requiring the co-operation of all those individuals who influence the physiotherapy curriculum, in order to promote change.

Guba and Lincoln (1989) suggest that individual human constructions are elicited and refined hermeneutically, compared and contrasted dialectically, with the aim of generating one or a few constructions on which there is substantial consensus. "*Truth is a matter of consensus among informed and sophisticated constructors, not correspondence with an objective reality.*" (Guba and Lincoln 1989 p44) In this manner, the new curriculum can be formulated.

This paradigm, with its hermeneutic epistemology in educational research, focuses on social practices. It assumes that all human actions are meaningful and can be interpreted within social practices. To explain the social world, one has to understand it, make sense of it, be a part of it, and only then, can we understand the meanings that are constructed by interactive human behaviour. Guba and Lincoln (1989) promote constructivism as the preferred alternative to the other research paradigms, as it puts humans at the centre of the inquiry process. They see it as an educational process to all participants, is associated with ethical behaviour on the part of the inquirer, makes researchers 'humans too' and is both empowering and emancipatory. They see change resulting from changed constructions, and the participants actively assisting in determining what and how to do things. "*The relationship when, properly*

established, is one of respectful negotiation, joint control, and reciprocal learning" (Lincoln and Guba 1986 p75).

Assuming that constructivism allows for multiple realities, there are times when it is useful, and transformative, to act as if a certain truth exists. A challenge posed by constructivism is to know when one is acting 'as if' something were 'true'. At the same time, it seemed wise to bear in mind other researchers' critiques of constructivism, such as running the risk of equally valuing all constructions (Williams 1999; Irzik 2001). As Becker puts it, *"preaching about how things should be done and settling for seeing how they are in fact done"*, (1996 p54) which implies that purist attitudes towards paradigms are not appropriate in qualitative researchers. The essence of qualitative research is flexibility, hence the term *"Bricoleur"* (Denzin and Lincoln 1994 p2).

Cameron et al (1992) characterize research in three ways:
- ethical research: that is the 'research on'
- advocacy research: the research 'on and for'
- empowering research: which is the research 'on, for and with'.

The additional 'with' implies the use of interactive or dialogic methods, as opposed to the distancing and objectifying strategies associated with positivism, which these approaches have adapted. The fundamental theme behind these approaches is the empowerment of research subjects, to include the sharing of decisions about the aims, methods, and conclusions, as aspects of the study.

5.5   Action Research

As the project progressed, it became evident that answering the research questions required the iterative process of Action Research. Reason (2001) implies that the main reason behind academic research is to contribute to an abstract "body of knowledge" available to third-persons, however, *"In contrast the primary purpose of action research is to develop practical knowing, embodied moment-to-moment action by research/practitioner"* (Reason 2001 p2). If the simplest definition of Action Research is "learning by doing", in which a group of people, or an individual, identifies a problem (research), does

something to resolve it (action), sees how successful their efforts have been (reflection), and if not satisfied, tries again, then this paradigm suits this study. It is this interplay between action and research that Tripp (1995) notes can produce recognisable research. In defining the concept of action research one ought to include aspects of both action and research. There is a risk otherwise that action research can become the tool rather than the methodology for genuine critical reflection and social action (Drinan 1991). This is so since this methodology of research increases the understanding on the part of the researcher, the researched or both. In recent years there has been much debate in the literature as to what distinguishes action research from any other type of research. Dick and Swepson (1994 p4) state that action research and other qualitative methodologies are actually very similar: "*Both are often directed towards the achievement of change. Both tend to be flexible and cyclic.*"

5.5.1   Action Research as a Paradigm of Praxis

The Positivist Paradigm based on the principles of a belief in an objective reality, knowledge only gained from data that can be directly experienced and verified by independent observers, has been described previously in this chapter. Its methods rely heavily on quantitative measures. This might be fine in a laboratory but, in the real world, 'understanding' depends on the exchange and communication of interpretations. In old paradigm science, this is termed 'bias', yet in Action Research and the other new paradigms, this is the nature of the research, and all the more reason for carrying it out. This value-driven nature of the inquiry is in a better position to focus its research in the interests of those who might be experiencing an undesirable situation, thus offering a better chance of guiding theory towards practice. This new science arose from a world of multiple and competing versions of 'truth and reality' as a way of assisting people, both to come to the truth of their own reality and to include that of others. Positivism, used in scientific and applied research, has been considered by many to be the complete opposite to the principles of Action Research (Winter 1989), as compared to the more qualitatively methodologically based approaches, characterised by a belief that reality is

socially constructed and subjectively based, referred to as the 'Interpretive Paradigm'. Action Research shares a number of perspectives common to the Interpretative Paradigm, and definitely makes use of its related qualitative methodologies, as opposed to the Positivist Paradigm. The Interpretive, or new, paradigms underline the importance of social and collective processes in reaching a conclusion about the research, and what the implications are for change that are deemed useful by those whose problematic situation led to the research in the first place. Having said this, there are some researchers who feel that Action Research does not actually fit into any of the two predominant paradigms (Lather 1986; Morley 1991).

In line with Aristotle, who explained that praxis was the sphere of thought and action, comprising the ethical and political life of man, contrasting with the theoretical designs of logic and epistemology ('Theoria'), and considering that he thought both are equally required, then Action Research can be considered as a paradigm of Praxis with close affinity to the Interpretive Paradigm. The foundation stone of Action Research is that *knowledge* comes from practice, and *practice* is formed by knowledge, in an ongoing cycle.

5.5.2 Participatory Action Research

According to Reason (2001) an important characteristic of action research is that it has a 'collaborative intent': the primary value of action research is to increase people's involvement in the creation and application of knowledge about them and about the world they live in. Definitions of Action Research include: "*A systemic inquiry that is collective, collaborative, self-reflective, critical and undertaken by participants in the inquiry*" (McCutcheon and Jung 1990 p148); and " *A form of collective self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out*" (Kemmis and McTaggert 1990 p5). Within these definitions of Action Research, Masters (1995) offers four basic themes which represent the wide range of definitions: empowerment of participants, collaboration through participation, acquisition of

knowledge and social change. Whilst it is being acknowledged that these are important values underlying action research, it almost implies that action research could be considered as an everyday occurrence not a methodology for a research study. However, terms such as systematic inquiry, critical reflection and strategic action are terms associated with action research, implying that action research is a systematic and deliberate research process.

Having concluded that action research has a distinct identity; it is also an overall term having particular characteristics, and a variety of types and models. A number of different forms of Action Research have evolved (Carr and Kemmis 1986). Hence, in the same way that action research has been distinguished as a form of methodology various authors differentiate between different types and models of action research. Grundy (1982) describes three modes of action research: technical, practical and emancipatory. It has been described to have three different approaches by Holter and Schwartz-Barcott (1993): technical collaborative, mutual collaborative and an enhancement approach. Other models regarding action research have also been suggested by McCutcheon and Jung (1990) and McKernan (1991). Reason (2001) talks about three different broad strategies: first person action research fostering an inquiring approach to one's own life, second person action research in which one inquires face-to-face with others into issues of mutual concern, and third-person action research that aims to create a wider community of inquiry involving persons who are not known to each other. Hart and Bond (1995) describe four action research typologies: experimental, organisational, professionalising and empowering. Whilst acknowledging that different models and types exist, what is being implied is that they do not differ in methodology but in the underlying assumptions and views of the participants.

5.5.3 Participatory Action Research as the Approach to Curriculum Development

Participatory Action Research as opposed to traditional research is not just research, which is followed by action, but is action, which is researched, changed and re-researched, within the research process by the participants. It

aims to be active co-research, by and for those to be helped, in a manner that is democratic, whereby those to be helped determine the purposes and outcomes of their own inquiry. Participatory Action Research approach can contribute positively to any activity within the tertiary sector.

"*Through systematic, controlled action research, higher education teachers can become more professional, more interested in pedagogical aspects of higher education and more motivated to integrate their research and teaching interests in a holistic way. This, in turn, can lead to greater job satisfaction, better academic programmes, improvement of student learning and practitioner's insights and contributions to the advancement of knowledge in higher education.*"

(Zuber-Skerritt 1992 p15)

Following the initial data from the first cycle of the study, it became evident that all the stakeholders were of the opinion that changes to the curriculum were necessary. It was at this point that the author realised that the help of the other members of full-time staff were required if this project was to succeed. Traditionally, lecturers, including those at the U.o.M., have not been encouraged to draw upon theoretical developments as a means of improving curriculum design and delivery. Action research methodology offers a systematic approach to introducing innovations in teaching and learning. It seeks to do this by putting the lecturer in the dual role of producer of the curriculum and the person to use that theory. This was a very tactful way of producing knowledge and then being in a powerful position to improve learning and teaching practice. Thus, the participating lecturers were the people who actually designed and delivered the content of the curriculum, as well as the actual research required to ensure that the scope of the exercise had been achieved. In accordance with Kolb (1984), who extended this model to offer a conception of the action research cycle as a learning process, (whereby people learn and create knowledge by critically reflecting upon their own actions and experiences, form a plan, test the plan, and then implement these plans), is the methodology that was used by the author to formulate this research study. To quote Torbert (1981 p140) "*...what practitioners really require is a kind of*

66

knowledge that they can apply to their own behaviour in the midst of ongoing events, in order to help them inquire more effectively about their common purposes, about how to produce outcomes congruent with such purposes". Torbert (1981) further states "*.... the capacity of a social system to produce valid data becomes the degree to which confrontation and exploration of possible incongruities is initiated and welcomed"* (p150).

5.5.4 Principles of Action Research related to this Study

Stringer (1996) states that whilst carrying out action research there is often a conflict for the researcher to meet the requirements of both the participants and the administration. Thus the choice of an approach is often a compromise. However, according to Hart and Bond (1995) once a consensus is reached and an action research study begins, then there is greater scope for movement and a chance of shift in orientation. The reason of having prior discussed the different approaches within action research is to enable the appropriate type to be chosen for this study. The primary difference lies in the underlying assumptions, not in the methodology (Grundy (1982). The degree of collaboration and the nature of the participant is one of the distinguishing criteria in suggesting the type of action research to be used. Hence, if one refers to the four action research typologies described by Hart and Bond (1995) this study commences by following the 'organisational typology'. This typology is concerned with problem solving in institutions aimed at improving tangible organisational change by consensus. However, as the study developed and the need for a new curriculum became evident, it became obvious that an element of empowerment became apparent. The typology thus changed from 'organisational' to 'empowerment'. "*The choice of which typology to use is one of personal preference. None are meant to be prescriptive and movement within each typology is acceptable at different stages in the research process"* (Hart and Bond 1995 p40).

It ought to be mentioned that different types or models of action research are associated with a certain concept of 'power' (Grundy 1982). As the typology changed in this study the role and the associated power of the researcher

changed too. In the first cycle that was characteristic of the initial organisational typology involved the sharing between a group of equal participants, however the power is still emphasised by the individual researcher. During the following cycles as the typology changed to a more empowering typology then the participants became co-researchers and the power was distributed within the group and not with a particular individual. As Grundy (1982 p363) states "*it is often the change in power relationships within a group that causes a shift from one mode to another.*"

The following principles described by Winter (1989) have guided this research in order to demonstrate and improve the credibility of this study:

- *Reflective critique* – This is where all the documents, transcripts, proposals, minutes of meetings and various versions of curricula at the different stages of development were made available to the different members of the Curriculum Development Committee, so that their reflective critique made explicit their interpretations, biases, assumptions and concerns so that modifications of judgments and decisions could be made. In this manner, hypothetical theories gave rise to theoretical considerations.

- *Dialectical critique* – Language and the written word consensually validate reality, mainly educational reality. The numerous meetings, held between the researcher and the other participants in this study, led to numerous discussions whereby, the theoretical considerations were conceptualised in dialogue. This dialectical critique was necessary for the understanding of the relationship between the stakeholders and the need for change to the curriculum.

- *Collaborative resource* – The principle of collaborative resource presupposes that each person's ideas are equally significant to the goal of the study. All contributing participants were made aware that they were actually co-researchers in the study. Any changes to the curriculum were negotiated by all present, hence avoiding the skewing of credibility by any member trying to influence the project with any pre-conceived ideas.

Figure 5.2   The Process for Curriculum Development

- Finalised Curriculum meets all requirements
- Protocol for Curricular Development achieved

Triangulation
Q Methodological analysis of the initial action research data

Influential Stakeholders' contribution to curriculum
Reflection
Implementation

Public's Input & Perception
Further improvement & implementation

Reflection
Improvement
Implementation

Proposed 'Ideal' curriculum created

Need for confirmation of initial research question

- *Risk* – Winter describes this principle as 'risk'. Risk in Action Research can be generated throughout the process, and the facilitator often experienced it personally or noted it in others. Proposals for change to long-established institutions, for example the University, the running of the physiotherapy department, or the teaching methods used by fellow staff, generate an element of fear. Not only can 'risk' come about due to the element of change, but Participatory Action Research means open discussion about one's ideas, interpretations, suggestions and judgements, that may not always be acceptable to the group, and can lead to ego stemming and the fear associated with that. This latter situation was quite evident when meetings were held between the researcher, and senior and junior clinical staff.

- *Plural structure* – As has been explained previously the nature of an Action Research study embodies a multiplicity of stages, views and data collected, leading to multiple possible actions. In this study, this can be considered as being composed of seven cycles[1].

- *Theory, Practice, Transformation* – In Action Research, theory informs practice, and practice refines theory, in a continuous transformative cycle. The epidemiological data that were collected, together with the first stage interviews held with all the stakeholders, provided the theory justifying the action. The ensuing practical applications that followed were subject to further analysis. The academic years 2002/2004 were the trial years in which the proposed changes to the curriculum, to the mode of assessment, and to the mode of teaching commenced. Monthly evaluation meetings were held during which feedback, regarding the changes taking place, was collected, and further refinements to the curriculum took place, following open discussion. These transformative cycles of change took place throughout those academic years with the emphasis alternating between theory and practice. Initially, meetings were held in larger groups, involving the academic staff, who discussed the changes and worked together to mould a curriculum that would be appropriate to the demands being made, yet feasible within the

---

[1] Refer to figure on opposite page.

academic and structural constraints available. Individual meetings held between the different lecturers and the researcher to resolve any teething problems followed these. Each time these meetings took place, a new cycle in the development of this 'ideal' curriculum would spin off new experiences that in turn, were re-evaluated and tackled, as required. This process is unending. Four years down the line, changes are still being proposed, re-evaluated and tackled. The purpose of this study was not just to formulate a curriculum, but also to produce a 'protocol' whereby any institution in any country can formulate a physiotherapy curriculum particular to their intrinsic needs.

5.6   Summary of the Action Research used in this Study

This study was typical of action research in that it consisted of a number of cycles (Kolb 1984). These cycles were integrated together into a spiral, as at the end of each cycle this acted as the catalyst to commence the next. It ought to be emphasised that at the end of each cycle the outcome was a consensus of the participants. This issue is important to this study as the final outcome was a new curriculum that was considered to be ideal by all the stakeholders and participants.

The outcome of the first cycle was that the old curriculum being taught at the I.H.C. was considered dated, very stressful, not conducive to deep learning and critical thinking and required immediate change. This first cycle consisted of an initial focus group interview. Taking part in this interview were the two full-time academic members of staff, a principal, senior and junior members of the clinical staff working at St. Luke's Hospital and a final year student. Following this group interview, the participants held meetings with their counterparts and another set of individual in-depth semi-structured interviews with the original participants took place.

The second cycle consisted of documentary research of various curricula being offered by different universities within the E.U. and a study of the medical conditions referred to physiotherapy within the state hospitals over a six month

period. The academic staff who taught the speciality and the clinician in charge of that unit later held meetings and developed modules that were related to the occurrence of referral; in this manner a proposed curriculum matching the local medical needs was designed.

The third cycle meant returning to the primary stakeholders (the final students and newly qualified staff), to investigate their opinions about the new proposed curriculum. Following this meeting, the participants again held meetings with their counterparts and this was followed by focused individual in-depth semi-structured interviews. Two other interviews were also carried out during this cycle to the co-ordinators of the Radiography and Occupational Therapy Divisions to investigate their curricula and to research whether other divisions were content with their curriculum and whether they would be conducive to change.

The fourth cycle involved researching the public's opinions regarding the physiotherapy profession and the service it offers. This cycle consisted of eight in-depth semi-structured interviews with members of the public who were both inpatients and outpatients attending state physiotherapy and patients attending private physiotherapy within a private hospital or clinic. Any direct or indirect suggestions were discussed with the Curriculum Research Committee and included, where necessary.

The fifth cycle consisted of six unstructured/open elite interviews with influential stakeholders who either directly or indirectly influence the curriculum, and one other unstructured interview to a senior member of clinical staff. At the end of this cycle, it became evident that changes to the new 'ideal' curriculum were necessary, as in it's present state this was not acceptable to the office of the Registrar.

As a result, a sixth cycle was introduced, to alter the proposed new curriculum into one that meets all the administrative rules and regulations. This consisted of a number of meetings between the academic staff, and a meeting between

the academic staff and the Registrar's representative. Another final meeting with the Curriculum Research Committee took place in which the new proposed curriculum was discussed and following mutual agreement, this was considered to be 'ideal' at the time.

In order to finalise this study, it was considered necessary to include a final seventh cycle, whereby all the newly qualified staff who were final year students during the first cycle, were again presented with the changes that took place to the curriculum and by means of Q-Methodology had their feedback objectively concluded.

5.7   Q Methodology

Q Methodology was introduced by William Stephenson in 1935. It "*combines the strengths of both qualitative and quantitative research traditions*" (Dennis & Goldberg 1996 p104) and can also be viewed as providing a bridge between the two (Sell & Brown 1984). Q Methodology is a technique for the objective study of subjective findings and allows the researcher to understand and interpret the subjective data of his or her respondents (Smith 2001).

Typically, in Q Methodology, respondents called the P-Set are asked to rank-order a set of statements (particular themes taken from the Action Research Cycles) from their individual point of view using a quasi-normal distribution according to a scale, usually from strongly agree (+3) to strongly disagree (-3), with scale scores provided to assist the participant to think and answer about the task. These individual subjective ratings are then subject to factor analysis resulting in an objective outcome. Stephenson (1935) described Q Methodology as an inversion of conventional factor analysis, in that Q correlates to the respondents as opposed to the number of tests. Correlation between respondents thus indicates similar or different views that exist on a particular issue (Brown 1995). The factors resulting from Q Analysis thus represents clusters of subjectivity, (the views of the respondents) as opposed to traditional research that would reveal a population of respondents (Risdon et al 2003).

5.8 Documentary Research

The study included a small element of documentary research. Documentation provides a valuable source of data for researchers and can be divided into the gathering and analysis of both personal and impersonal documentation. In the initial stages of the study, the author researched the history of the physiotherapy curriculum in Malta. The Department of Health (D.H.) allowed him access to all their files pertaining to the physiotherapy courses. These included copies of the initial Physiotherapy Course Programme, the Course rules and regulations and all the correspondence between the World Health Organisation and the Health Department. The Director General in charge of Health granted approval for access to all relative documentation, thus resolving any ethical issues. Finally, another major issue in dealing with documentary research is the establishment of authenticity. In this case, this was relatively straightforward and taken as 'dogma', due to its source.

Personal Documentation

This consisted in the examination of numerous formal letters between W.H.O., the Physiotherapy tutor and the D.H.

Impersonal Documentation

In accordance with Gribch (1999), impersonal documentation comprises the examination of public records and medical referrals. With specific reference to physiotherapy, these included the examination of all the course syllabi, course descriptions, and rules and regulations of both local and foreign physiotherapy course documents.

5.9 Rapport and Neutrality

One cannot describe or demonstrate rapport on paper as this refers to the ability of the interviewer to respect what the respondent replies in such a manner that this feeling of mutual understanding, between the person speaking and the person listening, is brought about. It is hence being suggested that there ought to be a close link between neutrality and ethical issues while conducting interviews (Gribch 1999). During the study this was a difficult issue

to overcome, as some of the interviewees expressed a very honest opinion regarding their employer, work place and colleagues and at other times the author was made aware of certain confidential or politically sensitive information that was made known yet could not be disclosed. What is important is that the interview was designed in such a manner to minimise any differences in status, knowledge and position of power. The interviewer must be impartial, never judge or show any feeling or attitude to what is being said. The reason behind this was to establish a sense of equality enabling the free flowing of communication between the interviewer and the interviewee.

In order to enhance my rapport with the interviewees the following steps were taken:

- Prior to all interviews each interviewee was contacted either by phone or directly and advised what his or her participation in the study would involve. They were informed about the approximate time of each interview and that this could take place either at the I.H.C. or at a location of their choice.

- The rights of the interviewee were explained, in that participation was entirely voluntary and that they could withdraw at whatever stage of the interviews without prejudice.

- The background and reasons why this study was taking place was explained thus allowing all the participants to make an informed choice regarding their participation.

- Finally any concerns raised by the participants were dealt with.

To minimise any errors that could have been associated with the interviews a number of measures were taken, some of these might sound obvious to the reader, but as more and more interviews were held, the technique improved and hopefully any margin of error decreased accordingly. Special attention had to be used to reduce bias. The tone of voice and facial expression had to be kept neutral to give the respondent the freedom to express what they really

wanted to say. It was emphasized that no correct answer existed, but that every honest answer was what was required. Every effort was made by the researcher to create a sense of warmth and trust in order to gain co-operation and build rapport whilst at the same time remaining objective and neutral (Neuman 2003).

Patton (1990) talks about how the interviewer can try to maintain neutrality by means of the use of a particular type of questioning called 'illustrative type format' or 'role-play and stimulation questions'. This type of questioning was used when asking sensitive questions. Another example of what Patton (1990) refers to as a 'Simulation question' was used whilst asking a question as though it were somebody else asking - in this manner an element of neutrality was maintained, and the respondent was free to reply in whatever manner, they felt the most comfortable.

Being the course co-ordinator, researcher and interviewer the danger of introducing error and bias was quite large and true. Given that the curriculum was already researched as part of the author's Master's degree, it was clearly evident that the gathering and interpretation of data might bias preconceptions regarding the present curriculum. The whole process was therefore one of researching the present curriculum with an open mind, and not trying to influence the research process, the interviewees, nor the data interpretation.

To summarise therefore, subjectivity in a qualitative study is almost unavoidable, but in order to be as transparent as possible, certain measures had to be taken, in order that the data collection would be 'real' and 'trustworthy' thus allowing the reader to make their own judgements freely.

5.10 Trustworthiness

Lincoln and Guba 1985, suggest the basic question addressed by the notion of trustworthiness is quite simple: "*How can the inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?*" (1985 p290) Strauss and Corbin (1998 p250) believe that the "*usual*

canons of good science....require redefinition in order to fit the realities of qualitative research". Lincoln and Guba (1985 p300) have come up with an alternative set of criteria that correspond to those typically employed to judge quantitative research. They have proposed that '*credibility*' should be the naturalistic term to describe the conventional term of internal validity, and similarly, '*transferability*' should replace external validity, '*dependability*' replacing reliability, and '*confirmability*' that of objectivity. Yet, not all researchers agree with this stance on 'comparable criteria', Smith and Heshusius (1986) for example, sharply criticize Lincoln and Guba and state that there is little difference between the conventional criteria and that, which they proposed. The section below discusses these terms relating them to this study.

Internal validity versus credibility

In conventional research, internal validity refers to the extent to which the findings accurately describe reality, yet Lincoln and Guba (1985 p259) argue that one would have to know the "*precise nature of that reality*" and if one knew this, then there would be no reason to test it. The qualitative researcher, on the other hand, assumes the presence of multiple realities. Credibility in qualitative research is established by having the findings approved by the constructors of the multiple realities being studied. Hence it depends less on sample size, but more on the richness of the information gathered and the rigour of the researcher (Patton 1990). Lincoln and Guba recommend several techniques that inquirers may use to enhance the credibility of their research: prolonged engagement, persistent observation, triangulation, peer debriefing, progressive subjectivity checks, and member checking. The precautions and actions taken in this study to increase credibility were:

Prolonged engagement means being present, on site where the study is being carried out, long enough to build trust with the participants. This was relatively easy, as all the participants knew the researcher as their lecturer at the I.H.C. However, this position as: course leader, previous appointment as Manager Physiotherapy Services, and Chairman of the Interviewing Board to employ staff

within the health service could be perceived as being 'threatening' to the research population (Lincoln and Guba 1985).

Persistent observation is a technique that ensures depth of experience and understanding, in addition to the broad scope encouraged through prolonged engagement. To confirm persistency, a detailed literature review regarding physiotherapy curricula developed depth, so that the researcher could be in a position to decide what was relevant and important during the data collection phase (Payton 1994).

Triangulation means the verification of findings through 1) referring to multiple sources of information and 2) acquiring observations from multiple inquirers. In this research, data were triangulated from as many stakeholders of the curriculum as possible, and compared the local curriculum to those of established overseas courses (Breitmayer 1993;Morse 1991).

Peer debriefing involves meetings by the inquirer with a peer: preferably somebody not directly involved with the actual research process. The author discussed his interest in the curriculum with all his fellow co-ordinators at the I.H.C. and considered his meetings with his supervisor – Professor A. Parry as being the most useful to the research. The amount of times that advice was asked regarding this work and her questioning of his methods, emerging conclusions, biases and so on, to the extent of sometimes feeling at a loss, has meant that a constant independent critique of the work has taken place. This peer review, has guided the author into questioning his own research strategy, thus reviewing his research methods and methodology throughout the different research cycles (Crawford et al 2000).

Progressive subjectivity checks involve archiving the inquirer's changing expectations for the study (*a priori* and en route constructions, interpretations of what will be learned, or what is going on). "*If the inquirer 'finds' only what he or she expected to find, initially, or seems to become 'stuck' or 'frozen' on some intermediate construction [interpretation], credibility suffers*" (Guba and

Lincoln 1989 p238). The initial research question was about the actual content of the local physiotherapy course as this was considered outdated and needed updating. The more the curriculum was researched, the more the realisation that the problem being investigated was much deeper than originally thought. Following this initial research, it became evident that if one were to modernise the curriculum, this would involve more than just adding on study units to a course programme, but must include changes to the way it is delivered and assessed.

The different cycles involved in this research study are documented and the findings are included in the appendices, to allow the reader to scrutinise and follow the audit path adopted.

The perspectives of the participants should be highlighted in the study. It has been brought to the readers' attention that the data have revealed viewpoints held by the studied population and it was subsequent to the data collection and analysis that the research could spiral into the following action cycle. If *only* the inquirer's perspective (often referred to as *etic perspective*) is present, the study lacks one of the most critical characteristics of a naturalistic study (Guba and Lincoln 1989).

Member checks are one of the most important techniques for establishing the credibility of a naturalistic inquiry. In this process, all the members, who were involved in the process of curriculum change, reviewed the data record, interpretations, and reports of the inquirer. All transcripts were returned to the respondents and they were asked to verify that the transcript was a true transcription of the interview held. In the case where a tape recorder was not used, the final notes were again transcribed and shown to the respondents, so that they could confirm that what was written was a true version of what was said, and that the perspectives expressed by the respondents were adequately represented.

External Validity versus Transferability

In conventional inquiry, external validity refers to the ability to generalise findings amongst different settings. In the naturalistic paradigm, transferability depends on the similarity between the original situation and the situation to which it is being transferred. The researcher cannot specify the transferability of findings but can only provide sufficient information that can be used by the reader to determine whether the findings are applicable to the new setting (Lincoln and Guba 1985). Hence the researcher collects the data in sufficient detail and reports it back in such detail and precision allowing the reader to judge about transferability. This has also been described by other authors: Stake (1978 p6) calls this *"naturalistic generalization"* and Patton (1990 p489) calls this process *"extrapolation"*. Eisner (1991 p205) describes this as *"retrospective generalisation"* allowing us to understand our past and new experiences in a new way. In this study, the author has made available the question schedule used in all the interviews (except for the open, unstructured interviews), the location was similar in all instances, where like were interviewed with like. This transferability analysis is facilitated by clear descriptions of the time and context in which the different cycles took place and developed by the naturalistic inquirer. Thick description of the phenomena under study and as much of the context in which the study took place could also be regarded as a technique for facilitating transferability decisions.

Reliability versus Dependability

Kirk and Miller (1986) have described reliability as the extent to which a given measurement that is repeated, remains the same, and the stability of measurement over time remains the same. Lincoln and Guba (1985 p316) sum up dependability in qualitative research thus *"Since there can be no validity without reliability (and thus no credibility without dependability), a demonstration of the former is sufficient to establish the latter"*. Lincoln and Guba (1985 p317) suggest an *'inquiry audit'*, and this has been maintained in the study by the presentation of the work, including all the research data and analysis, to his supervisors, both locally and overseas. The more consistent the

researcher is in this research process, the more dependable the results, thus a 'dependability audit' ensures the transparency and trustworthiness of this study.

Objectivity versus Confirmability

Quantitative research defines a situation as being relatively value-free, and hence objective. Qualitative research, on the other hand, relies on interpretations, that are value-laden, but considered, by the purists, to be subjective. In quantitative research, subjectivity leads to results that are both unreliable and invalid. Qualitative researchers, on the other hand, question the true objectivity of statistical measures, and the possibility of ever reaching pure objectivity (Lincoln and Guba 1985; Eisner 1991). Confirmability was addressed in this study by including detailed excerpts from the raw data that supported interpretations and conclusions drawn by the researcher.

Patton (1990 p55-58) states that the terms objectivity and subjectivity are really "*ideological ammunition in the paradigms debate*". He is of the opinion that a researcher should be neutral and non-judgmental, and that data should be reported in such a manner that is balanced, a term he calls "*empathic neutrality*" – "*empathy....is a stance toward the people one encounters, while neutrality is a stance toward the findings*".

Lincoln and Guba (1985) have offered the term 'confirmability' of the research, and talk about a 'confirmability audit', yet at the end of the day, one might quote Phillips (1990 p35) who in respect to objectivity in qualitative research, questions the differences, if any, between the two paradigms:

> "*Bad work of either kind is equally to be deplored; and good work of either kind is still-at best only tentative. But the good work in both cases will be objective, in the sense that it has been opened up to criticism, and the reasons and evidence offered in both cases will have withstood serious scrutiny. The works will have faced potential refutation, and insofar as they have survived, they will be regarded as worthy of further investigation*".
>
> (Phillips 1990 p35)

5.11 Ethical Considerations

The key issue regarding ethical issues in qualitative research is the accountability and the relationship between the researcher and the researched. For the purposes of this study these included: a respect for human dignity, respect for free and informed consent, respect for vulnerable persons (especially all students), respect for privacy and confidentiality, respect for justice and inclusiveness, minimizing any harm, and maximizing benefit. Deception regarding the purpose of the study was also considered unethical as well as violating any promises of confidentiality.

The participants in this study were not treated as mere research objects or as a homogenous group. The researcher has been known to all the participants in the study for a number of years and the possibility of having day-to-day interactions with them is not uncommon. These dynamics certainly placed the researcher in an 'insider' position. Being familiar with the environment, local culture and work conditions provided the opportunity for the researcher to gain participant's trust easily and to be privy to 'insider' information that would not be easily available to an outsider. Yet being known has its shortcomings. Prior knowledge, underlying personal bias and preconceived ideas can render disadvantages to this intimate type of 'insider research'. The researcher's situation as previous manager and course co-coordinator shaped the methodology of the study. Having initiated a project that would rely on friends, colleagues, students and various stakeholders who were unknown to the researcher, the importance of ethical conduct came to the fore. The challenge of the dual role of researcher and active participant was understood and acknowledged. Extensive precautions to ensure that the balance between personal/professional networks and the researcher role even though as an 'insider' were maintained.

In order to combat these issues the following procedures were taken:

- Ethical written permission was obtained from the Chairman and Director of the Institute of Health Care of the University of Malta. This was

considered necessary as students, academic and administrative staff were involved during the various cycles of the study.

- Written permission was also obtained from the Director General of Health Services in Malta. This was necessary as clinical members of staff were engaged throughout the research process, and the public's opinion regarding the service offered was also sought.

- Ethical approval was also necessary from the Ethical Board that is constituted by representatives from the University and the Department of Health. This was obtained following the forwarding of the full proposal five weeks in advance and a presentation to the Committee.

- A covering letter explaining: the aim of the study, the involvement required, the benefits possible, the offer to answer any questions related to the study, a promise of anonymity and how confidentiality was to be maintained, and a clarification that the participants were free to withdraw from the study at whatever stage without prejudice.

- All the data were to be safely stored and only to be viewed by the researcher and supervisors should the need arise.

- Following the end of the study all tape recordings were to be destroyed in the presence of the local supervisor or representative.

- Prior to every interview the participants were reminded about the purpose of the study, their ethical rights, and that they have every right to decline to answer any of the questions or have the tape recorder switched off at any stage.

5.12 Actual Ethical Issues that arose during the Study

The following cases demonstrate some of the ethical issues that arose during the course of the study.

A senior member of clinical staff began revealing a lot of disapproval towards the physiotherapy management and Continuing Professional Development programmes occurring at St. Luke's Hospital. This disapproval related to an element of favouritism and nepotism regarding funding for any C.P.D. both locally and abroad. These issues were tackled by lending a sympathetic ear,

the switching off of the tape recorder and the reassurance that these stated issues would not be included in the study.

Criticism of the senior members of staff by the newly graduated staff regarding the quality of treatment offered the questioning of certain medical referrals, and lack of time management. Even though some of these issues could have provided 'rich descriptions' to the thesis they were not included to avoid the chance of identity recognition by any future readers.

Some comments regarding the clinical educators that hold both part-time and full-time University appointments were forwarded both by the students and the clinical staff. This information was very informative to the researcher as co-ordinator of the courses, yet was not tackled as this had been imparted in confidence and my role as researcher did not allow for any prejudice or action.

Due to the nature of the research and possibly due to the contacts the researcher had a number of interviews with certain members of the public who hold standing in Maltese society was possible. These elite interviews also gave rise to different types of ethical issues. Interviewing some of the eminent figures in Health and Education in Malta gave provided insights to their private lives and certain policy decisions. Some of this information regarded the new hospital in particular, was and still is a political issue frequently appearing in the local press. This information even though it could have been advantageous to the researcher to know and make public could not be divulged as it would have incriminated both the researcher and the researched. It also became evident that in certain cases the use of some terminology expressed during the interviews regarding certain professionals working in health care were not intended to be derogatory but either used because of literal language translation or metaphorically speaking. In either case these were not included as a negative image of the participant could have been portrayed. In a particular case certain potentially inflammatory remarks were discussed with the overseas supervisors and it was decided not to have them included to avoid any possible repercussions following publication.

During the research process following transcription it also became evident that certain data could have been taken out of context and given a different meaning to that intended to the benefit of the researcher. Great care was taken to prevent this happening by first showing the transcribed interviews to the interviewees, the viewing of the interviews to my supervisors and the keeping of a record of all interview material both transcribed and on actual tape that could be made available on request. In line with Lincoln and Guba (1985) the keeping of a 'confirmability audit' promoted both the objectivity to the study as well as dealing with any of the ethical issues that arose.

5.13 Reflexivity

Reflexivity involves a process of self-awareness that is aimed at clarifying how one's beliefs and actions have been socially constructed and how these values generated impact interaction and interpretation in the research setting. In accordance to Marcus (1994), reflexivity for this study was based on a self-critique based on experience and empathy; a self-critique designed to maintain objectivity and finally reflexivity to location.

The reason behind this section is to introduce the reader to some of the decisions taken regarding the author's career, in order not to influence the study by maintaining as neutral a position as possible and allowing his own views to remain unbiased. At the same time, by not being perceived as being in a 'position of authority' by any of the respondents whom he had to interview, enabled him to undertake this study. To enhance this sense of rapport and to minimise the researcher's position of authority the following measures were taken:

- The importance of the interviewee's participation was stressed and explained, in that they would be actively participating in the whole research process, not just as interviewees but as active participants bringing about change to the curriculum.

- The concepts of empowerment and emancipation with respect to the study were made clear. All participants were on an equal footing,

starting a new curriculum with a 'carte blanche', ending with one that will eventually be agreed by all.

- On the other hand, neutrality is another important issue that had to be brought across prior and during the interviews. As the word implies neutrality also means that the respondent must have complete trust in the interviewer in that their replies will be kept completely confidential. This issue has been discussed in the section titled 'Ethical Issues', yet is being mentioned here again to reveal how certain professional decisions regarding his various positions had to change to make this research study feasible.

The author's loyalties are two fold: his first obligation is to the students of physiotherapy, to ensure that the time spent at University is an enjoyable learning experience that culminates in their obtaining a qualification, which will influence their working lives. The second obligation is to the Maltese public, to ensure that the physiotherapists qualifying from the I.H.C. are true professionals with decision-making skills and, the academic and practical knowledge necessary, to ensure that the standard of physiotherapy practised on the island would be comparable to, or better than that practised in the past. Certain decisions that affected and influenced the author's career had to be taken prior to the commencement of undertaking this PhD. To many physiotherapists in Malta, he appears to be the father of the profession. Physiotherapy as a profession only started to have an impact on the island's medical services in the late 1970s, following the employment of the first locally trained physiotherapists. Physiotherapy staffing levels increased from three to twenty-two, thus extending physiotherapy services to St. Vincent de Paule Hospital (a geriatric hospital), Sir Paul Boffa Hospital (an oncology and convalescent hospital) and to Gozo General Hospital (the sole hospital on Malta's sister island – Gozo). Out of the original twenty-two physiotherapists, only three have continued to practise the profession within the state services. Therefore, the author has taught all but three, of the 250 physiotherapists employed by the state, being the sole lecturer of the physiotherapy course from

1985 to 1991. In 1992, when this course was incorporated into the I.H.C., the staff increased by one, and later in 1994, by a further two.

Up to the end of 2002, the author was the nominated member representing the Government on physiotherapy affairs, on the Board for Professions Supplementary to Medicine, a post which he felt he had to give up in order for him to maintain a neutral position towards this PhD research. Representing Government on this Board conflicted with being the researcher investigating whether the standard of physiotherapy taught is of the quality required by the practitioner to treat the Maltese public. Parts of this research also involved the public's needs and expectations regarding the physiotherapy services offered on the island. Holding this Government nominated position on the Board, as well as being the researcher, at the same time, was incompatible.

Between the years 2000 and 2001, the author was responsible for physiotherapy services on the island, a post that he unwillingly had to give up as administrative responsibilities, and duties including that of consultant to the Rehabilitation Department of the new Mater Dei Hospital were unsustainable. However, another important reason why this post as Manager of Physiotherapy Services could not be retained was due to the nature of this study. It was considered impossible, and totally incredible if the researcher had to investigate the public's and clinical staff's perceptions of quality of physiotherapy service being offered whilst maintaining the position as manager.

Finally, another position that ought to be mentioned at this stage is the fact that he was and is the Chairman for the selection boards for any physiotherapists wishing to join the State Health Service. This position would only have had an influence on the students participating in the study, yet carried a weight on the researchers shoulders, to the extent that should another call for applications be issued and the author be asked to act as Chairman of the selection board, then a request for this appointment to be refused would take place. The underlying reasons being due to:

1. The co-operation of some students during the study meant that they were no longer perceived as students but as participant researchers, could have influenced the author to view these applicants in a positive manner.
2. Some of the data that have been obtained during the course of this study could have biased the author in a negative manner at times and a positive one in others depending on the situation.

This section has been included as the author is or has been very influential regarding the physiotherapy profession on the island as Course Co-ordinator, Chairman of the Undergraduate Examining Board and Chairman of the Selection Board within the National Health Service. At the same time in order to preserve a stance of researcher neutrality the author has had to relinquish these prestigious positions in the past and the immediate future.

ORIGINAL OBSERVATIONS

Figure 6.1   Contributors to the New Curriculum
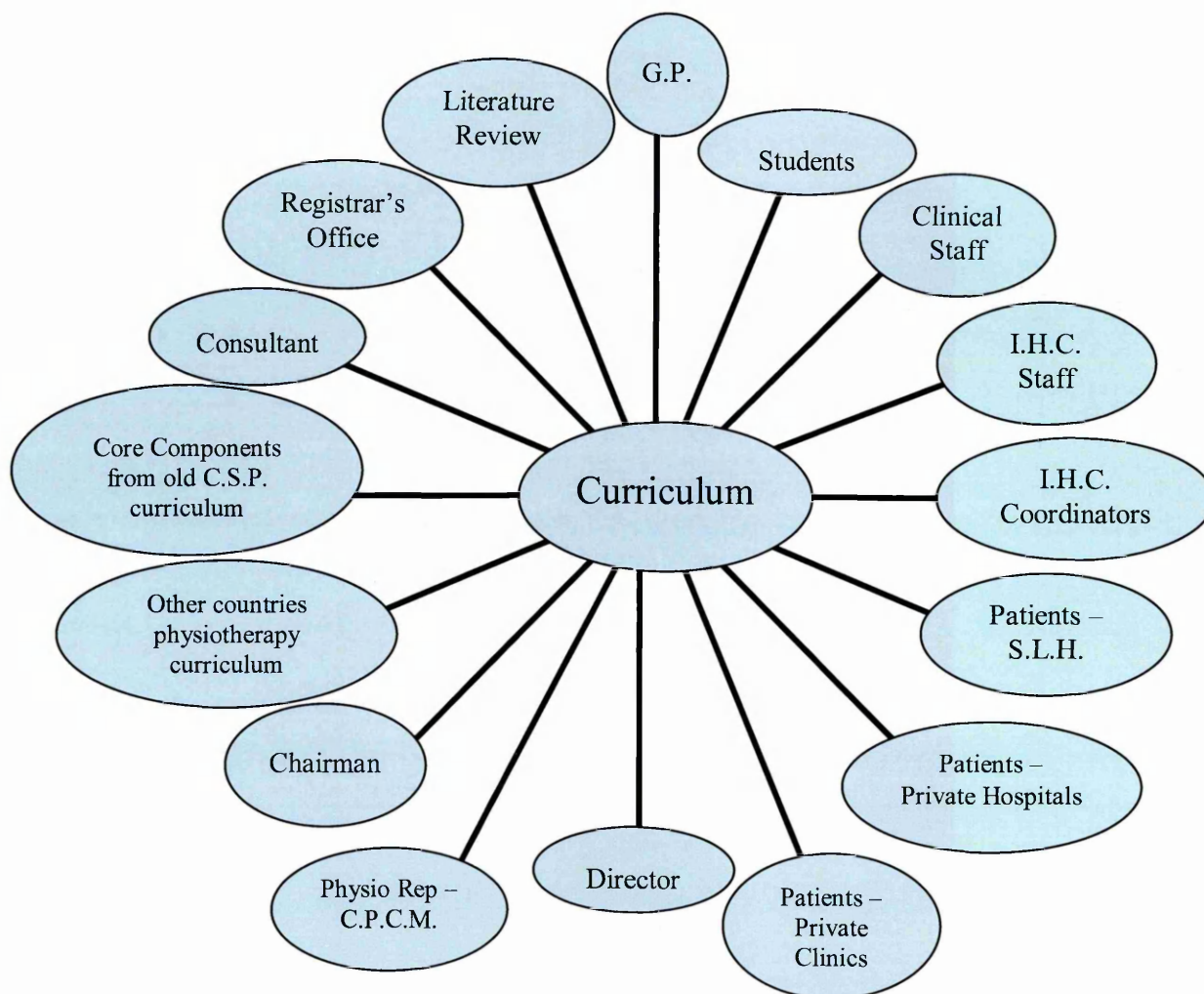
Legend:

C.S.P. – Chartered Society of Physiotherapy

C.P.C.M – Council for the Professions Complementary to Medicine

G.P. – General Practitioner

I.H.C. – Institute of Health Care

S.L.H. – St Luke's Hospital

6.1 Introduction

The findings of this research are being presented as the different cycles took place. Each cycle commences with a flow chart that can be viewed on the left hand side of the script that summarises the text on the right hand side. The findings commence with the 'Research Aims', followed by the 'Research Methods', 'Research Instrument' and the 'Research Tools' utilised in that cycle. This is followed by the 'Research Population' and the 'Sampling Strategy' to identify the participants that were involved in that cycle. Since the interview technique was the method utilised in most of the cycles the 'Location' where these interviews took place is also provided. The method of 'Data Analysis' is next followed by the 'Findings and Comments' section. The 'Implications' associated with these findings are then stated. Each cycle ends with a completed flow chart with an extra section titled the 'Research Objectives' achieved at that stage. The findings of each cycle are described using the same format.

The first phase of this research was to substantiate that the curriculum of study needed urgent change. This was carried out by means of interviewing stakeholders, directly or indirectly involved with the physiotherapy course offered at the Institute of Health Care (I.H.C.) of the University of Malta. The second phase consisted of the formation of a new curriculum that was acceptable to all the stakeholders concerned with the education of physiotherapy on the island. The methodology for the development of the curriculum could be utilised by any institution or country introducing a physiotherapy curriculum meeting the needs of the local medical and academic environment. The research methods used were those commonly associated with qualitative research.

6.1.1 Ethical Considerations

(Kindly refer to Appendix 9)

6.2   Research Statement

The physiotherapy curriculum offered by the I.H.C. was a legacy of the first physiotherapy course held in Malta in 1976. This curriculum was no longer appropriate for the health services provided on the island.

6.3   Research Question

Was the physiotherapy curriculum at the I.H.C. the most appropriate to prepare the future workforce with the necessary skills and knowledge required to deal with the health needs of the island?

6.3.1 Subsidiary Questions

- Was the present curriculum relevant to the health needs of the island?
- How might the physiotherapy curriculum at the I.H.C. be modernised to equip the future workforce of the nation?

Note for Readers
This research study is going to be presented in the different stages as they occurred. The reader is asked to correlate the diagram on the left hand side of the thesis to the script that follows on the right hand side. At the same time, one can look up details related to the script, by referring to the Appendices that are intentionally being supplied separately, to help get a clearer picture of the research process. Each stage of the research is described in the following manner: Research Aim of that specific stage, Research Methodology, Research Methods Used, Research Instrument and Research Tools, Research Population, Sampling Strategy Used, Data Collection, Data Analysis and Discussion.

Figure 6.2 Diagram of the Research Methods used for this study (Cycle IA)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

6.4   Cycle I

6.4.1   Research Aims

The primary aim, at this stage of the study, was to research the opinions and views of the immediate stakeholders, regarding the physiotherapy curriculum as taught at the I.H.C. of the U.o.M.

Secondary to this, was the necessity to investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the Maltese nation.

6.4.2   Research Methods

Interviews – Methodology

The initial aim of the first cycle was to investigate whether the need to change the curriculum really existed. According to York (1998) qualitative methods are more suitable for research when the following circumstances exist: a) a researcher is "*seeking to develop theories or hypotheses,*" b) a researcher is "*seeking an understanding of the subjective meaning of behaviours or social processes,*" c) "*the concepts of interest are not easily reduced to categories or numbers,*" and d) "*there is relatively little that is known about the subject of study*" (York, 1998, p. 23). Hence, the methodology utilised was that typical to a qualitative study. There are five different methods of data collection used in qualitative research and these are: a) observations, b) interviews, c) questionnaires, d) documents, and e) secondary data.

Data were collected through in-depth, semi-structured interviews. In-depth, Qualitative interviewing has been described as a focused conversation that covers a few general topics in rich detail. A qualitative interview "*is a goal-directed conversation*" (Padgett 1998 p59). The aim of the interview is to gain an understanding of respondents' views, opinions and experiences in their own words. In the semi-structured interview, the researcher "*introduces the topic, then guides the discussion by asking specific questions*" (Rubin and Rubin 1995 p5). This semi-structured approach has the benefits of providing "comparable" data across interviews, while also allowing for some flexibility during the

discussion (Bogdan and Bilken 1998). Rubin and Rubin (1995) note that the qualitative interview allows respondents to tell their story and provides them with a message that people care about and value their experiences. (Appendix 11)

The semi-structured Interview was considered appropriate as the semi-structured, qualitative interview has the highest response rate and permits relaxed informal conversation, at the same time allowing the interviewer the advantage of observing non-verbal communication. Another reason why semi-structured interviews were utilised was that following the group interview, these were followed by individual interviews to all the participants and by keeping to the same questions the transcribed data could be analysed and compared.

'Phone interviews' were not considered appropriate as the number of interviews held was small, all respondents were available in the same location and according to Rubin and Rubin (1995) it is more difficult to conduct interviews over the phone. Questionnaires even though used by qualitative researchers when anonymity is important were considered inappropriate for this study as the data collected is not so 'information rich' as the replies are limited to the actual questions provided.

Interview Design

Great care was taken during the design of the formation stage and actual interviews. The following are some of the major items that were specifically addressed during the preparatory phase of the interview design. Primarily, all questions were constructed in such a manner to be concise and as straight forward as possible. The wording of the questions used in the interview was very precise, as ambiguous questions can lead to imprecise replies, and sometimes, throw the whole thread of the interview askew. In order to avoid this, the questions were piloted on more than one occasion. Specific care was also taken regarding the language, vocabulary and grammar chosen, each of these are being discussed in further detail.

After ensuring that the language, vocabulary and grammar were correct in the questions to be asked in the interviews, the next stage was to translate them into Maltese. Thus should any respondents have difficulty understanding the English version, a Maltese translation was available. This too had to be piloted, as in some instances, the use of colloquial Maltese made the flow of questions easier. (Appendix 10)

Having read Patton (1990), it was decided to include as many different types of questions as possible. Most interviews commenced with Background/ Demographic questions which led to the collection of data relating to age, occupation, career and so forth. These questions were used in the introductory phase of the interview and, apart from providing the required information, also helped put the respondent at ease. These introductory 'data' questions were followed by, as Crotty (1996) suggests, 'Tell me about your experience....' questions, which further helped break the ice. Most of the questions that followed were of the 'Opinion/Values type'. Patton (1990 p291) talks about "*understanding the cognitive and interpretive processes of people*". As it was important to investigate the way people feel, their natural emotional response, and the way they 'think' about certain issues, rather than their opinions, the use of 'feeling questions' was often utilised. The interviews also involved the sort of questions that elicit a description of the respondents' feelings and thoughts of their experiences and observations, such as their clinical placements during the course of their studies. A number of these questions were used in the study. Arskey and Knight (1999) state that many textbooks recommend avoiding the use of 'hypothetical questions', yet, at the same time, state that this type of questioning can generate a lot of useful information. This type of question was used in nearly all the interviews carried out, and the responses it generated were very constructive. Another category of question used was 'knowledge questions'. These factual questions ask for information that only the respondent knows. The final types were those described as 'sensory questions'.

Figure 6.3   Diagram of the Research Methods used for this study (Cycle IB)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

These questions are behavioural ones, asking the interviewee to describe any experience that they had been exposed to, by means of scene-setting questions. The use of these questions at this stage of the study was limited as more factual, opinionated replies were sought after. Extra care was taken to avoid any double negative questions or any assumptive questions.

Pilot Interviews

All interview questions were piloted prior to their being used. The semi-structured interview was initially piloted on a secretary, to check her linguistic understanding of the questions. The next stage involved the piloting on two third-year students. Following further changes, the interview was re-piloted on two final-year students. These student-interviewees were all volunteers and were selected on the grounds of availability and convenience.

The last pilot interviews, on the final-year students using the semi-structured format, took place in the boardroom, this being the same venue where the actual interviews for the study were to be held. Following this simulation, the decision to begin the actual interviews was taken. The same process of piloting was repeated in the third and fourth cycles of this study.

Feedback from the Interviews

Feedback from the pilot interviews can be summarised under the following headings:
- The environment where the interviews took place
- The tape recorder
- The rate of speech of the interviewer
- The language and terminology used
- Problems identified during translation of the interview schedules
- Transcription of the recorded interviews
- The need for noting such details as non-verbal communication
- The need to reiterate the issue of confidentiality
- The need to put the respondent at ease
- The length of the interview
- The need to stress the importance of honesty from the interviewees

98

Figure 6.4   Diagram of the Research Methods used for this study (Cycle IC)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Instrument
- Self
- Interview schedule

Location
- Boardroom - IHC

These sections regarding interviews have been included in this chapter to:

a) Demonstrate the methodological theory the author was exposed to, during literature research

b) Establish the actual practicality for holding these interviews,

c) Demonstrate that the research process was sound.

(Appendix 11)

Location of the Interviews

This research was carried out in various locations depending on the stage of the study. The initial 'group interview' was held at the I.H.C. The Institute, a part of the U.o.M., situated within the grounds of St. Luke's Hospital, was previously used to house the School for Nurses and the School of Physiotherapy. The Institute was a convenient venue as the clinical staff could come to this interview without changing out of their uniforms, as it is within walking distance from their work place.

The Board Room was considered the most appropriate room as it contained a large round table. This was convenient, as the tape recorder could be placed in the centre, hence equidistant from all the respondents, giving the impression that everybody was equal. The second round of interviews, in this first cycle, was with each of the four members from the initial 'group interview'. These were held in the Board Room. This time around, the seating was organised at one end of a small rectangular table that was purposely put into the Board Room.

6.4.3 Research Instrument
Self

The researcher, in qualitative research, is the primary "research instrument" of the research endeavour, and it is for this reason that the researcher is responsible for the task of going through the data with the intention of identifying the 'themes' that emerge from the data collected (Lincoln and Guba 1989).

Interview Schedule

Focus group interview – Cycle I

Topic: Course programme

Question: Can you give me your comments/observations regarding the present course programme being offered to physiotherapy students at the I.H.C.?

Topic: Mode of assessment

Question: What is your opinion regarding the mode of assessment of the physiotherapy course?

Topic: Clinical modules

Question: Are you content with the clinical component of the course?

Topic: Academic component

Question: What are your views regarding the academic content of the present course?

Topic: Common core lecturing

Question: Can I have your views on the common core system of lecturing that the I.H.C. has adopted?

Semi-structured interview – Cycle I

Topic: Feedback from 'group interview'

Question: Can you give me your comments regarding the group discussion that we have had?

Topic: Academic course content

Question: Having discussed the outcome of our previous group discussion with your colleagues, can you give me your comments regarding the academic content of the course?

Question: Are there any subjects/topics that, in your opinion, ought to be included in the curriculum of studies?

Question: Are there any study-units that, in your opinion, are superfluous to your course of training?

Question: In your opinion, do you think the present physiotherapy course is too theory orientated?

Topic: Practical component

Question: Are you pleased with the amount of practical skill training included in the course?

Question: What are your general observations on the manner in which the practical component of the course was taught?

Question: In your opinion, did the course provide you with enough skills to treat patients?

Topic: Clinical modules

Question: Can you give me your opinion regarding the clinical module components of the physiotherapy course?

Question: Do you think that the time spent on clinical placements is adequate?

Question: Can you suggest a manner in which these clinical placements can be improved?

Topic: Course assessment

Question: What is your opinion regarding the mode of assessment of the physiotherapy course?

Question: Can you suggest a way in which this can be improved?

Topic: Non-specific

Question: Overall, did you find the course stressful at all?

Question: Can you give me your opinion regarding the dissertation that has to be presented at the end of the course?

Question: Can you give me your suggestions whereby the course can be designed to become more student-friendly?

Figure 6.5   Diagram of the Research Methods used for this study (Cycle ID)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self
- Interview schedule

Location
- Boardroom - IHC

Probes

Silent Probe: The most effective probe used during these interviews was the 'silent probe'. It was found to be a very effective method of encouraging the respondent to further elaborate on a point of discussion.

Elaboration Probe: These can either be 'verbal' or 'non-verbal' in manner and varied from a simple nod of the head or a wave of the hand, as is common in a Mediterranean culture, to verbal cues like "Is there anything else that you would like to add?" or "Can you explain that a little further to me...?"

Repetition Probe: In accordance to Trochim (2001), the Repetition probe, in which the interviewer repeats the last sentence or the last few words uttered by the respondent, was commonly used throughout these interviews.

Clarification Probe: These were used to clarify a point that the interviewer had not understood or to elicit further detail regarding the topic in question. For example, "Yes, anything you like..."

Detail-orientated Probe: These short sentences prompted the respondent to continue talking or to do so in further detail. For example, "Can you tell me why this mode of assessment is better...?"

6.4.4   Research Tools

A Sony Tape Recorder with an external microphone was used for the 'group interview'. The quality of the playback unfortunately was poor; this was not due to any fault of the apparatus, but on the contrary, due to the external microphone being so sensitive, that all peripheral noise, especially that coming from the air conditioning unit was amplified. A Sanyo Transcriber/Recorder was later used for the second and following interviews, giving better acoustic performance.

Figure 6.6   Diagram of the Research Methods used for this study (Cycle IE)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self
- Interview schedule

Sample Strategy – Purposeful Sampling
- Intensity sampling
- Random Typical case sampling

Participants/Population
- 2 Academic members of staff
- 1 Principal clinical member of staff
- 1 Senior clinical member of staff
- 1 Junior clinical member of staff
- 1 Final year student

Location
- Boardroom - IHC

6.4.5 Population Description

Sampling of the Research Population

The sampling strategy, throughout this study, was characteristic to qualitative research being that of 'Purposeful Sampling'. A feature of qualitative research is that a human is the instrument used for data collection and the data that are collected are often the words of the respondents; in this study the primary stakeholders (Bogdan and Bilken, 1998; Maykut and Morehouse, 1994; Miles and Huberman, 1994). In a quantitative study a large, randomly selected sample are required to give 'generalizability' and thus providing good research. However, 'generalization' is not the aim in qualitative studies. The goal, instead, is often an in-depth understanding of a phenomenon as experienced by the participants taking part in the study (Maykut and Morehouse 1994).

Because of the in-depth nature of this qualitative study the appropriate sample size was small, selective and one in which the participants were considered to be information-rich (Patton 1990; Cormack 1991; Trochim 2001). Information-richness, as opposed to representative ness, is the aim of qualitative sampling. Since the aim of this study is to gain an in-depth understanding of the experiences of the respondents, non-probability, purposeful sampling is appropriate. Patton (1990 p184) states "*there are no rules for sample size in qualitative inquiry.*"

However, Achen and Snidal (1989), Geddes (2003), and King et al (1994) all suggest that small population studies can produce serious error and this can be avoided by traditional good large population, quantitative research. The heart of this criticism is that qualitative studies "select their population on the dependent variable" and thereby fail to study samples with the full range of variation on this variable. Indeed, qualitative studies have been known to sometimes only select cases with the same value dependent variable.

For the purpose of this study:
- 'Typical Case Sampling' is taken to mean the typical, normal or average student from amongst a cohort of students or staff (Patton 1990). It is

not intended to mean a typical final year student or staff as having certain physical or academic criteria, but typical in the sense of them being students or staff from the same intake, and at the same stage of the course.

- 'Intensity Sampling' is taken to be information-rich participants that manifest a direct influence on to the curriculum (Patton 1990).
- 'Random' is taken to mean chosen in an arbitrary manner, from amongst the purposeful sample. In this cycle these were chosen randomly by the divisional secretary.

A 'group interview' was organised so that the comments generated by one member would stimulate discussion from the other members of the group. The sampled population for this cycle included:

- 2 Fulltime members of the academic staff: colleagues/co-workers who together with the author make up the academic complement for the physiotherapy division. As a result no sampling strategy was necessary in this case;
- 1 Principal clinical member of staff (Random typical case sampling) chosen from amongst the eight principal physiotherapists employed by the State Health Service;
- 1 Senior clinical member of staff (Random typical case sampling) chosen from amongst the 29 employed within the health service;
- 1 Junior clinical member of staff (Random typical case sampling) chosen from amongst the 42 employed;
- 1 Final year student (Random typical case sampling) chosen from amongst the total 26 students, less the four used for piloting the interview.

Inclusion criteria

- All Final year students, except the four students who participated in the piloting of the interview, were eligible to participate in the study.
- All the members of the public attending for physiotherapy at either St. Luke's Hospital, or a private hospital or a private physiotherapy clinic were

Figure 6.7 Diagram of the Research Methods used for this study (Cycle IF)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self
- Interview schedule

Sample Strategy – Purposeful Sampling
- Intensity sampling
- Random Typical case sampling

Participants/Population
- 2 Academic members of staff
- 1 Principal clinical member of staff
- 1 Senior clinical member of staff
- 1 Junior clinical member of staff
- 1 Final year student

Location
- Boardroom - IHC

Time Frame Data Collection
- January – February 2002

Data Analysis
- Thematic analysis

eligible to be included in the study, as long as they were able to communicate effectively, and did not suffer from deafness or dementia.

- All senior members of clinical staff were eligible to participate provided they had qualified with a Diploma in Physiotherapy issued by the Department of Health and had ten years post qualification experience.

- All newly qualified members of staff were eligible to be included in the study, on condition that they qualified with a Bachelor's degree obtained from the U.o.M. and did not have more than two years post qualification experience.

6.4.6 Data Collection

The first stage of data collection involved a number of interviews with academic members of staff, senior clinical physiotherapists, newly qualified physiotherapists and one fourth year student. The initial 'group interview' took place with all the candidates present. This was an introductory interview, to investigate the feelings of the different members of the group regarding the curriculum offered, followed by more focused interviews with members of similar positions. The two senior clinicians, both part-time lecturers, were interviewed first. This was followed by an interview with a fourth year student, then, the newly qualified member of staff and finally, with the two full-time lecturers.

6.4.7 Data Analysis

Interviews have become a commonly used qualitative methodology for collecting data. There are many ways to analyse informants' talk about their experiences (Mahrer 1988) and thematic analysis has been the manner chosen for this study (Benner 1985; King 2004; Leininger, 1985; Palmquist, Carley and Dale 1997).

The first step was to collect the data. Audiotapes were collected to study the talk interview. All the data obtained from the interviews were transcribed, coded and analysed. According to Kreuger (1988), the first step in this type of analysis is to transcribe the entire interview followed by the removing of all the

text that related to the author. The next step was to combine and catalogue related patterns into sub-themes. The next step was to read and re-read the transcripts, analysing the content of the discussion until certain trends and patterns became evident. Having read the transcript, a summary of the content of each paragraph was written in the margin; a theme or a specific word to describe that summary was introduced at this stage. Any recurring relevant subject was identified as a 'Theme'. Themes are defined as units derived from patterns such as "*conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs*" (Taylor & Bogdan 1989, p131). The aim was to identify and conceptualise the most important issues (Fitzpatrick and Boulton 1994). The information, collected from the focus group discussion and the interviews, was considered 'raw data'. These interviews were then analysed using the following method.

Figure 6.8 Diagram of the Method used for Thematic Analysis
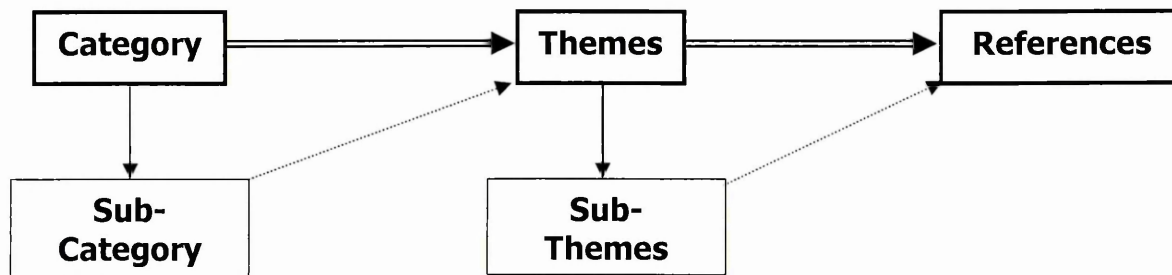
A record of the theme and the paragraph where it could be found was also kept on a separate file. Similar themes were then collated to form the 'Category'.

Category: The next step was for the text to be broken down or coded into categories. These categories can vary from single words, to word sense, to whole sentences. In certain instances, the use of sub-categories was necessary. When conducting the analysis it was apparent that not all the data fitted one precise category or another, therefore in both interpreting and writing up the findings there was the need to often cut across the different categories.

Themes: The themes, which were identified and related to a specific category or sub-categories, were then listed accordingly. '*This coherence of ideas rests with the analyst who has vigorously studied how different ideas or components fit together in a meaningful way when linked together.*' (Leininger 1985 p60). Having done this, all the data, relating to the already classified categories or sub-categories, were placed within the same pattern (Carley 1990). Themes are identified by '*bringing together components or fragments of ideas or experiences, which often are meaningless when viewed alone*' (Leininger 1985 p60). They are defined as units derived from categories such as '*Conversational topics, vocabulary, recurring activities, meanings, feelings or folk sayings and proverbs*' (Taylor and Bogdan 1984 p131). The combining and cataloguing of these related patterns, occasionally, required the use of sub-themes.

Reference: Each different interview was given a letter as a code. So the interview with Mr. Brown, for example, was coded as Interview 'C'. The next stage that followed was the numbering of each paragraph in the transcription. Hence, 'C17' would mean the 17th paragraph of transcription, taken from the interview with Mr. Brown.

Remarks: The transcription included a wide margin on the right hand side of the script for any necessary comments to be added. These comments refer to changes, for example changes in behaviour, the environment or any obvious non-verbal communication.

The following is an example of the recording system used:

Category – Course content
Theme – Theory
Sub-theme – Irrelevant
Reference – D244, C34, G211

Rigour in the analysis of a study has been described as the demonstration of integrity and competence (Aroni et al 1999). In accordance to Crotty (1999);

111

Figure 6.9   Diagram of the Research Methods used for this study (Cycle IG)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self
- Interview schedule

Sample Strategy – Purposeful Sampling
- Intensity sampling

- Random Typical case sampling

Participants/Population

- 2 Academic members of staff

- 1 Principal clinical member of staff
- 1 Senior clinical member of staff
- 1 Junior clinical member of staff
- 1 Final year student

Location
- Boardroom - IHC

Time Frame Data Collection
- January – February 2002

Data Analysis
- Thematic analysis

Findings & Comments

Emden and Sandelowski (1998); Patton (2002); Koch (1994) a trail of evidence has been present throughout the research to demonstrate trustworthiness. On the other hand Horsfall et al (2001) talk about in-depth planning and careful attention to the phenomenon under study for rigour to be present in qualitative research, whilst Higgs (2001); Rice and Ezzy (1999) mention sound reasoning, argument and a choice of appropriate methods to the research problem as descriptions for theoretical rigour. The step-by-step process of analysis described in this study is a method of demonstrating how the researcher formulated transparency of the themes from the initial cycles. Rice and Ezzy (1999) also suggest how to interpret the data and to illustrate findings with quotations from the raw data. It is the belief in qualitative research that the participants' reflections, conveyed in their own words, strengthen the face validity and credibility of the research (Patton 2002). Cutcliffe and McKenna (2002) on the other hand suggest that 'member checks', ought to be the method used to validate participants' responses to the researcher's conclusions or to confirm findings with primary informant sources (Leininger 1994) both these suggestions have adhered to. This has always occurred during the study as the transcribed data have always been sent to the interviewee, and the thesis supervisor has always been sent a copy of the transcribed interview for verification. Themes or minutes of any curriculum development committee meetings were shown to the participants to confirm or alter and to ensure an accurate interpretation of the discussion. This section has been included to provide an explanation of the steps taken in the process of data analysis applied for this study describing the approach to demonstrate trustworthiness within this qualitative study.

6.4.8 Findings and Comments

The first stage of the study consisted of a 'group interview', followed by a number of focus interviews. The data were presented in a diagrammatic table and can be reviewed in the appendix section. The order, in which the results are shown, is in no particular order and has no significance. (Appendix 12)

Category A: Course Design

Theme i. ***Change in Course design:*** The manifest theme in this category was that 'a change in the sequence when study-units are taught during the Physiotherapy course must occur'. The following quotes, taken from different interviews with newly qualified members of staff, prove this a worthy category.

> *"'Disability issues' is in this year's module, they're going to do it in the 4th year and I think it's too late."* (D23 2002)

> *"Reflective practice... should be done earlier, maybe in the third year."* (D117 2002)

In the above quotes, we can see that the interviewee is recommending a change in the timetable when particular subjects ought to be taught, as in the case of one of the clinicians, who stated that problem-solving skills ought to be introduced very early on in the course.

> *"Problem-Solving Skills, I think, has to start from Day 1, even if they are not on placement... because they require a lot of time to develop."* (A74 2002)

The students, on the other hand, suggested a change in the start of their dissertation. The reason given was the length of time as it spilled into the final year of the course and therefore, they felt that they did not have enough time to prepare for their final exams.

> *"It was suggested that the thesis should be started earlier in the course, in the beginning of the third year ..."* (C201 2002)

Finally, the course is designed, questioned and a suggestion offered:

> *"Let's say the students are taught in house, the whole courses are actually finished before they go into the clinical areas."* (E17 2002)

Theme ii. Better co-ordination between the theoretical and clinical components of the course: The academic staff, the newly qualified physiotherapist and the final year student brought up this theme.

> *"There was no co-ordination between the theory and the clinical."*   (D51 2002)

> *"I would think the better the quality of practice would be brought about if every section of rehabilitation is backed up by a placement practice."*   (C67 2002)

> *"This idea is niggling me a lot, this idea of sending students on clinical placements, who have not yet...., on placements where the students have not yet gotten the academic background, to me is a huge fault."*   (E13 2002)

Theme iii. Ratio between theory and practice: Some interviewees thought that the course was designed with too little emphasis on the practice of basic physiotherapy skills and too much emphasis on the theoretical component.

> *"We all agreed that we had a lot of theory and a little practice... compared to what we have to do when we're actually qualified."*
> (D7 2002)

Theme iv. Unbalanced/inaccurate academic weighting: It was stated that certain study-units, in the interviewees' opinion, unjustly carried the same academic weighting as less important or less directly related subjects

> *"Credits like embryology and paediatrics were given the same weight."*   (D15 2002)

> *"Certain study-units appear to be given the same amount of weighting in the course as other more important ones. For example do physiotherapists require a full study-unit on Haematology?"*   (Bi15 2002)

Theme v. Change to the course design: Another recurring dominant theme was that a change in the actual design of the course ought to take place.

"My opinion is that maybe we should, em, look at resetting the whole course into doing all the academic work, and when they finish, we do our exam in the clinical." (E11 2002)

"The basic physiotherapy skills you can do in the second year." (D63 2002)

"You could set up a type of programme where for example the credits like orthopaedics, the simple ones; they could be given and delivered to the students at an earlier stage." (D55 2002)

"Basic anatomy and physiology and the basics of biomechanics and things like that are taught in the first year of physiotherapy, skills and theory are taught in second year... rehabilitation... would then be backed up with these two years of study." (C67 2002)

Theme vi. Students to be given the chance to experience all the different clinical placements: Another theme to appear, which highlighted another flaw in the present course design, was that not every student was given the opportunity to attend each clinical placement available.

"It would be good to manage to do all the placements."
(D159 2002)

"I didn't get the amputees placement, I didn't do it, and I had an amputee in the final." (D159 2002)

Theme vii. Lack of an 'observation' period in the early part of the course: This theme, about the lack of an 'observation' period, has been noted, and will be included in the future courses. The following, a quote by a qualified member of staff about a first year student, clearly indicates this:

"Maybe during the first year... the fact you go and observe... I had a first year student, who needed some help, and I was treating a patient and she had to wait for me. And she ended up telling me, 'that was fun... there were things which we are learning now, where I could see you doing them' She was exposed to physio-patient relationship, the way, the approach..." (D194 2002)

"The best type of learning is when you are observing."
(D180 2002)

116

Theme viii. Ambiguous design of course: This is a very distressing comment as it expressed by a current student.

> *"The actual design of the whole four years which as a whole, which I find a big problem, the way, the ambiguity..."*
> <div align="right">(A44 2002)</div>

Theme ix. Not stimulated to think: Even though this statement was initially aimed at the clinical component of the course by one interviewee, it was inferred a number of times, and therefore been termed an 'implicit theme'.

> *"You're not stimulated to think on what you learnt in 1st year, 2nd year and 3rd year."*   (A54 2002)

> *"That place is so routine, everything is the same."*
> <div align="right">(Bii42 2002)</div>

Theme x. Change in the mode of assessment required: More specific sub-themes regarding course assessment, are discussed under the category 'course assessment'. This has been included as generic comments regarding course assessment and course design were frequently made.

> *"I think the method of assessment should change."*
> <div align="right">(A60 2002)</div>

> *"There will not be a need for a final year examination at all."*
> <div align="right">(A61 2002)</div>

> *"We have to rethink the exam process."*   (E59 2002)

Theme xi. Amalgamation of various study-units into modules: This theme was considered a priority by all the teaching staff concerned.

> *"We need to look at grouping more the sequence of subjects into one whole module and delivering it as a module, rather than particular subjects."*   (E15 2002)

> *"We've failed them from the beginning because we didn't give them the linking. So, we're giving them the little bits... cram*

everything in the middle... I think we need to look at the course." (E15 2002)

Theme xii. Course not designed to help students make the link between knowledge and clinical reasoning and skills: This theme is closely related to the previous theme.

> *"What really bothers me is that there is distance... when we start doing the basic principles of physio, and the final year, when students try and link things together."* (E17 2002)

> *"I find it very difficult sometimes... in first year, the students see everything as woolly... don't worry we'll cover that next year when we're doing..."* (E32 2002)

> *"The lack of problem-solving skills and they are not capable of prioritising patients' problems"* (Bi21 2002)

Theme xiii. Problem-based learning to be included: Problem-based learning is associated with reasoning. A suggestion to include this method of teaching is put forward in the following quote.

> *"There's definitely a fault, now the other way round it, is to start them off from day one, em in a patient, patient based learning, problem based learning situation."* (E22 2002)

Theme xiv. Course designed around the Final Comprehensive Examination (F.C.E.): This theme kept recurring in both the staff and students' comments. The staffs' comments were mainly about the manner in which they had to teach their particular topics and the pressure they were under to finish the syllabus in time for the F.C.E. On the other hand, the students' comments were critical in that they did not see the course as a learning experience but as a number of credit tests leading to their Final Examinations. This negative aspect was reinforced during the students' clinical placements, as the staff placed too much emphasis on pushing the students to do their patient assessments correctly: 'because that is the way how you will have to do it in your finals'.

118

*"Actually speaking, we're talking of a 120 credits being
nothing more than just a ticket, a ticket to ride really... at the
end of the day, it's all coming down to these 6 hours of
written work... then it's the patient, it's pot luck... because in
those nine hours of assessment... you get a pass, you pass
and you become a physiotherapist."* (E61 2002)

Theme xv. The Impartiality of the Final Comprehensive Examinations: A member of staff put this theme forward.

*"Which brings me to an idea which I have been thinking about
for a long time, but never dared to bring forward, maybe this
is the time. Em, maybe we should think of having an
autonomous exam process."* (E68 2002)

Theme xvi. Change in the course design necessary: Both a student and a divisional co-ordinator blatantly stated this.

*"...Nearly everyone is aware that a change has to take place
which is important, in my opinion"* (C7 2002)

Theme xvii. Too many students: This theme has to be taken into serious consideration, if a new curriculum is to be formulated.

Category B: Course Content

This is made up of two themes: 'Theory' coded as (1) and 'Practical' coded as (2). Each theme is sub-divided into eight sub-themes coded numerically in Roman numerals from i to viii.

Theme i. 'Irrelevant'

ii. 'Too much detail': These sub-themes were specific to the theory and surprisingly, came from experienced qualified staff, newly qualified physiotherapists as well as the students themselves.

*"Someone commented that the amount of the syllabus should
be geared for a BSc, not an MSc, because we got so much
detail... so many details that we don't stick to the simple
things..."* (D123 2002)

"There are particular study-units which are given in too much detail or possibly ought not be included at all." (Bi17 2002)

"Our basic credits, like anatomy and physiology we study them with the pharmacy students, with the medical students, and you end up getting a lot and a lot of information, which some of it you need and some of it you don't need."
(A55 2002)

"Certain areas anatomy of... physiology, pathology, psychology and these separate areas that are taught to a certain detail which is not relevant to a physiotherapist."
(C17 2002)

Theme iii. Discrepancy: This sub-theme refers to both the theoretical and practical components of the course. It can also be considered a sub-theme to theme (Aiii) which describes 'the ratio between theory and practice' in the course design.

"It appears that there is a discrepancy between the amount of theoretical credits and practical credits." (Bi15 2002)

"Basic (physiotherapy) skills is very much lacking I feel."
(A64 2002)

Theme iv. Omitted: This theme is the converse to *Themes I and II: 'Irrelevant* and *'Too Much Detail".* In this case, certain skills and specialities are identified as having been omitted from the course curriculum, mainly 'Communicating skills' as stated by all the interviewees.

"Things like writing a referral letter... writing a report to a consultant, these types of things which we usually do, I mean in our everyday practice but in the course you don't actually have the type of training to do these things." (D9 2002)

"There are other important areas of physiotherapy skills that are not emphasized at all, for example lifting and handling techniques, communicating skills, counselling skills, exercise physiology which after all, one of the main areas of physiotherapy is to provide a proper exercise programme"
(C21 2002)

120

Theme v. Not suitable: This sub-theme, though similar to the theme 'Irrelevant', is worthy of being a sub-theme in its own right due to the context in which it appeared.

> *"Maybe what is being taught in common core lectures is not suitable for physiotherapists."*   (Bi19 2002)

This comment is valid as some subjects, considered common core subjects, are taught to all divisions that make up the I.H.C. but may lean towards a particular profession. An example that comes to mind was a complaint made by the physiotherapy students that lectures in the study-unit titled "An Introduction to Pharmacology" were being targeted at the nursing profession, with too much emphasis on how to prepare and calculate drips.

Theme vi. More supervision: This sub-theme appears to be lacking in all practical sessions.

> *"Regarding practicals, everyone agreed that there should be more supervision."*   (C85 2002)

This also applies to the supervision of students during their clinical placements.

> *"Sometimes you end up in a placement where your supervisor... doesn't have the time."*   (D78 2002)

Both of these are failings on the part of the staff: the academic taking the practical class and the clinician on the wards. Neither situation is acceptable, as a maximum of only 16 students attend any one practical session and in the latter situation students are individually allotted a clinical supervisor.

Theme vii. Not applicable: This sub-theme will be discussed in detail in the category 'Teaching and Delivery of the Course'.

> *"We were given a lot of information, but at the end of the day we ended up using maybe a little of it... maybe it could be adapted in a way that they are applied to our, to physiotherapy."*   (D15 2002)

121

> *"You're not taught how to implement it (management) how to, em you know... the only thing that was put from theory to practice was to keep a diary."*   (C59 2002)

Theme viii. Waste of time: Both students and a member of staff perceive some study units as being "a waste of time": not only irrelevant, not suitable or not applicable, but a waste of time.

> *"I realise from the lectures that they are seeing this as a waste of time."*   (Bii16 2002)

The students' comments may arise from:

a) They do not know what they ought to know, or

b) The manner of delivery may be such that puts the students off, or

c) The material that is presented is beyond their present knowledge and therefore perceived as a waste of time.

> *"I was listening to the students, and I've heard this from past years as well, things like psychology and sociology and other things are crushingly boring."*   (A85 2002)

> *"In fact students will actually tell you, we feel that we waste our time doing things like psychology of health... because it is airy fairy, it is something which for them there is no sick person."*   (E32 2002)

At this stage, one should mention that none of the above quotes was expressed by any of the students. Members of the staff made both comments.

Category C: Teaching/Delivery of Course

This category has been subdivided into eight themes. The first (i) Applied Teaching is further subdivided into three sub-themes: a) on a real patient, b) students' difficulties when relating to patients and their conditions, and c) referring to physiotherapy.

Theme i. Applied Teaching

i(a). On a real patient:

> *"Give them one or two hours (lectures).... then you get them*
> *to see a real patient in the wards."* (A92 2002)

A clinician, who appreciates the concept of applied teaching, stated this. Clinicians are in a better position to interpose clinical visits within their teaching. Presently, as the physiotherapy course is held at the I.H.C., situated within St. Luke's Hospital, this is not such a problem. In the near future, when the I.H.C. is transferred to its new site, away from St. Luke's Hospital, the problem will then arise.

i(b). Students' difficulties when relating to patients and their conditions:

> *"... second year students, which are institute based, these*
> *students when you come to apply certain problems, when you*
> *come to talk about certain problems, they find that it is very*
> *difficult to picture the actual problems... trying to wade in deep*
> *water really."* (E17 2002)

This is a real problem when trying to either make the students understand the reason why they have to learn a certain topic, or make them understand a particular treatment technique. An example of this can be seen when students, who have never seen a patient suffering from a right cerebrovascular accident, cannot appreciate the problems they may encounter if their patient has speech deficits.

i(c). Referring to physiotherapy:

> *"We could learn how, what it means to manage time, and to*
> *manage stress, and to manage our organisation, and things*
> *like that, but it's all in theory, I mean, you're told about it, you*
> *don't practise it."* (C61 2002)

This quote relates to the sub-theme (c) referring to physiotherapy. As a consequence to the above themes, Applied Teaching is to be introduced to make subjects more interesting for students; for example, the learning of applied anatomy is more interesting as opposed to the rote learning of the course of an artery or a nerve.

123

Theme ii. Use of video:

> *"If we could get a video of a patient...of a condition... because one problem for example with the second years, we've never seen a patient."*   (Bii77 2002)

This is one way to overcome some of the problems stated previously. It will never be as good as seeing an actual patient. At least, the students can see the physiotherapist treating a condition, and any other techniques demonstrated at the time.

Theme iii. Getting patient to I.H.C.: This next sub-theme is a consequence of the previous one.

> *"Because some things you can't show on a video; but it's not possible in the department, there's no space, and time is a problem, because there are always patients over there, as regards doing it (demonstration) over here, better me getting a patient over here (I.H.C.)"*   (Bi111 2002)

This is self-explanatory. A solution offered by a member of staff is for patients to be brought over to the I.H.C., instead of taking the students up to hospital. This will be easier in the future as the new I.H.C. premises will be part of the new hospital.

Theme iv. Evidence-based:

> *"The opinion was that most information that is given is not reference based. As fourth years' now we're realising the importance of quality information."*   (C81 2002)

This is a valid comment that holds true most times. Evidence-based practice is the aim of the physiotherapy division. However, many of our treatments have still not been proven scientifically. There is always room for improvement and lecturers ought to be more vigilant when giving notes or information.

Theme v.   Problem-based teaching:

> "*I think that the best thing for us would be to have lectures on problem-solving skills. I have these signs and symptoms, how are you going to assess? How are you going to treat? What specific tests are you going to do?*"   (B31 2002)

This comment made by a newly qualified member of staff, indicates that past students are thinking of ways to improve the course. Having just been through the course, they are in a better position to identify ways of improving it.

Theme vi.   Delivery of part of a common core study-unit by a physiotherapist: Previously, common core subjects were described as either being 'not suitable' or 'not applicable'. The following suggestion, offered by an interviewee, was a very good idea, and one that can be utilised in the future: whereby a component of a common core lecture is to be taught, in an applied manner, by a physiotherapist.

> "*Imagine you go for 10 lectures with the psychology students, when you have all the theory and the types of approaches... then you'd have four hours lectured by a physiotherapist, for example: psychology of pain... psychology of a person who has a sudden disability.*"   (D19 2002)

Theme vii.   Lecturers unprepared: In this theme, the implications are both explicit: "*some lecturers were unprepared*" (D49) and implicit: "*we had to be a bit diplomatic... some physios had some problems with a few lecturers*" (D47). Neither is specific. A past student expressed these. There is no way of solving these shortcomings other than by sitting in on other people's lectures. This form of peer review is not practised at the University. A quality control unit has been set up but only monitor lecturers via student feedback forms.

Theme viii. Punctuality:

> "*We had some lecturers who were punctual and others who weren't and we ended up waiting for half an hour, and then instead of an hour lecture we used to have only half an hour.*"   (D178 2002)

This problem of staff punctuality has been raised in the past. This is disrespectful to the students. If students are perpetually 'robbed' of half their teaching time, this will influence their learning and eventually, their performance. Checking procedures are in place to recognise whether staff are punctual or not, unfortunately action has never been taken against the offenders, hence a 'laissez faire' attitude exists.

From the above quotations, themes and sub-themes included in this Category, the conclusion that another set of interviews, to another random sample of interviewees should be carried out, in order to confirm the statements identifying the serious deficiencies in the delivery of the course. It was evident that a change to the delivery of the course was urgently required. It also became apparent that a lot of staff development is required to support the new teaching techniques introduced. These have to be held periodically to maintain standards.

Category D: Physiotherapy Skills

This category has been subdivided into three themes: one of which, 'Techniques', has again been subdivided to include a sub-theme 'Not practised on a real patient'.

Theme i. Handling:

> "But then, see them with a patient and it's like okay fine, written down its brilliant, but... forget their handling (of the patient)." (Bii107 2002)

The above comment, made by one of the senior members of clinical staff, referred to the fact that whilst describing physiotherapy skills in a written paper, students were proficient; in practice, these same students were not always considered satisfactory and the standard of practice has diminished. These comments were made by the clinical staff that supervised these students and hence must be taken as existent. This was a direct consequence of a reduced number of practical skill sessions held during the course. This reduction

was due to the constraints imposed by the U.o.M. on the old curriculum, to make time for the introduction of new subjects, not directly related to physiotherapy but necessary in order to bring the course up to degree standards. However, these students also spend 1,200 hours on clinical placements. One would have expected them to improve their handling and therapeutic skills through observation, and 'learning by doing' under the supervision of the clinicians or clinical educators, yet this was not so as seen from the above quote.

Theme ii. Techniques - Not practised on real patients:

"We were taught how to do nags ...., but on a model, not in pain; usually if you have a patient with neck pain... I mean he doesn't even let you... to palpate his spinous process, let alone doing a whole minute oscillating his spinous process."

(D153 2002)

This quotation highlights the problems associated with the learning of manipulative skills in the physiotherapy course. Most times, techniques are taught in the safety of a laboratory on models who act as real patients. The problem arises when dealing with real patients, as reality is a very different state of affairs. The ideal situation is for students to first practise at I.H.C. on models, then on patients under clinical supervision, and finally unsupervised. The issue raised here is that there is a problem regarding the transfer of learning that takes place in the safety of a movement laboratory and the real world of practising these same techniques on a patient.

Theme iii. 'Forgetting skills by the latter part of the course:

"I believe that the basic skills of handling which they learn earlier on in the course, I believe when they come to their fourth year they've forgotten all about them." (A64 2002)

All the teaching staff has been encouraged to include an element of handling and skill practice in their study-units throughout the course. As an example, the physiotherapist, who teaches Obstetrics and Gynaecology, has been asked

127

to revise pelvic-floor muscle anatomy, exercises, any related electrotherapy, relaxation exercises as well as teaching the necessary material and pathology required by the relevant study-unit. Even though topics are covered in the early years of the course, they should be re-enforced throughout. In this manner, the revisiting of material at different stages of the course helps reinforce learning as advocated in the constructivist's teaching principles.

Category E: Clinical Practice

This category is made up of thirteen themes.

Theme i. Clinical Reasoning Skills: This theme and the following will be discussed as one.

Theme ii. Clinical Problem Solving Skills:

> *"The lack of problem-solving skills......... and they are also not capable of prioritising patient's problems."* (Bi21 2002)

> *"In other words, when it comes to clinical reasoning skills and problem-solving skills, that is where they are encountering problems."* (A65 2002)

These two comments, coming from the clinical staff, were not surprising, as the old course was not designed to address these problems. Some junior staff were not capable of clinical reasoning and problem-solving, probably due to their lack of confidence. This confidence is only acquired through time and experience, after qualifying. Since the aim of the new course is to educate and produce reflective practitioners, the curriculum has had to change its format placing more emphasis on clinical reasoning and problem-solving skills. Again, this reinforces one of the problems that this study wanted to address, the fact that the old curriculum did not stimulate students enough to become the autonomous practitioners the present health service requires.

Theme iia. Action Learning:

> *"When it comes to clinical reasoning and problem-solving skills that is where they are encountering problems... I feel they*

128

need some type of action learning...where they have a member or supervisor, they go to the supervisor with a problem, they try to give solutions, they discuss the solutions with the supervisor and then they go back to the clinical aspect and apply it." (A66 2002)

Following this suggestion, a further study-unit in Clinical Reasoning has been included in the curriculum.

Theme iii. Communication Skills:

"The lack of communicating skills and the ability to develop rapport with patients and their relatives is also quite evident." (Bi22 2002)

"He had a communication problem to get the patient to comply with his treatment." (D149 2002)

"Communicating skills with a patient and with the team and with individuals of the team, how to communicate with whom... how to get the message across." (C51 2002)

The first quote is by a clinician, the second by a newly qualified member of staff and the final one by a student. The lack of communication skills as expressed by all participants within the clinical field emphasised the fact that this subject must be included in the new curriculum. This is in line with the Dearing Report (1997) in the U.K and the recommendations that the Department of Education in Malta published in 2000, regarding communication as a key skill.

Theme iv. Quality of supervision:

This theme relates to the Category 'Clinical Practice'. The quality of supervision offered to the students, directly or indirectly, influences their performance in the clinical setting. Unfortunately, only one quote relating to supervision was positive. All other quotes were negative.

"When we are supervised the quality is, is well on average good." (C101 2002)

"There are certain situations where the student is allowed to perform an assessment alone, with the only techniques she

129

*would have remembered .... Treatment is done also most of
the time alone."*   (H99 2002)

*"If the sessions are adequately supervised... you could spend
four weeks instead of six or eight weeks on one placement."*   (C121 2002)

Theme v.   **Insufficient supervision:** While the previous theme dealt with poor supervision, this theme concerns insufficient supervision.

"We are not getting enough supervision"   (C101 2002)

This statement made by one student, but echoed by many others. The problem of clinical supervision is still present even though the I.H.C. has over the years, invested a lot of time and resource to try to overcome it. The situation has improved, but such comments are worrying and need to be addressed immediately.

Theme vi.   **Feedback:**

*"There were a number of students who tried to voice their
opinion about certain clinical placements, and no change was
brought about."*   (C103 2002)

This particular quote is similar to others, where it is noted that students' feedback, mainly about their clinical placements, is not acted upon. The student's voice is an important one and, should be listened to.

Theme vii.   **Retribution by supervisor:**

*"That is why the students are loosing hope of voicing their
opinion, because it's to their own detriment, they're still at
placement, the supervisor would work against them."*   (C105 2002)

This should never be the case. The situation should be closely monitored and steps taken to ensure students feel confident enough to report any such behaviour. However, staff levels are such that even though a change of supervisor takes place, students still feel threatened and reluctant to voice their

complaints. Most negative feedback is usually voiced too late, as students would have already finished their clinical placements, for the situation to be remedied. Students fear that by voicing a complaint they will be marked unfairly in their clinical assessment.

The previous themes indicate the need for further support and development required by the clinical supervisors.

Theme viii. Amount of Clinical Practice:

> *"I cannot say they (clinical placements) were enough, because I ended up going to hospital to practise... Every time I had the time, I ended up practising."*   (D190 2002)

In Malta, students carry out 1,200 hours of clinical practice throughout the course. This is more than most universities in the United Kingdom. This figure has been reduced from 1,750. The extra 550 hours have been dedicated to tutorials and self-directed learning. This amount of clinical practice must be one of the positive points of the course held in Malta. This compares well with the 900 hours that are carried out in all Scandinavian countries, and the 1000 hours that is considered the norm at English universities. The course in Malta can afford the extra hours because the course is of four years duration, as opposed to the English three years and the Scandinavian three and a half years. These hours further improve the quality of the Maltese students.

Theme ix. Clinical Assessment:
Currently, at the end of each placement, a member of the I.H.C. staff, together with the clinical supervisor, assesses the student formally. A mark is given which incorporates the continuous assessment mark awarded by the clinical supervisor.

An idea, put forward by an interviewee, is that the clinical supervisor writes an objective assessment of the students' work on a weekly basis. This should be done on a standardised assessment form and should be shown to the students in order to give them an idea of their progress and to avoid any unpleasant

surprises at the end. The students could then work on any of the points mentioned in the form and thus, improve their performance.

> *"I think it has to be, every assessment done by the supervisor should be written down, at every session, at every situation, every week."* (C177 2002)

The suggestion is good and supported by the academic staff and clinical educators but as this means more paperwork, the clinical staff have rejected it.

Theme x.   Emphasis on patient assessment: Some clinical supervisors tend to put a lot of emphasis on patient assessment rather than on treatment.

> *"You end up having your supervisor telling you go and assess that patient... importance given to the treatment is basically not nothing (close to nothing), but... you end up in fourth year, you realise that you've done a lot of assessments... but you can't really progress your treatment."* (D68 2002)

The conclusion drawn from this statement is that clinical supervisors have to be advised by the I.H.C. that equal importance be given to both the assessment and treatment progression of a patient. This is necessary to ensure autonomous practice and to prepare the students for their final examination. The clinical supervisors should be informed of these proposed changes to the curriculum.

Theme xi.   Complacency:

> *"You get into the normal routine in the clinical placement and gone are the new ideas and the new, you know, the new research evidence based practice."* (A54 2002)

The clinical staff influence the students by their lack of motivation. Due to their workload or their lack of initiative to change their methods of practice, the clinical staff must bear some of the fault. Unfortunately, some of them, in high places of authority within the department have not had a university education and lack the research element. Evidence-based practice is a new concept to them and treatment is usually based on a 'hand-me-down', 'grandfather

syndrome'. This results in the students feeling frustrated, as they are not being stimulated to question their choice of treatment, falling into the rut of accepting that what is recommended by the supervisor. At present, this situation is hard to avoid, but the I.H.C. intends to ameliorate the situation by employing more clinical educators.

Theme xii. Time management:

> "*Time management also seems to be a problem. We had a case of a newly qualified (member of staff) spending two hours assessing a patient in ITU.*" (Bi21 2002)

This comment, by a clinician, demonstrates that students are not taught time management; an important factor that ought to be included in the education of any physiotherapist.

Theme xiii. Multi-Disciplinary Team discussion:

> "*There ought to be time set aside for the student... where they can discuss their clinical experiences - I don't know, with staff members, with some consultants?*" (A66 2002)

The concept of students joining ward rounds is not new, but the proposal of physiotherapy students discussing their clinical experiences with students from other professions, could lead to a healthier multi-disciplinary team approach, which in turn, could help motivate the students further whilst on clinical practice.

Category F: Clinical Supervisors

This category consists of four themes and one sub-theme.

Theme i.   Desire to be a supervisor:

> "*Not interested, unfortunately there are some physiotherapists who don't, we think......... That they don't want to be supervisors.*" (D80 2002)

"Supervisors have to agree that they want to be a supervisor."
(C111 2002)

These comments expressed by students and newly qualified members of staff even though the job description for a senior physiotherapist includes the supervision of students. The I.H.C. always asks the principal physiotherapist in charge of a unit to recommend the best clinical supervisor. They are then approached by the I.H.C., as it is not in its interest to oblige a member of the clinical staff to act as a supervisor unwillingly. However, some clinical supervisors complain to students that they are working against their will.

Theme ii. Not interested: The I.H.C. is concerned by this and the following theme raised by students as it is responsible for the appointment of all clinical supervisors.

Theme iii. Does not have the time:

"Not having enough time, or not being interested."
(D76 2002)

"Sometimes you end up in a placement where your supervisor, he doesn't have the time."   (D78 2002)

Some clinical areas are very busy and short staffed. This is no justification for giving the students the impression that they are a burden. All clinical staff have been given time which should be utilised supervising students whilst on clinical practice.

Theme iv. 'Incompetence amongst supervisors':

"Not competent"   (D76 2002)

This statement was made early on in an interview. Later, the interviewee remarked that this was a sarcastic comment, but it should not be overlooked as a different person echoed it.

"There were certain ideas that supervisors should be trained."
(C111 2002)

Category G: Course Assessment

This category, 'Course Assessment' is divided into three sub-categories: Clinical Assessment, Theory Assessment and Final Comprehensive Examination. This latter sub-category is sub-divided into three themes: a) written, b) dissertation, and c) the practical/viva. Each of these themes is further subdivided into sub-themes.

Sub-Category 1. Final Comprehensive Examination:

"Revamp the examination process in such a way that it is more student- friendly" (E57 2002)

"Everyone said that we're not happy with the actual assessment, the type of examinations we're having, the amount, the fact that we are stressed throughout the fourth year" (D92 2002)

These quotes show that neither the I.H.C. staff nor the students are happy with the Final Comprehensive Examinations. The following themes are either suggestions put forward by the interviewees, on ways to improve the F.C.E. or criticism of the present process.

Theme 1a. Written

Sub-theme i. Stagger Final Exams throughout course:

"First two years would be lectures orientated on the theory aspect of this course, then you'd have a final; and you'd have one year to practise the physiotherapy skills and another final (year and examination), a tier." (D88 2002)

This is an interesting proposal, coming from a current student, as it is similar to the system that was used in the past. During the 1970s, when the course in Malta followed the curriculum of the Chartered Society of Physiotherapy, a 'Part I' examination consisting of 'Theory and Practice of Physiotherapy' was held at

135

the end of the first year. This was followed by the 'Part II' examination, which was held at the end of the three-year course. This method of assessment was discontinued when the course was amalgamated into the University and the credit-system was introduced.

Sub-theme ii.   Causes stress:

> "I am expected to know everything... like you can't keep, you know, up to it, at a point in time it stresses you out totally, it's a burn out."   (A50 2002)

This quote expresses the general feeling of most interviewees. Stress at this stage of the course is inevitable and tends to decrease the students' performance.   The new curriculum will keep this sub-theme in mind when proposing changes to the method of the F.C.E.

Sub-theme iii.   Everything all over again:

> "Once you've accumulated those credits... why should I be examined again for a credit I have passed? And the final exam is really examining 85 credits in six hours?' (E63 2002)

In a non-credit system, it is normal to have final examinations to test the students' knowledge of everything covered throughout the course. The U.o.M. operates on a credit system yet students have to pass all 85 theoretical and 65 clinical credits, as well as write their dissertation in order to be eligible to sit their final comprehensive examinations.   This is a case of over-assessment as most other universities opt for either a credit-system or a final comprehensive examination system and not the two.

Sub-theme iv.   More student-friendly: This sub-theme is an alternative
to the sub-theme 'Causes Stress'. Presently, we cannot do away with the final exams due to University regulations. The next best option is to change the format of the examinations and make them more student-friendly.   The

following quote is by a member of staff who also, sees the need to alter these examinations.

> *"Revamp the examination process in such a way that it is more student-friendly."*   (E57 2002)

Sub-theme v.   ***The Injustice of Examinations:***   This is true of any examination system. There will always be people who feel that they could have done better for whatever reason. What is unjust is that a student, who is consistently good throughout the course, fails the final examinations. The following quote clearly describes this.

> *"I find it very difficult to understand why a student who has done well throughout the four years, ends up having to repeat a year... just because they fail on the day, could be nerves, could be jitters..."*   (E61 2002)

Theme 1b.   Dissertation:

Sub-theme i.   ***To commence earlier:***

> *"The thesis should be started earlier in the course, in the beginning of the third year not at the end of the third year."*
>   (C201 2002)

This is a valid comment that makes a lot of sense, and one that can be implemented immediately. Students should be given the opportunity to start collecting data in the third year and write their dissertation in the fourth. This would help reduce the stress about which final year students complain.

Sub-theme ii.   ***Specialisation:***

> *"My opinion is that the thesis should be related to any specialised area."*   (C201 2002)

Specialisation can commence during the course. The above interviewee suggests that the dissertation chosen during their final year be taken as the platform for their intended area of expertise. However, it is by consensus,

considered the norm that newly qualified members of staff spend a number of years gaining experience in different areas prior to specialisation.

Theme 1c. Practical/Viva:

Sub-theme i.   More than one patient:

> *"A number of students stated that the practical exam be divided into a number of case scenarios not a single scenario."*
>   (C213 2002)

The present examination system, with which neither the staff nor students are happy, is a nightmare to organise. To increase the number of patients, for the practical component of the F.C.E. would involve too much disruption to the physiotherapy department.   The new curriculum proposes that the practical/viva examination be carried out in two stages during the final year.

Sub-theme ii.   Will not be a failing examination:

> *"The placements you did before... if you pass from them and you'd fail from the final, they would compensate for one another."*   (D106 2002)

This is actually quite a fair comment.   The 35 clinical credits, carried out throughout the course are a better indicator of the student's performance rather than the one-off practical final examination.   Unfortunately, regulations state that this is a failing examination and this suggestion cannot be acceded to.

Sub-theme iii.   The Injustice of the Practical Examination:

> *"Everyone agreed that the practical exam is very unfair since all four years are based on one and a half hours."*
>   (C161 2002)

> *"It's pot luck."*   (E61 2002)

The issue that the practical/viva examination is unfair is not disputed. These quotes show how strongly people feel about this topic. This help to emphasize the research question that an urgent need to change the physiotherapy curriculum is required as soon as possible.

Sub-theme iv.   Adjusting treatment and reasoning according to the examiner:

> "If I had lecturer A in the exam, I have to do this type, a specific approach which he or she taught me, and if I had lecturer B, I had to use another approach."   (D162 2002)

Even though the students have been advised repeatedly they still continue to be afraid of being penalised should they not use the same treatment or approach, as the one preferred by their examiner. This sub-theme was brought up in different interviews hence it was considered necessary to be included.

Sub-theme v.   Time Consuming: This sub-theme about the practical component of the F.C.E. was mentioned by a member of staff whose charge it is to organize the smooth running of this part of the F.C.E. It was proposed that the time spent in the organisation and the actual carrying out of the examinations could be put to better use.

Sub-Category 2. Clinical Assessment:
Theme i.   Appeasing the supervisor:

> "They're not ready to accept that we were taught the same things in a different way. So then you try to do it the way your supervisor does it, but at the same time you know that you're supposed to do it in a different way. So that you'll get a good mark in your assessment."   (D84 2002)

This situation is similar to sub-theme iv (*Adjusting treatment and reasoning according to the examiner*) but refers to the ongoing clinical assessments that the students carry out during the course. It can be destructive as it wears

down and destroys the students' initiative. Some clinicians are set in their ways and are resistant to change.

Theme ii.   Standardised assessment sheet:

> *"We should have a standard sheet, I mean, where you have, for example, the things you're going to be assessed on... like the one we had for our finals... but for every single credit."*
> (D111 2002)

The concept that a standardised assessment sheet be used for all clinical credits is a valid suggestion. As these clinical tests cover a variety of conditions, ranging from paediatrics to spinal injuries, it is impossible to have one standardised assessment sheet. The reason behind this suggestion is also good, in that the students can use it as a reference to review their skills and improve on them, or as a tool for their revision.

Theme iii.   Too much emphasis on tests rather than on the learning process:

> *"The credit system has eaten up the student to the extent that he is just geared up to pass that credit... "*   (E52 2002)

This theme and quote can be used to describe the philosophy of the whole course and assessment process of the old curriculum. The fact that the old course consisted of 85 theoretical and 65 clinical assessments meant that students were concentrating on passing these credit tests. This promoted superficial learning, reducing the students' ability to reason and took the pleasure out of learning. Furthermore, the students had to sit final examinations. This F.C.E. only tests a small part of their knowledge, and undervalues all the reasoning and problem-solving skills that the students had acquired throughout the course and which are deemed necessary for them to become good clinical, effective physiotherapists.

Theme iv. Clinical assessment marks ought to contribute to the Final Comprehensive Examination:

> *"The practical placements, at least should form a small part of the total percentage of the final mark."*   (C243 2002)

This was discussed earlier in 'The clinical assessment theme' within the Category 'Clinical Practice'. The clinical assessments contribute to the final classification of a student but do not contribute to their Final Comprehensive Examination results. The conclusion drawn from this theme is to alter the course in such a manner that the continuous assessment contributes to the final practical examination.

Sub-Category 3. Theoretical Assessment:

Theme i.   Final examinations after particular subjects:

> *"We should have a final of anatomy and physiology...
> somebody said we should have a final on electrotherapy..."*
>   (D100-102 2002)

What is being suggested in this theme is that final examinations be held at the end of each subject. This quote can also describe the old Chartered Society of Physiotherapy examinations that were held in the 1970s.

Theme ii.   More than one method of assessment per study-unit:

> *"Maybe you do a case study, you do a presentation on it,
> you'd involve the practical part of it... it would be entertaining
> and even the motivation to prepare it, I mean it would be
> really nice."*   (D210 2002)

Presently, most course work is assessed either, by means of unseen written test papers or by assignments. This is very demanding on the students and their lecturers. There is no guarantee that the actual written test is the best means of assessing students' knowledge. Hence, what is being proposed is that all modules also be assessed by different methods, including verbal and group work.

Theme iii.   Seen papers:

> *"I think a big step forward would be seen papers, definitely...*
> *seen papers are the only way to get them to read the detail."*
>
> (A58 2002)

Two different interviewees expressed this theme during their interviews. This suggestion may help students learn a topic in detail and allow them to express this knowledge more fully when compared to unseen written papers. This method does away with cramming but runs the risk of having certain students who would only study these topics.

Theme iv.   Assessing modules and not study-units:

> *"Grouping the sequence of subjects into one whole module...*
> *assessed with that attitude... rather than going very*
> *segmental into using the medical model."*   (E15 2002)

The suggestion being put forward is that individual related study-units ought to be amalgamated into modules and assessed as such. The advantages of moving away from the medical model, both in the way it is taught and assessed, have been looked into in detail.

Theme v.   Over-assessment of students:

> *"There's an obvious consensus between us that we over*
> *assess the students."*   (E53 2002)

This theme has been discussed 'ad nauseam' and the supporting quote by an I.H.C. lecturer emphasizes the need for urgent change.

Category H: Learning

Three themes form this category: 'By Discussion', 'By Observation' and 'By Means of Power Point Presentations'. 'Problem-based learning' is not included in this Category as it is listed as a separate category.

Figure 6.10 Diagram of the Research Methods used for this study (Cycle IH)

Research Aims
- To research the opinions and views of the different stakeholders regarding the physiotherapy curriculum taught in Malta
- To investigate the appropriateness of the content of this curriculum with respect to the present medical needs of the country

Research Methods
- Focus group interviewing
- In-depth semi-structured interviewing
- Observation

Pilot Interviews
- Secretary
- 2 Third year students
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self
- Interview schedule

Sample Strategy – Purposeful Sampling
- Intensity sampling
- Random Typical case sampling

Participants/Population
- 2 Academic members of staff
- 1 Principal clinical member of staff
- 1 Senior clinical member of staff
- 1 Junior clinical member of staff
- 1 Final year student

Location
- Boardroom - IHC

Time Frame Data Collection
- January – February 2002

Data Analysis
- Thematic analysis

Findings & Comments

Implications

Research Objective
- At the end of this first cycle, the researcher could confirm his hypothesis that the physiotherapy curriculum as taught in Malta needs revising and is not relevant to the professional working in the clinical environment.

Theme i. ***By discussion:***

These two themes are discussed together.

> *"I think that when you discuss, discussion, I think, this is the best type of learning",*

Theme ii. ***By observation:***

> *"When you're observing... it's really good, so observe, discuss maybe debate."* (D180 2002)

Students easily recognize an interesting a lecture and a lecturer ought to know how to motivate students. The introduction of more interactive teaching is proposed. In the above two quotes, the interviewees are proposing learning by different methods, apart from the traditional lecture. A form of self-directed learning, together with more active student participation by discussion and observation, is put forward.

Theme iii. ***By Means of Power Point Presentations:***

> *"I couldn't stick power point, it was too boring for me ... I liked acetates."* (D180-182 2002)

This quote shows that some students still find modern technology boring and uninteresting. It re-enforces the two themes above that through interactive lecturing a student appreciates learning more.

6.4.9   Implications at the end of Cycle I

For over twenty years, at least since I was a student teacher in 1982, three outstanding issues have required illumination and justification: why physiotherapy is taught in the manner it is; the content of the syllabus; and refusal of qualification based on failure in a one-off final written examination. In this first set of interviews, all the immediate stakeholders confirmed the shortcomings in the existing physiotherapy course as taught at the I.H.C. and that a radical change to the curriculum was required.

Another important factor, following the first cycle of this study, was the willingness and the cooperation of the staff that helped in the research and formulation of a new physiotherapy curriculum. This acted as a springboard to enter the second cycle, whereby all the suggestions, put forward by the stakeholders who contributed to the first cycle, were incorporated to design a new curriculum suitable to meet all local, medical and academic needs.

Figure 6.11 Diagram of the Research Methods used for this study (Cycle IIA)

Research Aims
- To research new methods of learning
- To research new methods of course delivery
- To research a more realistic and appropriate method of course assessment
- To investigate the medical conditions and physiotherapeutic referrals that are prevalent to the Maltese Islands
- To formulate a new curriculum

Research Methods
- Documentary research
- Historical research
- Group discussion

6.5 Cycle II

6.5.1 Research Aims

The primary aim, at this stage of the study, was to formulate a new Physiotherapy Curriculum. In order for this to be realised, a study into the medical conditions and the physiotherapeutic referrals that are prevalent to the Maltese Islands, was necessary.

Secondary, to this first aim, was the necessity to research (i) new methods of student learning, (ii) new methods of course delivery and finally, (iii) a more realistic and appropriate method of course assessment.

6.5.2 Research Methods

Documentary Research

This study included an element of documentary research. Documentation provided a valuable source of data for this research and involved the gathering and analysis of: both personal and impersonal documentation, curricula of various institutions from other countries and an epidemiological study of the commonest conditions, referred by the medical profession, to the Physiotherapy Department over a six-month period.

Group Discussion

A Staff Curriculum Development Committee was established in February 2002 whereby the content of the curriculum was discussed, leading to its modification. The sessions held by this Committee included the lecturers and the clinical staff of the speciality or topic being discussed. The Saxion Hogeschool Enschede in The Netherlands, an institute that teaches physiotherapy by means of problem-based learning was visited in order to become more familiar with this method of teaching. A number of meetings with the academic staff were held and a decision was taken to introduce this method of teaching in the academic year 2003/4.

Figure 6.12 Diagram of the Research Methods used for this study (Cycle IIB)

Research Aims
- To research new methods of learning
- To research new methods of course delivery
- To research a more realistic and appropriate method of course assessment
- To investigate the medical conditions and physiotherapeutic referrals that are prevalent to the Maltese Islands
- To formulate a new curriculum

Research Methods
- Documentary research
- Historical research
- Group discussion

Research Tools
- Note taking

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- All academic members of staff
- Typical case sampling

Participants/Population
- 5 Academic members of staff
- 1 Senior clinical member of staff from each medical speciality

Location
- Boardroom – IHC
- Physiotherapy office - IHC

6.5.3   Research Instrument

In accordance to Adler and Adler (1987), the researcher in qualitative research is understood to be the person carrying out the research.

6.5.4   Research Tools

Note Taking

In an attempt to allow open discussion between staff, it was decided not to use a tape recorder. All meetings were minuted and personal notes were taken by the researcher to substantiate the qualitative research being carried out. This procedure was adopted for the meetings held between the author, lecturer and clinical staff concerned. (Appendix 13)

6.5.5   Population Description

Sampling of the Research Population

The group discussions involved all the academic members of staff who are directly related to the teaching of physiotherapy. The sampling strategy involved was again that of 'purposeful sampling'. With respect to the meetings carried out with the lecturer and the clinical staff involved, 'typical case purposeful sampling' was the chosen method.

Inclusion criteria

- All full-time and part-time academic members of staff, but not the occasional lecturers
- All clinical physiotherapists who were in charge of the specific specialisation units

6.5.6   Location for the Group Discussion

The group discussions were initially held in the Board Room at the Institute of Health Care, as this air-conditioned environment was comfortable for the five attendees.

Figure 6.13 Diagram of the Research Methods used for this study (Cycle IIC)

Research Aims
- To research new methods of learning
- To research new methods of course delivery
- To research a more realistic and appropriate method of course assessment
- To investigate the medical conditions and physiotherapeutic referrals that are prevalent to the Maltese Islands
- To formulate a new curriculum

Research Methods
- Documentary research
- Historical research
- Group discussion

Research Tools
- Note taking

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- All academic members of staff
- Typical case sampling

Participants/Population
- 5 Academic members of staff
- 1 Senior clinical member of staff from each medical speciality

Location
- Boardroom – IHC
- Physiotherapy office - IHC

Time Frame Data Collection
- February – August 2002

Data Analysis & Findings
- Epidemiological analysis
- Discussion minutes – Thematic analysis

The meetings with the lecturer and the clinical staff were held in the Physiotherapy office at the Institute of Health Care. This was chosen purposely in order to create a friendly, less formal environment.

6.5.7 Data Collection and Analysis

During this stage of the study, the old physiotherapy curriculum in Malta was researched in depth. The researcher was in a better position to comment about the historical physiotherapy curriculum adopted by the I.H.C. after being given access to all the files pertaining to the physiotherapy courses held at the Department of Health (D.H.) by the Director General. These included copies of the 1976 Course Programme, Rules and Regulations and all the correspondence between the World Health Organisation (W.H.O.) and the D.H. Establishing the authenticity of documentary research is usually another major issue but in this case, this was relatively straightforward and taken as 'dogma', due to the primary source from where these were obtained.

Examples of:

- Personal Documentation in this historical research included numerous formal letters between the W.H.O. and the D.H., as well as the Physiotherapy tutor in 1974/75 and the D.H.
- Impersonal Documentation - In accordance to Gribch (1999) impersonal documentation included the examination of public records, government gazettes and D.H. files, specific to the education of physiotherapy.

This documentary research also included the obtaining and examination of a number of physiotherapy course curricula, from countries with established physiotherapy education. These included the course curricula from the following institutions:

Country	Name of Institution
America	James Madison University
	Howard University
Australia	Griffith University
Denmark	Skodsborg Fysioterapiskole
England	Sheffield Hallam University
	Keele University
Finland	Arcada Polytechnic
Holland	Saxion Hogeschool Enschede
Hong Kong	Hong Kong Polytechnic University
India	Rajiv Gandhi University of Health Sciences
Ireland	University College Dublin
Italy	Universita' di Verona
Scotland	Queen Margaret University College
Spain	Universidad Cattolica di San Antonio di Murcia
Sweden	Uppsala University

The second cycle of this research study involved the modification of the content of the curriculum. The content of the course was investigated by means of an epidemiological study of the medical conditions and physiotherapy referrals to all state physiotherapy departments in Malta. This was carried out in order to investigate the actual common conditions that a physiotherapist, in Malta, would come across whilst working in a state general hospital. These data were collected in the following manner:

- All referrals to the Outpatients Physiotherapy Department over a six-month period were classified according to the condition or the anatomical structures involved, for example: Osteo-Arthrosis of the Hip and not as a case of Osteo-Arthrosis.
- This procedure was repeated for the Medical wards, (including the Neurological wards),
- Orthopaedic wards and
- Paediatric wards (including Special Care Baby Unit).

Figure 6.14 Diagram of the Research Methods used for this study (Cycle IID)

Research Aims
- To research new methods of learning
- To research new methods of course delivery
- To research a more realistic and appropriate method of course assessment
- To investigate the medical conditions and physiotherapeutic referrals that are prevalent to the Maltese Islands
- To formulate a new curriculum

Research Methods
- Documentary research
- Historical research
- Group discussion

Research Tools
- Note taking

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- All academic members of staff
- Typical case sampling

Participants/Population
- 5 Academic members of staff
- 1 Senior clinical member of staff from each medical speciality

Location
- Boardroom – IHC
- Physiotherapy office - IHC

Time Frame Data Collection
- February – August 2002

Data Analysis & Findings
- Epidemiological analysis
- Discussion minutes – Thematic analysis

Implications

Research Objective
- At the end of this second cycle of the research studies, an 'ideal curriculum' was formulated that would satisfy student, professional and clinical needs.

- A similar study was also carried out at Sir Paul Boffa Hospital that included Oncology and Dermatology.

- In the case of the Surgical wards, (including the Burns Unit, Intensive Care Unit, Cardio-Thoracic Unit, and Obstetrics and Gynaecology), the same method of collecting data was not possible, as the records, kept by physiotherapists working on these wards only showed the number of patients treated in separate units and were not categorized by condition referred. Hence, there were 462 referrals to the surgical wards, which included the specified surgical techniques carried out, but it is impossible to say, how many of these were thyroidectomies?

The data collected were used to confirm that the content of what is being taught in the local Physiotherapy Curriculum is pertinent to the needs of a physiotherapist studying and working on the island. Senior clinical members of staff in charge of these specific units received and discussed this information with the academic member of staff teaching the subject. The intention being that individual lecturers could focus their teaching commitment according to the data obtained and not on what intuition, personal interest or previous curricula stated. These data were finally presented to the Physiotherapy Board of Studies and to the Manager Physiotherapy Services. (Appendix 14)

6.5.8 Implications at the end of this Cycle

Following a number of discussions and meetings, a new 'ideal curriculum' was formulated. This included changes to: a) the course content. For example a shift of emphasis in orthopaedic surgery from 'total hip replacements' to 'total knee replacements' as the rate of referral of the former to the latter was 1:3. Another example in the neurological component of the course was the emphasis on Cerebro-Vascular Accidents to Multiple Sclerosis as over the six-month research period there were 462 stroke-referrals and none for M.S. b) The initiation of change in the teaching method from lecturing to a more self-directed, problem-based learning approach. All study-units directly related to physiotherapy and taught by I.H.C. staff changed from the use of the traditional

154

lecture method to a P.B.L. approach including more open discussion and student involvement. The staff was also encouraged to introduce practical skill components into what were purely theoretical subjects; and c) a radical change to the mode of assessment. Following this cycle of the research, it was decided to phase out the Final Comprehensive Examinations, to amalgamate study-units into modules and carry out modular testing and to reduce the number of clinical placement assessments. This ended the second cycle and acted as the catalyst for the next stage of the research, whereby this new curriculum was to be discussed with the final stakeholders, the students and newly qualified staff to investigate their views regarding the proposed changes to the Physiotherapy Curriculum. (Appendix 8)

Figure 6.15 Diagram of the Research Methods used for this study (Cycle IIIA)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

6.6   Cycle III

6.6.1   Research Aims

The primary aim of this third cycle of the research study was to investigate the opinions and views of the primary stakeholders concerning the new 'ideal' Physiotherapy Curriculum.

The secondary aim was to interview other divisional coordinators at the I.H.C. to investigate whether their divisions were encountering problems with their curriculum of study similar to those of the physiotherapy division.

6.6.2   Research Method

Interview

The semi-structured interview is one of the most frequently used qualitative methods. The aim is to capture as much of the subject's views on a particular topic as possible. The interviewer commences with a set number of questions. Following the answers given by the interviewee, further new unprepared questions are posed to delve further into the answers given. Consequently, every interview is different to the other. This cycle consisted of two sets of interviews: the first set of interviews was targeted at the primary stakeholders of the Physiotherapy Curriculum, and the second at two Divisional co-ordinators at the I.H.C.

Interview Design: Pilot Interview I – Divisional Co-ordinators

Each interview schedule was piloted twice, once in the English language and the second time in Maltese. The initial interview was tested on a secretary, to confirm whether the questions were understood, from a grammatical point of view. This was followed by two further pilot studies with another co-ordinator. This same person was chosen to pilot the questions both in Maltese and in English, in order to confirm whether the translation had altered the underlying sense of the questions.

Figure 6.16 Diagram of the Research Methods used for this study (Cycle IIIB)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Research Instruments
- Self
- Interview schedule

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

Location
- Boardroom – IHC

Pilot Interview II – Curriculum Primary Stakeholders

This interview, again, was first piloted on my secretary and followed by two further pilot interviews on two final year students. Each interview question was first asked in English and immediately translated into Maltese. Each time, the respondent was asked whether the meaning of the two questions was the same.

Both of these pilot interviews were held in the Boardroom at the I.H.C., the same environment where the actual interviews took place. (Appendix 15)

6.6.3 Location of the Interviews

These interviews were held in the Boardroom of the I.H.C., due to two main reasons:

1. Convenience as the I.H.C. is situated within the grounds of St. Luke's hospital, hence within walking distance for the students on clinical placement and the clinical staff.
2. The Boardroom is air-conditioned, a necessity as the interviews were held in summer.

6.6.4 Research Instruments

- **Self**
- **Interview schedule**

Interview Schedule

Focus interview – Cycle III – Divisional co-ordinators

Topic: Background of their course

Question: Can you relate the history of................education in Malta to me?

Topic: Two tiered education: Diploma or Degree

Question: Can you talk to me about the differences that exist between the Diploma and Degree courses?

Topic: Strong characteristics of course

Question: Can you identify the stronger, more positive aspects of your course?

Topic: Course administration

Question: Are there any changes in the administration of your course that you would like to see?

Topic: Course curriculum

Question: Can you tell me what the origin of your course curriculum is, or from where it originated?

Question: To what extent, in your opinion, is your curriculum targeted towards the local medical needs?

Question: Is your curriculum based on the medical model of education?

Topic: Teaching

Question: Can you comment on the way teaching takes place in your course?

Question: Do the students provide feedback about the course?

Question: Do you have any comments to make on the way the course content is delivered to the students?

Topic: Common core lectures

Question: In general, can you give me your views on the common core system of lectures?

Topic: Course assessment

Question: Are you happy with the way your students are assessed during the course of their studies?

Focus interview – Cycle III – Primary stakeholders

Topic: Introduction

Question: Why did you choose to study physiotherapy?

Question: Looking back over these last four years, what is your overall view of the course you have just completed?

Topic: Personal view of the Course

Question: In your opinion, what were the best points of the course?

Question: What do you think were the worst points of the course?

Topic: Physiotherapy skills

Question: Do you feel that the course gave you the skills necessary to practise your profession?

Topic: Clinical experience

Question: Can you comment on the clinical experience, that you undertook, in this course?

Question: Can you give me your views on the suggestion that a full year of clinical practice be introduced into the new physiotherapy course, as opposed to it being intermingled with the theoretical components of the course?

Topic: Teaching style

Question: Can you comment on the teaching method used in the theoretical component of your course?

Topic: Course assessment

Question: Can you comment on the way the course was assessed – continuous assessment, clinical module testing and the Final Comprehensive Examination?

Topic: Suggestions

Question: How can the course be improved? Can you suggest any improvements to the course?

Topic: New curriculum

Question: Can you comment on this new course programme?

Figure 6.17 Diagram of the Research Methods used for this study (Cycle IIIC)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Sampling Strategy – Purposeful Sampling
- Random intensity sampling
- Random typical case sampling

Participants/Population
- 2 Divisional co-ordinators
- 1 Junior clinical member of staff
- 2 Final year students

Location
- Boardroom – IHC

Question: Having reviewed the new curriculum, are there any suggestions you can make?

Question: If I were to tell you that students, in the future, would not have to sit any Final Comprehensive Examinations, can you tell me what your comments would be and why?

Question: Finally, imagine this hypothetical situation: if you were just about to start the physiotherapy course and were given a choice between the two curricula, which one would you choose and why?

6.6.5 Research Tools

- A Sanyo Compact Cassette Recorder with a dedicated transcriber was used for all the interviews held during this cycle.
- Field notes: During all the interviews, written notes were taken regarding the interviewee's attitude, any non-verbal communication and any other issues that were considered important.

6.6.6 Population Description

Sampling of the Research Population

This third cycle commenced with interviewing two other Divisional Co-ordinators, to investigate whether they were facing the same problems with their curricula as those being encountered with the physiotherapy curriculum and in that case, how they had tackled them. The I.H.C. consists of eleven divisions and the two co-ordinators interviewed were chosen randomly. Due to their position and wealth of knowledge, they were considered 'information rich'. Patton (1990) described this type of sampling as being 'Intensity sampling'.

The third stage of this study involved the discussion of the new revised curriculum with the immediate stakeholders, to investigate their opinions regarding the proposed changes.

Figure 6.18 Diagram of the Research Methods used for this study (Cycle IIID)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Sampling Strategy – Purposeful Sampling
- Random intensity sampling
- Random typical case sampling

Participants/Population
- 2 Divisional co-ordinators
- 1 Junior clinical member of staff
- 2 Final year students

Location
- Boardroom – IHC

**Time Frame
Data Collection**
- August – September 2002

Data Analysis
- Thematic analysis

These included:

- One junior clinical member of staff (Random typical case sampling) chosen from amongst the 42 staff employed by the State Services, less the interviewee who participated in Cycle I.
- Two final year students out of the 21 eligible students. They were all chosen randomly, and according to Patton (1990) are described as 'Typical case sampling'.

Inclusion criteria

- All final year students were eligible to participate in the study, except the four students who participated in the piloting of the interview, and the student who was interviewed in the first cycle.
- All 42 junior clinical members of staff except the one interviewed during the first cycle of the study.
- All 11 Divisional Co-ordinators except the one involved in the piloting of this interview.

6.6.7 Data Collection

This third cycle of the research involved interviewing two Divisional Co-ordinators to investigate whether the problems the physiotherapy division were having with the curriculum were common to other divisions. The Occupational Therapy and Radiography co-ordinators were interviewed in August 2002. A further three, with two final year students and a newly qualified member of staff, followed these interviews. The purpose of the interviews was to investigate their views on the old curriculum, and to ask their opinions regarding the proposed changes in the new curriculum.

6.6.8 Data Analysis

The transcription of the interviews was carried out as soon as possible. The main categories were listed and classified under Key Points. A number of themes relating to each category was identified and a note was made as to whether this was an original concept or not. The key quotes from the interviews were identified and a code was given, whereby the respondent and

the paragraph from the transcription could be identified. Another section of the 'Data Analysis' was entitled 'Reflections on the interview'. In this section, any observations, non-verbal communication or any other situation that was considered important but could not be recorded on the cassette player, were included. The final section was entitled 'Implications of the interview' (Appendix 16).

Interview Summary

Interviewee: Name/Code
                   Post held

Key Points/Categories:
1.
2.
3.

Category 1

Themes	Already Noted	New

Key Quotes

Quote	Associated theme/code

Reflections on interview

Implications

Figure 6.19 Diagram of the Research Methods used for this study (Cycle IIIE)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Sampling Strategy – Purposeful Sampling
- Random intensity sampling
- Random typical case sampling

Participants/Population
- 2 Divisional co-ordinators
- 1 Junior clinical member of staff
- 2 Final year students

Location
- Boardroom – IHC

Time Frame Data Collection
- August – September 2002

Data Analysis
- Thematic analysis

Findings & Comments

6.6.9 Findings and Comments

- **Divisional Co-ordinators** (Appendix 16)

Two co-ordinators chosen from amongst the different divisions of the I.H.C. were interviewed during the month of August 2002. The style and analysis of the interviews was similar to that used previously, and the same care was taken in the questioning style and techniques used. The purpose of these interviews was to ascertain whether the problems of the Physiotherapy Division, concerning the curriculum, were similar to those of other divisions within the I.H.C. The first co-ordinator interviewed on 7th August 2002 was the Radiography Course Co-ordinator, followed by the Occupational Therapy Course Co-ordinator, on the 27th of the same month.

Findings

Six categories were identified, each of which will be discussed separately.

Category 1: Course Content

This category consists of seven themes.

Theme 1. Lecturers not familiar with our professions; poor perception of I.H.C. students by teaching staff at main campus: This new theme identified in these interviews was that lecturers, delivering the common core subjects, should familiarise themselves better with students from the allied-professions. Lecturers, on the main campus, would then be in a better position to target their lectures towards the student population present and deliver the lecture to the required standard.

The view that I.H.C. students are poor achievers arose from the lower entry requirements necessary for entry to some of the courses offered at the I.H.C.

> *"I think once you tell them these are I.H.C. students, or to go to a unit on campus, they put everybody in the same basket..."* (H85 2002)

*"The first students going to University were nursing students,
so they consider everybody to be a nurse..."*   (H85 2002)

Theme 2.   *Common Core Subjects:* Two very valid sub-themes arise from Theme 1:

1) Common core subjects ought to be taught by people within the same profession, which in reality would mean an end to the common core subject system

2) When the I.H.C. moves to the new site, which will incorporate all the professions relating to and including the medical course, medical students should attend lectures alongside I.H.C. students.

> *"I think the next step would be to accept them. That, you know, our students should be also sitting next to first or second year medical students, because after all, it's the same anatomy, and you know, if we are after standards, there shouldn't be a distinction and these people should have, should be able to communicate with their counterparts, medical counterparts, to discuss a problem."*   (H85 2002)

Theme 3.   *Re-evaluation of their curricula:* This theme is related to the following theme to be discussed. One of the respondents suggested that their course re-evaluate its curriculum. This is the reason for this research and is having a knock on effect on co-ordinators of other courses. The Occupational Therapy course is only one year old but the course co-ordinator is already suggesting that it may be time to re-evaluate it.

> *"Maybe we could re-evaluate its content, maybe we put too much pressure on theoretical, taught outside of the profession, like Medicine, Pathology, etc we could maybe do away with those, and integrate that knowledge with the teaching of occupational therapy."*   (F23 2002)

Theme 4.   *Multidisciplinary Team Concept:* This theme relates to one of the courses changing its ethos: from being a course for a specific profession to one, that identifies itself with a multi-disciplinary rehabilitation team approach. This culture, of being part of a team, is something that all the professions support, but very few take on board. Even though this concept relates to the

Category 'Course Content', it is not one that is easily identified but is one of the underlying philosophies within the hidden curriculum.

Theme 5. **Behavioural Sciences:** Following the amalgamation of the allied health professional courses to the University, a substantial amount of lectures on behavioural sciences was introduced yet over the years the number of lecturing hours has decreased. This came about as the courses matured and more specific professional study-units were introduced into the curricula.

Theme 6. **Specialized Staff:** The Radiography Division, similar to the physiotherapy course, has overcome the problem of teaching specialised professional subjects by employing the necessary staff, or by encouraging staff, within the division to specialise in different areas. Gone are the days when one member of staff was capable of teaching the entire syllabus. Our professions have become so vast and specialised, that an investment in qualified human resources is necessary. The Occupational Therapy Division seems to be experiencing slightly different problems in that they have the academic staff, but not enough of them are specialised and able to lecture, hence they have to import the expertise from universities overseas.

> "The main limitation, I feel is a lack of a proper workforce within the division, which will cater for the different requirements, at all the different levels – theoretical, practical, creative, psychosocial, and physical dysfunction rehabilitation." (F23 2002)

Theme 7: **Study-units**

Both respondents complained that their curriculum consists of a number of study-units, sometimes not related to each other. This theme is similar to the one the physiotherapy division experienced.

> "I suppose, like Physiotherapy, your case is actually based on the Medical model. In other words, you teach components, de-compartmentalised.
> Yes, definitely, we're still plagued with that approach unfortunately.
> Why did you use the word "plagued"?

It is something, which has been inculcated into our way of thinking, probably.
And can you see a solution out of this way of thinking?
I don't know if we can, I don't know, at present, not a lot, no!
It's difficult; it's difficult to see a way out..."   (F46-51 2002)

"No, because it's very compartmental, it's very much placed into different compartments... About the credit tests, it is only when they come in the final examination where they are asked to bring together all the different components."
(H93-95 2002)

Category 2: Course Assessment

Theme i.   Over Assessment: Co-ordinators of other divisions commented upon this theme, previously identified by all interviewees. All curricula consist of too many individual study-units, which, due to the present rules and regulations of the University, have to be individually assessed in some form or another. This results in all the courses being over assessed.

"But I think that's the, not the medical model, over-assessment, it's the Maltese model."   (F113 2002)

"I think em, when we compare ourselves to some divisions, em, they have a lot, when we see, with four exam papers. Em, maybe we should be looking at restructuring the papers and reducing the amount of papers to a more realistic number."   (H111 2002)

Theme ii.   Means of Assessment: Whereas the physiotherapy division has moved away from traditional lectures and assessment, some divisional co-ordinators find change difficult to deal with and are reluctant to accept any.

"Most of them are assessed individually I would say. Individually, but sometimes, again, when one of the lecturers, sort of, may introduce this new-fangled, some new-fangled approach to his teaching, you may get instances of combined individual and group assessment, within the same course, which I feel dilutes the specificity."   (F89 2002)

171

Category 3: Delivery of Course

This same interviewee was also sceptical to any innovative manner of teaching.

> *"I am a bit wary of new-fangled approaches to teaching. I am a bit wary about that, I have to confess. I mean I may be a bit conservative. I believe that you should provide, you should interest the student, you should provide all the knowledge available."* (F73 2002)

This study is targeting this conservative, traditional approach. One of its aims is to introduce a change to the method of teaching. The Physiotherapy Division has put the onus of learning onto the student. Self-directed learning means that the lecturer is now the facilitator and not the source of all knowledge. Yet, change is always difficult to bring about. This study intends to challenge the traditional means of teaching at the I.H.C. and introduce them to the other divisions.

Category 4: Qualities of Undergraduate Students

Some divisions within the I.H.C. concurrently run a Diploma and a Degree programme. This category relates to the difference between diploma and degree students. The following are a list of comments expressed by both co-ordinators to describe their undergraduate students: question more, more assertive, more receptive to patients' needs, capable of working on their own, good communication skills, motivation to complete the course, capable of carrying out research, and possessing the concept of life-long learning. Not all these positive qualities were mentioned when the same interviewees spoke about their diploma students.

Category 5: High Rate of Failure amongst Diploma Students

One of the possible causes expressed by both co-ordinators regarding this high failure rate is the low entry requirements necessary for a Diploma course. The academic calibre of these students is not adequate to follow such courses positively. The physiotherapy division experienced the same complications until 1992 when the last diploma course was held.

Category 6: Curriculum Development

This final category was important as it gave an indication how each division obtained its curriculum. In the case of Occupational Therapy, the first Maltese occupational therapist qualified in 1974 from the London School of Occupational Therapy. He later became the course coordinator and adopted the same curriculum as that which he undertook in London. This remained the core curriculum until 1986 when another of the first occupational therapists returned from the United States, having followed a Hubert Humphrey Fellowship in Occupational Therapy. Changes to the curriculum, introducing the American system along side the original English core curriculum, were made. In the late 90s, the decision to upgrade the diploma course to a degree course at the I.H.C. was taken and the expertise to develop this curriculum was imported through Professor Anne McRae from the United States.

The present Radiography course, on the other hand, developed its curriculum mainly along the British system. It is a potpourri of curricula from different English universities, European guidelines, and the recommendations of the International Society of Radiographers. Of late, one of the external examiners to the course, who also sat on the Radiography Board of the Council for Professions Supplementary to Medicine in the U.K., helped develop the curriculum even further, ensuring that applicants from the course held in Malta would not have any problems when applying for state registration in the U.K. (F33-35)

Summary

To conclude, the two co-ordinators representing other divisions at the I.H.C. have identified similar problems with their curricula as previously experienced by the Physiotherapy course. Both divisions, again similar to the Physiotherapy course, have obtained their respective curricula from institutions overseas: the Radiography Division from the U.K., while the Occupational Therapy Division has leant towards the American system. The co-ordinators have expressed a desire to amend their curricula to satisfy local academic and medical needs in the same manner as those undertaken by the Physiotherapy Division.

- **Primary Stakeholders – Physiotherapy Curriculum**

The next set of interviews was carried out on two final year students, who had just sat their Final Comprehensive Examinations, and one junior member of staff. The common link is that they all qualified from the I.H.C. and have all followed the same curriculum of studies. This is why the results and discussion of the data collected are grouped together.

Category 1: Course Content
Theme 1. Content very often inapplicable to the Physiotherapy course:

> *"...Common core subjects, they weren't very much targeted to our needs, because we were with other courses, of various areas, and it was just a broad thing, very open, which most of the time wasn't applicable to us."*   (G34 2002)

This quote covers the themes: too generic, too broad, not done in enough detail, unrelated to course and inapplicable. Common core subjects taught to students from different divisions are generic and students are pointing this out. Solutions to this problem are: 1) either totally abandon the common core system of lectures, or 2) at the end of the common core lecture programme, a lecturing physiotherapist gives a summarised tutorial linking this knowledge to physiotherapy.

Theme 2. Too many students attending lectures:

> *"How many students are you talking about? A population! For Psychology, Introduction to Psychology, we were about a 100, or something like that, you know, a big lecture theatre, with a lot of students..."*   (J77-78 2002)

This was a common theme amongst all the interviewees. The physiotherapy course only accepts 15 students due to the number clause. As a result, as soon as there are more than twenty people attending a lecture, they feel threatened. There is no opportunity for discussion. The theme that common core lectures are didactic in nature is often raised in the interviews, and the fact that little or no discussion takes place appears to be a major fault of this lecture system as

perceived by the students. The students found this experience negative, but at the same time, saw its positive side, as this was a good way to exchange ideas and experiences with students from different divisions or faculties.

Theme 3. Lecturers unfamiliar with students and their profession: This theme, in different forms, has often been raised in interviews. The respondents have informed us that some lecturers, delivering these common core lectures, are sometimes unfamiliar with their students and as a result, are not aware of the detail some students require. Some lectures are delivered by members of the medical profession who are unaware of the depth of knowledge required by Allied Health students, due to preconceived ideas that the I.H.C. only caters for the professions supplementary to medicine.

> *"Most of the time, we have to tell the lecturer, 'listen we want to know this', even in first year we did that. Like mostly in the later years we did more, because we knew what we needed. But sometimes they say, 'you don't need to know that.'"*　　　　　　　　　　　　　　　　　(J42 2002)

Category 2: Course Assessment

Theme 1. Final Practical Examination Unfair: This perception dominated this category. Nearly all the interviews held during the first session included questions on the Final Practical Examination. All respondents, including the I.H.C. staff themselves, complained without reserve about the format of these examinations.

> *"The practical examination I think is a waste of time, it is very unfair...."*　　　　　　　　　　　　　　　　　(I66 2002)

Most respondents thought that the continuous clinical assessments held throughout the course should contribute to their Final Practical Examination. Unfortunately, due to the existing University rules and regulations, this is not feasible. One is therefore not surprised to read comments describing the Final Examinations as being stressful for the students and is tarnishing their university experience.

> *"But I still think, that these practical exams are not realistic. I think the credits obtained on the placements should carry more weight."* (I66 2002)

Theme 2. Staggering Final Examinations: This is a very interesting theme. A suggestion to hold final examinations either at the end of each year or at the end of each module is being put forward.

> *"The fact that there's credits, and then there's a final exam, is something which is not really that much balanced. If you have done the credits, and you're assessed on them, maybe you could have had the final exam after each year, instead of after the four years. There's a lot of things which I think for physiotherapy would need to be more tailor-made for physio, for the physio course, rather than being depending on University of Malta traditional way of examining."* (J234 2002)

The interesting thing about this proposal is that, in the past, this was how physiotherapy courses were run. Now twenty years later, we have completed a circle as the present students are putting forward this recommendation as a way to improve their course.

Theme 3. Stress and the Dissertation: This theme appeared in the categories 'Course Assessment' and 'Course Design'. One of the interviewees highlights the amount of stress and time required to finalise the dissertation while at the same time preparing for the Final Examinations. The recommendation, that the dissertation commences in the third year of the course and handed in by the end of the first semester of the final year, allowing students to have the final semester to revise for their finals, was made.

> *"Dissertations and the Final Examinations ought not to take place in the Final Year of the course - fourth year. It's good that we have more time because we have to do the thesis, and the finals, that's another thing which I didn't like. Having the finals with the thesis, which was a bit too much I think. You have to concentrate on two big things together."* (G28 2002)

Category 3: Course Design

Theme 1. Clinical Modules

Sub-theme i. Lack of co-ordination: The respondents expressed a certain amount of dissatisfaction regarding the lack of co-ordination between the theoretical and clinical components of the course. Due to the restricted number of clinical placement sites, students often found themselves on placements where the subject had not yet been covered. Other complaints were directed towards the irregularity of the length of clinical placements ranging from three to eight weeks. A suggestion to commence clinical modules earlier on in the course was put forward.

Sub-theme ii: Difference in Standards of Practice

> *"What I didn't like as well, was that for example, what we learn here is not always what is done in practice, there was that conflict going on always, we learn one thing from here, then we go up there, and ..."* (G8 2002)

This situation was raised before this study commenced and was expressed again in these interviews. There appears to be an inconsistency between the standard of practice that is taught at the I.H.C. and that of the clinician on the ward, causing an element of unease amongst the students.

Sub-theme iii. Quality of Supervision: Criticism was directed at the clinical supervisors and clinical educators. The latter, having an I.H.C. appointment, are directly involved with upgrading the students' clinical skills to the standards expected by the I.H.C.

> *"Our tutors were supposed to come and see us three times each placement. There were some instances where they came only once. I don't know supervisors who were supposed to be with you but didn't have the time... And you end up doing everything on your own. In that manner you don't learn because how will you know if you are doing the wrong thing, if nobody tells you? That is something that really upset me, very often I was left alone, and I wouldn't know if I was doing the correct thing or not."* (I34 2002)

This situation is unacceptable and more clinical-educators have been employed to ensure that students get the quality supervision they are entitled to.

Category 4: Student Perceptions

Both students commented on the lack of motivation they received throughout the course. They gave a scenario of an 'upstairs/downstairs' situation between the teaching staff and the students. The lack of respect shown by some lecturers by arriving late or cancelling lectures without informing the students reinforced this perception of 'power' over them. This sometimes led to students feeling unwelcome.

> *"I don't know... we were often told that we were not going to pass, that we are not going to do well....Pessimism!"*
>
> (I10 2002)

Some comments passed by staff gave students the impression that they were underachievers thereby making them feel under pressure throughout the course. A suggestion that the course be 'more relaxed' was put forward.

Category 5: Teaching and Learning

The comments made by the interviewees regarding this category were positive and the lecturing staff at the I.H.C. was considered good.

Sub-theme i. Lack of Discussion: This sub-theme and the following one have much in common. The present teaching method lacks 'discussion'. This is particularly evident in the common core lectures and to a certain extent amongst the I.H.C. staff too. The following quote refers to lectures delivered by an overseas guest lecturer, who adopted a different teaching style to the one to which the students were accustomed.

> *"It was in a discussion form, and we exchanged knowledge, and, it was I think the cherry on the cake for us, that subject"*
>
> (J285 2002)

The interviewees put an obvious need for more interaction during lectures forward. This correlates with the literature regarding modern teaching and learning methods.

Sub-theme ii. Insufficient Physiotherapeutic Skill Training: All interviewees commented on the need to increase the amount of practical skill classes. The comment: 'the more the better' given by one of the respondents is now pertinent. This insufficient training has led to two of the three interviewees, stating that, at the end of the course, they did not feel confident enough to treat patients.

> *"At the end of the course, did you feel confident to go and treat a patient?*
> *No, no...*
> *No?*
> *Not really.*
> *Why?*
> *I don't believe that I can go and work anywhere, I believe I still have a lot to learn."*   (I39-44 2002)

> *"But it is something very different when you come to practise these skills, on patients then when you practise them on your friends or for a credit test. The fact that I know how to carry out Mobs on another student does not mean that, I know how to do it exactly on a patient."*   (I50 2002)

The proposition for clinical educators to further the students' practical skills while on clinical placements is a method whereby this sub-theme can be improved.

Category 6: New Proposed Curriculum Review

Theme i. Improved Course Design: All respondents commented positively about the new proposed curriculum. These comments are valid as the interviewees have recently undertaken the old physiotherapy curriculum and are now in a good position to compare it to the new.

> *"This makes a lot more sense than our course....I like the system of the modules, it seems better organised."*
>   (J310 2002)

Theme ii. Course Assessment: All respondents agreed that their courses were over-assessed. This theme generated the most discussion in all the interviews. They expressed positive views regarding the removal of the Final Written Comprehensive Examinations and the new assessment system, whereby the Practical Examinations are to be held in two sessions.

> *"I think that being assessed by all study units, what did you call it? Continuous assessment? Is a much fairer and just way than ours."*   (I83 2002)

Theme iii. Suggested Improvements to the New Proposed Curriculum: The respondents suggested different ways to improve the new curriculum. Amongst these were:

1. An increase in applied teaching covering both the common core and physiotherapy-specific subjects,
2. A greater involvement by the clinical staff in the teaching of Rehabilitation,
3. The introduction of a study unit on 'Communication Skills',
4. Reduction in the amount of stress,
5. Improved clinical education.

These themes put forward in the previous set of interviews together with the recommendations were taken into consideration when formulating the new curriculum. (Appendix 18)

Summary

To conclude, the analysis of the two final year students and the junior staff interviews has resulted in many themes that are similar to the themes and sub-themes obtained during the first set of interviews. All the suggestions had been mentioned previously, and all interviewees unanimously approved the new proposed curriculum. The decision not to interview any further candidates in this cycle was taken as no new data were being generated but 'more of the same' became evident.

Figure 6.20 Diagram of the Research Methods used for this study (Cycle IIIF)

Research Aims
- To investigate the curriculum of other divisions within the Institute of Health Care to discover whether they have or are encountering the same problems that the Physiotherapy Division has faced
- To research the views of the immediate (primary) stakeholders of the new proposed 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Divisional Coordinator
- 2 Final year students

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Sampling Strategy – Purposeful Sampling
- Random intensity sampling
- Random typical case sampling

Participants/Population
- 2 Divisional co-ordinators
- 1 Junior clinical member of staff
- 2 Final year students

Location
- Boardroom – IHC

Time Frame Data Collection
- August – September 2002

Data Analysis
- Thematic analysis

Findings & Comments

Implications

Research Objectives
At the end of this stage:
- the researcher would be in a better position to understand the problems that other divisions within the IHC are facing and any action they have taken to rectify them.
- the researcher had confirmation that the new curriculum is acceptable and appropriate to the primary stakeholders of the Physiotherapy curriculum in Malta

181

6.6.10 Implications at the end of this Cycle

The most important implication at the end of this cycle was that the primary stakeholders approved the new curriculum. The second implication was that having interviewed different divisional course co-ordinators, it was evident that their courses were facing the same problems as the physiotherapy course, and a desire to restructure their respective course curricula was expressed. The fact that both divisions have imported their curricula from either U.K. or the United States also indicates that these courses have not been adapted to meet the local medical needs.

The data, obtained from the second set of interviews with the immediate stakeholders of the physiotherapy curriculum, have shown that their comments and suggestions regarding their previous experience have been included in the new curriculum. On examination of this new proposed curriculum, all respondents gave positive feedback.

> *"The new curriculum tends to place a burden on the lecturing staff, but allows for greater student interaction. It is less didactic and more student-centred. It enhances this sense of discovery in both the student and the lecturer."* (Agius 2004)

This was the end of the third cycle and paved the way for the following cycles in order to obtain the views, opinions and approval of the other major stakeholders who directly influence the undergraduate curriculum. The next logical step in the progression of this research was to investigate the public's opinion regarding the quality of the physiotherapy service on offer.

Figure 6.21 Diagram of the Research Methods used for this study (Cycle IVA)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'

6.7 Cycle IV

6.7.1 Research Aims

The primary aim of this fourth cycle was to investigate the perception of the Maltese public regarding the physiotherapy profession. The secondary aim was to investigate the public's opinion regarding the quality of the physiotherapy service on offer to the Maltese population, and the final aim was to identify any shortcomings within this service that could be improved by alteration or inclusion in the new curriculum. In the U.K. service user involvement is being viewed as one of the key drivers of change within the National Health Service (Service User Involvement Strategy 2006) and the theory of user involvement in health education has gathered momentum over the past 20 years (Felton and Stickley 2004).

Users can be effectively involved in not just aspects relating to their treatment plans but also in the education of health professionals as well as service development. The concept of user involvement, in principle, requires involvement of users as partners in their own care and affecting changes to the curriculum to meet their preferences. Translation of such idealistic policies and ambitious ideals into practice is crucial if user involvement is to become a reality.

The co-operation from the public would contribute to the better handling of the research implementation, and thus increasing the chances of its success. However, their co-operation is enhanced if the purpose behind these interviews and their involvement is explained prior to implementation. The simpler the process is to understand, the better the results and the quicker its adoption. Untrained users would not be as productive or motivated, as those who are trained. Glover et al (1992) states this as the most frequent cause of implementation failure.

For this study patient user involvement is taken as the active partnership between users and physiotherapy education, and providers of the service. It means that service users work with health professionals on an equal basis to

Figure 6.22 Diagram of the Research Methods used for this study (Cycle IVB)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

collaborate in the decision making process to help design the new physiotherapy curriculum and improve service of physiotherapy being offered (Taylor and Le Riche 2006). Users and professionals must be able to recognise and articulate when they are representing their own personal views or the views of others and how these fit into the wider context of service delivery.

Involvement produces improved services and benefits to users of the service. It is associated with a number of advantages as it: Promotes a democratic process, thus ensuring that what is being offered is what the public actually want and expect. It empowers service users so facilitating true partnership in working towards a better quality service, at the same time providing an effective mechanism to monitor service quality (Strengthening Accountability Involving Patients and the Public 2003). It helps staff to see their roles from the service user perspective, and reciprocally allows service users to appreciate the issues faced by the staff.

To conclude the purpose of involving patients in this research study was to ensure a collaborative approach for the provision of high quality care and to build on mutual trust and respect a physiotherapy curriculum that will meet their expectations. Meaningful user involvement requires time, resources and the commitment of all staff. The author also realised that patient user involvement had to be developed incrementally, and that patients have a right not to be involved.

6.7.2 Research Method
Interview

The semi-structured interview was chosen as the most appropriate method to investigate the public's opinions and views regarding the physiotherapy profession and service being offered.

Interview Design

Since the public was to be interviewed, greater care, concerning the language was taken in the design of this interview. All questions were kept as brief and

Figure 6.23 Diagram of the Research Methods used for this study (Cycle IVC)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Colleague/Co-worker

Research Instruments
- Self
- Interview schedule

simple as possible. Care was taken to avoid any leading questions but the use of probes, to encourage the respondents to elaborate further, were included. The translation of these questions into the Maltese language could not be carried out in a literary manner but the gist of the question was extracted and later translated.

Pilot Interview

Both the English and the translated Maltese versions were initially piloted on my secretary to eliminate any grammatical mistakes. These were further tested on another member of the secretarial staff to confirm that what was being asked in Maltese was similar to the English question. Finally, this pre-piloted interview was once again piloted on a member of the public to obtain their opinion. This resulted in a number of changes to the translation whereby a more colloquial, everyday style of language was used. (Appendix 19)

Actual Interviews

It was interesting to note that in the actual interviews three of the respondents felt uncomfortable with the use of a tape recorder. As a result, notes were kept and immediately after the interview, an analysis of what took place was recorded.

6.7.3 Research Instruments
Self

As in the previous cycles, the person carrying out the actual research is considered the research instrument.

Interview Schedule
Topic: Introduction

Question: Have you ever been referred to physiotherapy before?

Question: Did a doctor refer you for treatment or did you go directly to the physiotherapist?

Figure 6.24 Diagram of the Research Methods used for this study (Cycle IVD)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Colleague/Co-worker

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Topic: Perception of the profession

Question: Prior to coming for treatment, what did you think physiotherapy consisted of?

Question: What do you think are the benefits of physiotherapy?

Question: Did you think physiotherapy was necessary for your final rehabilitation?

Question: In your opinion do you think doctors or the medical profession appreciate the physiotherapy profession, or the work done by physiotherapists?

Question: How many years does a student have to study to become a physiotherapist?

Topic: Perception of the physiotherapist

Question: Did the physiotherapist portray a professional image?

Question: In your opinion, was the treatment carried out in a professional manner?

Topic: Perception of treatment given

Question: At your first treatment session, was your condition explained to you by the physiotherapist?

Question: Did you find the explanation satisfactory?

Question: Did anyone explain the physiotherapy treatment to you?

Question: Were you satisfied by the explanation given to you?

Question: Were your expectations regarding physiotherapy treatment met following treatment?

Topic: Perceptions regarding the Physiotherapy service

Question: In general, were you satisfied with the physiotherapy service offered to you?

Question: If you required physiotherapy in the future, would you consider going straight to a physiotherapist, or would you go via your G.P. or specialist?

6.7.4 Research Tools

- Tape recorder
- Field Notes

Figure 6.25 Diagram of the Research Methods used for this study (Cycle IVE)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'

Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Colleague/Co-worker

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Participants/Population
- 2 Members of the public attending Inpatient State provided physiotherapy
- 2 Members of the public attending Outpatient State provided physiotherapy
- 1 member of the public attending Inpatient/ Outpatient physiotherapy at a private hospital
- 3 Members of the public attending a private physiotherapy clinic

Location
- Physio. Dept. – S.L.H.
- Orthopaedic/Surgical Wards – S.L.H.
- Private Hospital – Sliema – Malta
- Private Clinic – Sliema - Malta

Sampling Strategy – Purposeful Sampling
- Random typical case sampling

Time Frame Data Collection
- April – July 2003

Data Analysis
- Thematic analysis

Findings & Comments

191

6.7.5 Location

- Outpatient Physiotherapy Department, St. Luke's Hospital,
- Orthopaedic Ward and Surgical Ward, St. Luke's Hospital,
- Private Hospital,
- Private Physiotherapy Clinic.

6.7.6 Population Description

Sampling of the Research Population

Eight interviews were carried out in order to obtain a broad spectrum of public opinion. Each was chosen at random from amongst their respective population:

- Two inpatients (one male and one female),
- Two patients (one male and one female) who were attending state outpatient physiotherapy,
- One patient (female) who attended a private hospital,
- Three patients (one female and two males) who were attending physiotherapy at a private clinic.

6.7.7 Data Collection

This fourth cycle of the research involved the interviewing of eight members of the public to investigate their views regarding the physiotherapy service on offer within the state and private health services. These interviews were carried out during the months of April to July 2003.

6.7.8 Data Analysis

- Thematic analysis

6.7.9 Findings and Comments

Category 1: Patients' earlier perception of the physiotherapy profession

Theme: A manual skill

Theme: Massage

Theme: Electric shocks

Theme: No use of any apparatus

Theme: Exercise

"I don't think the public see any difference between massage and physiotherapy. For them, going for a massage is having physiotherapy. Initially, I used to think like this too... maybe the public think like this also. I think that the public think that chiropractitioners, acupuncturists, and physiotherapy are all the same." (R8 2003)

All respondents associated physiotherapy with massage and exercise. This is not surprising as the colloquial translation for the Physiotherapy profession in Maltese is "tal-massaggi", which literally translated means "of the massage". It is evident from the data gathered that the profession has to commence an awareness campaign to make the public more aware of the profession and its wide scope of practice. One respondent called electrotherapy, electric shocks, but when probed for detail, this was a way of describing muscle stimulation and ultrasound. None of the respondents associated physiotherapy with the use of any electrotherapy apparatus; all deem physiotherapy as a manual skill.

Category 2: Patients' perceptions of State Physiotherapy Service
Theme: Inconvenient times
Theme: Non-personalised approach to treatment
Theme: Bureaucracy involved
Theme: Patients are addressed in an infantile manner

"The staff at St. Luke's suffer from the St. Luke's or Government syndrome, i.e. when they talk to you or explain things to you they talk to you as though you are an idiot." (Q28 2003)

Theme: Lack of hygiene

"There were occasions when the cleanliness started slacking." (Q32 2003)

Theme: Long waiting times

"Besides I can afford to come to a private physiotherapist and I don't like to go to a hospital where I wait my turn after you know, so many people." (N42 2003)

193

Theme: No supervision during the treatment session

"They used to leave me on my own, they used to tell me what to do... like that you know. I used to get into the pool do the exercises I was supposed to and when my time was up they would appear and tell you that the session is over."
<div align="right">(K28 2003)</div>

Theme: Hassle getting there

Theme: No parking

"If the parking problem and the time you have to waste at St. Luke's was solved... Yes, I would go to St. Luke's."
<div align="right">(M20 2003)</div>

Theme: Stressful

Theme: Walk up a hill to get there

Theme: No individual attention

"You are treated more like a number rather than an individual."   (Q22 2003)

Theme: Pleased with service being offered

Theme: Flexible appointment system

"...to the extent that if I couldn't keep my appointment on the day I would phone and be given an alternative appointment. Do you understand? It was very good."   (L22 2003)

Theme: Appointment times kept

"Now even the appointment times are almost exact. If your appointment was for eight fifteen, that is the time you go in."
<div align="right">(N34 2003)</div>

Theme: Good communication

This category, 'Patients' perception of state physiotherapy service', was the most interesting one to comment on. The data gathered can be split into two: those attending state physiotherapy service and passing positive comments about it, and those attending private physiotherapy yet passing negative

comments about the state offered physiotherapy service. Another interesting point worth mentioning is that two of the interviewed respondents attending a private physiotherapy clinic, had previously attended state physiotherapy as an outpatient, and both these respondents complained about a non-personalised treatment approach and the lack of individual attention. Another theme worth commenting about was that the respondents attending state physiotherapy as outpatients both commented about 'good appointment times', and 'good communication' with the staff, yet the respondents attending private physiotherapy commented about 'long waiting times', and one mentioned being spoken down to, and having an explanation about her treatment given as though she were 'simple'.

The implications from this category are many:

i.   The state service ought to carry out its own research into public satisfaction regarding the physiotherapy service on offer.

ii.   The public appears to have a preconceived idea that state physiotherapy service is associated with a poor appointment system and that one has to wait for a long time for one's treatment sessions yet this does not appear to be the case.

iii.   Finally, the public also has this perception that there is a long waiting list for state physiotherapy service; again, this is unfounded as the waiting time for a non-urgent case is three to four days (Bezzina 2004).

The implications from the above themes are that the public is misinformed about the state physiotherapy service.   It is true that there are long waiting lists to see particular surgeons, or for particular outpatient units, but this is not the case for physiotherapy. It is in the interest of the D.H. to make public such positive information, as the health sector is always one that is highly criticised in the media.

Category 3: Patients' perceptions of a private physiotherapy service

Theme: Appointment times must be at my convenience

Theme: No waiting

Theme: A pleasant environment

> *"Private physiotherapy is at my convenience, especially regarding time. There is no waiting, and is usually associated with a more pleasant environment"*   (Q14 2003)

Theme: Greeted nicely

Theme: Made to relax

Theme: Best treatment offered

Theme: Given a lot of attention

Theme: Physiotherapists must be honest

Theme: One has to pay continuously

> *"I used to attend treatment for my neck at a private clinic. But you know one has to be paying continuously..."*
>   (K24 2003)

Theme: Dissatisfied with the results

All respondents attending private physiotherapy passed positive comments, yet one of those attending state physiotherapy service commented about the cost involved for private treatment and that she was not impressed with the quality of treatment offered.   An interesting point worth mentioning is that physiotherapists who in the morning are employed by the state staff the majority of all private physiotherapy clinics, yet all respondents attending private physiotherapy associated this with 'better treatment'. The implications from this is that either the environment makes a big difference, or that the quality of physiotherapy being offered by a physiotherapist varies on whether they are carrying out treatment within a state run service or in the private sector.   Finally, another implication could be that since one is paying for treatment one is automatically getting better treatment.

Category 4: Communication between physiotherapist and patient

Theme: No introduction prior to surgery

Theme: Patient not informed what to expect

Theme: Condition not explained

Theme: Treatment not explained

> *"Actually no, she didn't actually tell me what to do, she just told me every so often, just put your hand up and that's it..."*
>
> (O56 2003)

Theme: Importance of home exercise programme not explained

Theme: Advised on number of treatment sessions necessary

Theme: Good communication with physiotherapist re: condition and treatment

> *"I see the specialist once yet I see the physiotherapist twice a week, who can explain the situation better than the physiotherapist can"* (M42 2003)

The results from this category were that physiotherapists were very good at explaining the medical condition to their patients, yet rather poor at explaining the treatment that was to be carried out.

Category 5: Patients' perception of length of time required for a physiotherapist to qualify

Theme: Two years

Theme: Three years

Theme: Five years

> *"Three years....physiotherapists qualify with a Degree and they are taught at the Medical School."* (P10 2003)

This category actually produced some interesting data; when asked how long the physiotherapy course was, no respondent was familiar with the correct length of time. This varied from two years to five years or, the same timeframe as the medical course. This shows that the majority of the public is unaware of

Figure 6.26   Diagram of the Research Methods used for this study (Cycle IVF)

Research Aims
- To investigate the perceptions of the Maltese public's opinion regarding the Physiotherapy profession
- To investigate the public's opinion regarding the Physiotherapy service being offered in Malta
- To investigate any shortcomings within the service that could be improved by an alteration or inclusion in the new 'ideal curriculum'
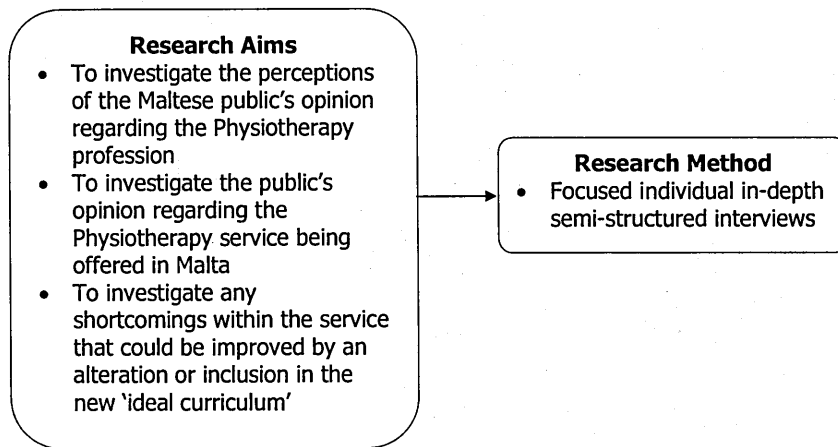
Research Method
- Focused individual in-depth semi-structured interviews

Pilot
- Secretary
- Colleague/Co-worker

Research Tools
- Tape recorder
- Field notes

Research Instruments
- Self
- Interview schedule

Participants/Population
- 2 Members of the public attending Inpatient State provided physiotherapy
- 2 Members of the public attending Outpatient State provided physiotherapy
- 1 member of the public attending Inpatient/ Outpatient physiotherapy at a private hospital
- 3 Members of the public attending a private physiotherapy clinic

Location
- Physio. Dept. – S.L.H.
- Orthopaedic/Surgical Wards – S.L.H.
- Private Hospital – Sliema – Malta
- Private Clinic – Sliema - Malta

Sampling Strategy – Purposeful Sampling
- Random typical case sampling

Time Frame Data Collection
- April – July 2003

Data Analysis
- Thematic analysis

Findings & Comments

Implications

Research Objective
- At the end of this stage, the researcher had a generalised idea of the public's opinion of the physiotherapy profession and service provided, thus being in a better position to formulate a curriculum acceptable to the secondary stakeholders – the Maltese public.

the length of time required for a physiotherapist to qualify. This is another issue that can be addressed by the local Physiotherapy Association.

Category 6: Public's Perception of the relationship between the Physiotherapy profession and the Medical profession
Theme: Not appreciated by the Medical profession

> *"In my opinion, you are getting a bum deal from the medical profession."* (P28 2003)

Theme: Only referred for physiotherapy after all conservative medical treatment was tried out

> *"Doctors are reluctant to send you for physio. Instead of sending you for physiotherapy, they give you painkillers. You then feel better, and so as a result, you don't need to go for physiotherapy."* (R20 2003)

Theme: Doctors are reluctant to send you for physiotherapy

> *"The last time I was an in-patient at St. Luke's I had to ask myself... I almost had to beg the consultant to refer me for physiotherapy."* (R4 2003)

This category produced some interesting themes. The most common, 'not appreciated by the medical profession' and 'reluctant to refer you for physiotherapy', are very worrying to the physiotherapy profession and ought to be researched further. Does the medical profession's attitude to the physiotherapy profession reinforce these themes?

6.7.10 Implications at the end of this Cycle
There appears to be a poor appreciation of the physiotherapy profession. A mismatch regarding patients' perceptions of the state physiotherapy service exists whereby those patients who receive this service do not confirm most of the negative comments. Physiotherapists are deemed to have good communication skills with patients, though the study has revealed that explanations regarding the actual treatment given are poor; action regarding

these findings will be taken and a study-unit in 'Communication Skills' will be included in the new curriculum. The medical profession in Malta does not appreciate the contribution of the physiotherapy profession to the rehabilitation of a patient.

Figure 6.27 Diagram of the Research Methods used for this study (Cycle VA)

Research Aims
- To investigate the views, opinions and perceptions of the medical profession regarding the physiotherapy profession and its curriculum
- To investigate the views, opinions and perceptions of some of the major influential stakeholders upon the physiotherapy curriculum
- To investigate a specific incident in which a physiotherapist underwent a legal disciplinary incident that was related to a confrontation between the medical and physiotherapy professions

Research Methods
- Focused individual in-depth unstructured interviews
- Focused individual elite interviews

201

6.8 Cycle V

6.8.1 Research Aims

The primary aim of this cycle was to investigate the views, opinions and perceptions of the major stakeholders of the physiotherapy curriculum. Securing their awareness and support are central to any curricular implementation. It can substantially influence the outcomes of the research initiative. To win the *"heart and minds"* of these decision-makers is often mentioned as one of the essential prerequisites for the implementation of any change within an organization (Pinto 1993). The secondary aim was to investigate the opinions and perceptions of the medical profession regarding the physiotherapy profession and its curriculum. The final aim was to investigate a specific incident in which a physiotherapist underwent a Disciplinary Procedure relating to a confrontation between the medical and physiotherapy professions. This has been included to investigate the dominance of the Medical profession over the Physiotherapy profession within the State Health Service.

6.8.2 Research Methods

Interview

The type of interview used in this cycle changed to 'unstructured interviews' and the 'elite interview'. The less structured the interview, the less the questions are determined and standardised before the interview occurs. Unlike quantitative interviews based on highly structured questionnaires, the order in which the questions were asked varied. The actual questions could not be standardised because the interviewer tried to use the person's own vocabulary when forming supplementary questions resulting in the unstructured open style of interview.

'Elites' can be defined as a group in society considered superior because of their power, talent, expertise, privileges of its members. Based on this, the Chairman, and the Director of the I.H.C. were identified as elite interviewees (Herz and Imber 1995).

Figure 6.28   Diagram of the Research Methods used for this study (Cycle VB)

Research Aims
- To investigate the views, opinions and perceptions of the medical profession regarding the physiotherapy profession and its curriculum
- To investigate the views, opinions and perceptions of some of the major influential stakeholders upon the physiotherapy curriculum
- To investigate a specific incident in which a physiotherapist underwent a legal disciplinary incident that was related to a confrontation between the medical and physiotherapy professions

Research Methods
- Focused individual in-depth unstructured interviews
- Focused individual elite interviews

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- Random typical case sampling
- Intensity sampling

Participants/Population
- 1 Senior clinical member of staff
- 1 Medical Physician
- 1 Member of the Council for Professions Complementary to Medicine
- Manager Physiotherapy Services
- Director – Institute of Health Care
- Chairman – Institute of Health Care
- Registrar's representative – Institute of Health Care

Location
- Boardroom – IHC
- Private residence
- Respondent's office
- Respondent's office
- Respondent's office
- Respondent's office
- Boardroom – IHC

Pilot

No formal pilot study of the interview could be carried out at this stage due to the nature of the interview design.

6.8.3   Research Instrument

- Self

6.8.4   Research Tools

- Tape recorder
- Field notes

6.8.5   Population Description

- Elected Physiotherapist, Council for the Professions Complementary to Medicine
- Identified Senior Clinical Physiotherapist
- Medical Physician (Purposeful Random Typical Case Sampling)
- Manager Physiotherapy services
- Chairman, Institute of Health Care
- Director, Institute of Health Care
- Registrar's Representative, Institute of Health Care

The fifth cycle consisted of seven interviews.   Each interviewee was chosen due to their position and/or direct relevance to this study. The only situation in which an interviewee in this cycle was chosen randomly from amongst his/her peers was the Medical Physician – another example of 'Purposeful Random Typical Case Sampling' (Patton 1990)

6.8.6   Location

This cycle involved interviewing influential personnel. Each had their own office and it was more convenient for the interviews to be held there. The medical physician was interviewed at his private residence.   In the case of the Registrar's representative and the clinical member of staff, the Board Room at the I.H.C. was chosen as the location.

Figure 6.29 Diagram of the Research Methods used for this study (Cycle VC)

Research Aims
- To investigate the views, opinions and perceptions of the medical profession regarding the physiotherapy profession and its curriculum
- To investigate the views, opinions and perceptions of some of the major influential stakeholders upon the physiotherapy curriculum
- To investigate a specific incident in which a physiotherapist underwent a legal disciplinary incident that was related to a confrontation between the medical and physiotherapy professions

Research Methods
- Focused individual in-depth unstructured interviews
- Focused individual elite interviews

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- Random typical case sampling
- Intensity sampling

Participants/Population
- 1 Senior clinical member of staff
- 1 Medical Physician
- 1 Member of the Council for Professions Complementary to Medicine
- Manager Physiotherapy Services
- Director – Institute of Health Care
- Chairman – Institute of Health Care
- Registrar's representative – Institute of Health Care

Location
- Boardroom – IHC
- Private residence
- Respondent's office
- Respondent's office
- Respondent's office
- Respondent's office
- Boardroom – IHC

Time Frame Data Collection
- July 2003 – April 2004

Data Analysis
- Thematic analysis

Findings & Comments

6.8.7 Data Collection

This involved the interviewing of six 'elite' stakeholders who influence the physiotherapy curriculum. The period for this cycle was from July 2003 until April 2004. This period was relatively long as certain respondents had a very busy schedule and kept postponing the interview date.

6.8.8   Data Analysis

- Thematic analysis

As the respondents, all hold different influential positions; all seven interviews were of the open, unstructured type and presented individually.

6.8.9   Findings and Comments

<u>Interview</u>:   **Elected Physiotherapy Representative, Council for the Professions Complementary to Medicine (C.P.C.M.)**

Category: Board for the Professions Supplementary to Medicine (B.P.S.M.)/ C.P.C.M.

Theme: A regulatory Board

Theme: Issues a Certificate of Registration

Theme: Controls practise of the profession on the island

Theme: Clinical staff unaware of the role of the B.P.S.M. / C.P.C.M.

Theme: Involved in the curriculum and assessment of paramedical courses

> *"One of the functions of the Board is to advise the Educational body, be it University or before University used to have different institutions on the courses itself, and it is also recommended that it will also be involved in the types of examinations. But in actual fact I don't know how much it has ever been put into effect……. The people of the Board are not competent in that area"*   (T26/32 2003)

The themes that emerged from this category are informative, but the only one that is directly related to this study concerns the role of the Board/Council regarding the curriculum. It is interesting to note that to date the Board has never approached the physiotherapy division regarding the local curriculum or the assessment thereof.

Category: Warrant

Theme: Every profession must have a warrant

Theme: Government promised to commence discussions with the professional association to issue a warrant

Theme: Professions with a warrant commence on a salary scale higher than that of physiotherapists

> *"In Malta for any form of field of interest, field of work to be called a profession it has to be legally warranted.... We are given a registration, which means that the Board up till now, later being called a Council, registers the applicant on the basis of his qualifications. If he falls under the criteria of the required qualifications he is registered..."* (T22 2003)

The issue whether physiotherapy in Malta will be granted a warrant to practise or not, carries both a social standing as well as an economic one.

Category: Physiotherapy and the Medical Profession

Theme: Legally physiotherapy can be viewed as a modality of practice of medicine.

> *"In Malta as things stand the legal person... Legally the only person who is officially and only legally responsible for the patient is the medical doctor."* (T52 2003)

Theme: Legally physiotherapy can be deemed as a prescribed treatment.

> *"If the medical doctor in his diagnosis, assessment and treatment thinks you will benefit from any form of physiotherapy, he is prescribing physiotherapy."* (T52 2003)

> *"This is a very small country. Unfortunately, the health services and health professions are still run by doctors. And I say unfortunately, not because I have anything against doctors but it is the medical profession that takes the largest bulk of all the important things that happens, that is going on in the health sector."* (T66 2003)

In terms of the law, the practice of physiotherapy must follow the referral by a doctor of medicine. This category had many implicit annotations mainly the antagonism between the two professions.

Summary

The following is a summary of the data collected from this interview:

1. The role of the B.P.S.M./C.P.C.M. is not very clearly defined
2. The B.P.S.M./C.P.C.M. appears to be the channel used by the Physiotherapy Profession to try and obtain a warrant
3. Legally the responsibility of the patient undergoing physiotherapy remains that of the referring doctor
4. The legal control of the patient undergoing physiotherapy is the cause of antagonism between the two professions.

Interview: Senior physiotherapist

Category: Professional development

Theme: No incentive for professional development

Theme: Onus of Continuing Professional Development (C.P.D.) should be on the State

Theme: Bad decisions taken regarding C.P.D. by Departmental Management

> *"Following qualification we had no incentives to specialise, only some privately sponsored courses... but these were very expensive. Government ought to send more people over..."*
>
> (R6 2003)

This interview highlighted the academic frustrations of some of the clinical staff who wished to further their knowledge. Opportunities were limited due to the unavailability of post qualification courses. The theme relating to the onus of Continuing Professional Development on the state rather than the individual has been noted in a previous study by the author (Sacco 1999).

Category: Perception of physiotherapy and the physiotherapist

Theme: Management must respect Staff

Theme: Management must be approachable

Theme: Lack of respect from other professions

Theme: Medical profession using physiotherapy to supplement their private practice

This category reinforced the issues regarding status and the referral system. One has to bear in mind that these themes are the perceptions of an individual clinical member of staff, and no generalisations can be made at this point.

Category: Personal confrontation with the medical profession

Theme: Private patient referred for hydrotherapy

> *"But the consultant does not prescribe physiotherapy? In my case he did, she was a private patient and he ordered hydrotherapy... I got given the patient and I realised that she was not a candidate for hydro. I treated her on land – she had flat feet and postural problems... She returned to the consultant who was furious and who sent a note back asking for definite pool therapy and if she did not get the appointment she ought to get back to him."* (R14 2003)

This incident was the only known occasion where a consultant specifically referred a patient for hydrotherapy and not physiotherapy. The incident has caused a precedent in the Physiotherapy Department, the outcome of which had a de-motivating influence on the staff and increased the resentment between the two professions.

Category: Disciplinary action

Theme: Charged by the Board for the Professions Supplementary to Medicine

Theme: Abused my profession

Theme: Carried out treatment not consistent with the consultant's referral

Theme: Record keeping

> *"I got charged because I changed the consultant's recommendation of treatment: 'he specifically wrote for hydrotherapy'. As a result I got fined a LM100 – the least fine possible."* (R20 2003)

This category deals with the disciplinary action taken by the Board for the Professions Supplementary to Medicine regarding the above incident.

Summary

This interview can be summarised into the following points:

1. There is discontent with the Continuing Professional Development programme within the State Health Service.

2. There appears to be discontent between management and staff in the Physiotherapy Department.

3. The antagonism between the medical and the physiotherapy professions is evident.

4. A clinical physiotherapist is fined for not carrying out a doctor's referral for specific physiotherapy.   Physiotherapists are trained to diagnose and plan their own treatment, yet following this action specifically with this consultant physiotherapists are reluctant to alter any suggested treatment for fear of legal action.   The follow-on to this regarding physiotherapy education is "should the new curriculum be geared towards training students to carry out specific 'prescribed' treatment or train them to become the autonomous practitioner?"

Interview: Medical Consultant, St. Luke's Hospital

Category: Perception of the medical course of training

Theme: Dissatisfied with the teaching method

Theme: Too little patient content in course

Theme: Made to study a lot of detail by heart

Theme: Emphasis on the wrong subjects

> "... Many of us were taught to see a patient as condition rather than a person. On the whole there was too little patient contact... Can you imagine sometimes we were about twelve students around a patient; if we had to listen to the patient's chest with our stethoscopes all we had were a few seconds each."   (S4 2003)

This category highlighted the problems perceived by an ex-medical student regarding his course.   It is interesting to note that all the themes are similar to those regarding the physiotherapy course.   The lack of adequate supervised clinical practice was another theme expressed during the first cycle of this study.

Category: Perception of the relationship between the medical profession and that of physiotherapy

Theme: Philosophy of multi-disciplinary team approach not evident

Theme: Doctors in Malta still tend to have a superiority complex

> *"What impressed me most during my stay in the States was the relationship of the multi-disciplinary team... We all respected the contribution of each other. In Malta on the other hand, doctors have an attitude problem. They all feel that they are up there..."* (S10/12 2003)

The themes from this category expressed by a medical doctor were particularly interesting as they are evidence to the antagonism between the two professions mentioned previously.

Summary

This interview can be summarised into the following points:

1. There is discontent about the medical course taught in Malta.
2. The multi-disciplinary team approach is not evident within state hospitals.
3. The medical profession consider themselves superior to the other members forming part of this team.

<u>Interview</u>: Chairman, Institute of Health Care

Category: Shortage of physiotherapists within the State Health Service

Theme: Meetings to discuss the amount of physiotherapists required

Theme: No specialised physiotherapists within the Health Service

Theme: Consultants used to learn and later demonstrate physiotherapy techniques to patients

This category is interesting as the respondent has a great wealth of experience and has played an important role in the development of the education for the professions allied to medicine. One must state that the respondent was a medical consultant within the State Health Service, has held the post of

Parliamentary Secretary for the Care of the Elderly and Parliamentary Secretary for Health, and Chancellor of the University of Malta.

Category: Physiotherapists always held in high esteem
Theme: Always enjoyed a special position within the Health Service
Theme: Always regarded as a respected profession in Malta
Theme: Physiotherapists were treated as consultants on the wards

The themes from this category regarding the perceptions of the physiotherapy profession contrast with those stated previously. Physiotherapy was a more esteemed profession during the late 50s and early 60s than what it is today.

Category: Discontent within the multi-disciplinary team
Theme: Nursing profession had gone astray
Theme: Nursing profession formed a union
Theme: Political decision to reform the education of health care professionals

This category refers to the setting up of the Institute of Health Care.

Category: Physiotherapy education
Theme: Physiotherapy training has to be very extensive
Theme: Little difference between the medical and physiotherapy courses
Theme: The physiotherapy course must be one of the most difficult courses at the I.H.C.

> *"First of all, the basic degree course has to remain one of the most difficult courses. There is very little difference between doctors and physiotherapists. So a physiotherapist's basic training has to be very, very extensive."* (V38 2003)

This category is of direct relevance to this study. The high regard that the medical profession had of physiotherapy has been carried forward. The theme, regarding the small difference between the medical and physiotherapy courses, highlights this high esteem that the profession held previously.

The theme regarding the course as being one of sound, academic content and perceived as being one of the most difficult courses, contrasts with the I.H.C.'s policy of harmonisation amongst the different courses and the Registrar's perception that the academic content of all undergraduate courses be of the same standard.

Category: The development of physiotherapy education

Theme: Personal experience demonstrated the need for specialised physiotherapists

Theme: Time to develop specialisation courses

Theme: Specialisation can take place in a broad field

This category relates to the development of physiotherapy education at the I.H.C. and the need to develop postgraduate specialisation courses.

Category: The future of the Institute of Health Care

Theme: The I.H.C. will become an all degree institute

Theme: Integration of the professions allied to medicine together with medical course

Theme: Unless all divisions within the I.H.C. have their own identity, the medical profession will dominate

Theme: The organisation of special courses that ought to incorporate all the multi-disciplinary team

This category relates to the future of the I.H.C. Once the new hospital is inaugurated, the Medical School and the I.H.C. are to be transferred to new combined premises. The themes relating to the allied professions merging with medicine to form a new faculty are linked to the concept of the move to the new hospital.

The final theme regarding the multi-disciplinary team is very forward looking and one that ought to be encouraged by all involved in the education of medicine and the allied professions.

Summary

This interview can be summarised in the following manner:

1. Physiotherapy is a new profession
2. The profession has always held a position of high esteem within the social and medical fields
3. Discontent within the professions allied to medicine, including the nursing profession lead to the development of the I.H.C.
4. The education of physiotherapists must be very thorough
5. The way forward for physiotherapy education is to develop postgraduate 'specialisation courses'
6. The future of the I.H.C. is to amalgamate with the medical course as equal partners forming a new faculty.

<u>**Interview**</u>: **Manager Physiotherapy Services, Malta**

Category: Physiotherapy service

Theme: A service that is holistic

Theme: Makes sense to the patient

Theme: Meets the patients' needs

Theme: Can be delivered where it is most appropriate

Theme: One that is not difficult to access

Theme: With the fewest (administrative) steps possible

Theme: Present service meeting some of the needs

Theme: Present service not meeting all the different patients' needs equally

Theme: No form of mechanism to judge patient satisfaction

This category described the perceptions of an ideal physiotherapy service and one that is on offer.

Category: Perception of physiotherapists' self-image

Theme: Some physiotherapists have difficulty valuing their work

Theme: The value of 'hands on' does not seem to carry so much reward and importance

Theme: Little value given to the explanation by physiotherapists

Theme: 'Knowledge' is the most important thing about being a physiotherapist

Theme: Change in values in the way that physiotherapists think

Theme: A frustration in physiotherapists

Theme: It is not glamorous enough

Theme: This change in value is becoming a concern from the management point of view

Theme: No value placed on decision-making

Theme: Are we a status-hungry profession?

Theme: Emulating the medical profession

Theme: People are going to bow and kowtow to us

Theme: Change in the students' social class

Theme: The ability to feel good about being part of a large organisation

> "... that is a symptom of how physiotherapists perceive themselves... my concern at this point in time is that some physiotherapists are having a major difficulty putting a value on what we really do."　　　　　　　　　　(U28 2003)

> "... There is a frustration in physiotherapists, that with the training and the qualification and the education ... It is not glamorous enough."　　　　　　　　　　(U32 2003)

> "Is it because of the educational training that they are getting? Is it a societal phenomenon? Is it a state of a hungry profession, which wants to take on...., emulating the medical profession because they have the kudos."
> 　　　　　　　　　　(U56 2003)

This category deals with the self-image of the physiotherapist. It is very interesting to note the themes identified in this category from an administrative point of view.

Category: Relationship between the medical and physiotherapy professions

Theme: Relationship within the organisation is very good

Theme: It has improved over the years

Theme: Our opinion is sought

Theme: Junior members of staff have a different opinion

Theme: Doctors do not know what we do

Theme: Problems between the two professions maybe due to the attitude of physiotherapists themselves

It is very interesting to compare this category regarding the relationship between the medical and physiotherapy professions with that of the clinical physiotherapist previously and that with the medical consultant. The perception of this relationship as seen by the administrative staff contrasts with that of the other interviewees.

Category: Medical referral system within the State Health Service

Theme: Any particular medical officer irrespective of level can refer a patient

Theme: Patient referral is by a medical officer

Theme: The physiotherapy profession had decided on referral by medical officer

Theme: No direct referral within public sector

Theme: This system can be changed if the profession desires

Theme: Medical referral is a managerial strategy

> *"I think I should state this now within the health service set-up, the service that I represent the current system is that the patient will be referred by a medical officer. It is that way because we have decided that it is that way. We do not have self-referral within the public sector, the bit that I am responsible for, but we can change that tomorrow if we feel that is the way that we want to go."* (U90 2003)

This category deals with the mode of referral to physiotherapy within the State Health Service. This is of particular interest as it influences the underlying philosophy of the new course: that of being 'a self-diagnosing professional'.

Category: Proposed future trends in physiotherapy education

Theme: Research

Theme: Learning how to learn

Theme: Self-directed learning

Theme: Management of the elderly

Theme: Neuro-medical management

216

Theme: Management of disability

Theme: Decision making skills

Theme: Clinical reasoning skills

Theme: Sensitize students to issues of health care

Theme: Cost in relation to providing health care service

Theme: The wider view of service provision

This category is very important as it highlights the aspects that ought to be emphasized in physiotherapy education from the managerial point of view.

Summary

This interview can be summarised into the following points:

1. The Manager of Physiotherapy Services has a clear idea of an efficient service, and is aware of its limitations

2. The perception of a physiotherapist's self-image has become a worrying factor to management

3. The relationship between the medical and physiotherapy professions at administrative levels has improved and is good

4. Any antagonism between the two professions is generated due to individual personality clashes

5. The decision for Medical referral for physiotherapy taken by the physiotherapy profession in the past can be changed if required.

6. Recommendations suggested for the future of physiotherapy education.

Interview: Director, Institute of Health Care

Category: Perception of the physiotherapy profession

Theme: The education of physiotherapists is of a good standard

Theme: Professionals who demonstrate the desire for life-long learning

Theme: The contribution of a physiotherapist is valid in the rehabilitation of a patient

Theme: Physiotherapists were not perceived as having a good academic background

Theme: Physiotherapy education was not a University course

"Well I must say as you know... going through the medical course we were rather... you feel that you are in a special world just made up of doctors, and em... at that time, at that time I remember when I qualified in 1987, physiotherapists were not part of university, their education was not part of university. So em... for me, I could not appreciate physiotherapy as coming out from an academic institution. You feel that there was not that academic background. I must say that my knowledge was limited, em... but at that moment in time I could not really appreciate physiotherapists." (W18 2003)

"...you have to appreciate that em... becoming a medical doctor is not equal to becoming a pharmacist or becoming a physiotherapist or an OT." (W32 2003)

Reading the themes that constitute this category one can appreciate the contrast between the first three themes and the quotes included in this text. The reason, why physiotherapists were perceived as being inferior to the medical profession stemmed from the training they received. Until 1992, even though entry qualifications were similar to what they are now, the D.H. and not the University ran physiotherapy courses. These quotes bear witness to the feeling of superiority borne by the medical profession.

Category: The Director's duties

Theme: According to regulations, the Director of the I.H.C. is to Chair all Boards of Studies

Theme: Would like to be a member of the Board of Examiners

Theme: The Director is also the Chair of the Final Classification Board

This category demonstrates the control the Director has over the various courses at the I.H.C. The Director has never taken on any position of authority that is directly related to the running of the physiotherapy course even though this is laid down in the regulations; yet, should the need arise, the position is set that presently, it is a medical doctor who would chair the various boards.

218

Category: Physiotherapy and the multi-disciplinary team

Theme: At St. Luke's Hospital, the physiotherapist is not perceived as being a member of the multi-disciplinary team

Theme: At St. Vincent de Paule Residence and Zammit Clapp Hospital, physiotherapists are very much part of the team.

> "...you cannot expect people to fall into a framework of thinking 'Look this is the only way forward, we have to get all the people together.' You know there are... there are medical doctors who look down on other professions." (W32 2003)

This category is interesting as it demonstrates the different ways of viewing physiotherapy in different settings and as a member of the multi-disciplinary team. The physiotherapists at St. Luke's Hospital were not perceived as being team members, yet in the smaller hospitals, this was different. It is evident from the quotes, that a discrepancy between all the members who form this team exists.

Category: Perception of the local medical course and other professions

Theme: Doctors trained in the medical model

Theme: The multi-disciplinary team approach was not encouraged

Theme: No contribution from other allied health professionals to the course

> "It is limited and it is not appreciated as it should be. I think that is what is lacking... that is what is lacking. What is lacking is that as doctors we are trained very much in the medical model and therefore you would not be appreciating the contribution or understanding really the contribution that other professionals can make to the holistic management plan of that patient." (W20 2003)

This category highlighted the ethos underlying the local medical course. This, in turn, influences their perception relative to the other members of the multi-disciplinary team.

Category: Future of the I.H.C.

Theme: Possibility of becoming a faculty of health sciences

Theme: Would like the I.H.C. to be on par with the medical course

This category produced themes very similar to those expressed by the Chairman of the I.H.C., whereby the desire to merge with the medical course and integrate the Institute into one single faculty was expressed.

Category: Perception of the physiotherapy service on offer in private practice

Theme: Access to information regarding physiotherapy services is difficult

Theme: Private physiotherapy is perceived as being expensive

Theme: The public are not aware of the physiotherapy profession as a whole

This category was included to obtain another physician's opinion about the private physiotherapy service offered to the public. The themes expressed were not very positive, and highlighted the need for the local physiotherapy association to organise a campaign in order to make the public more aware of the profession.

Category: The physiotherapy curriculum

Theme: The physiotherapy course is in accordance with the strategy of the I.H.C.

Theme: The Director has to rely on professionals within the profession to confirm the academic standard

Theme: Feedback about the course curriculum comes via the Registrar's representative

Theme: Feedback regarding the course curriculum also comes through the external examiner's report

Theme: The need to address components in the curriculum

In retrospect, this category had very important repercussions on the outcome of this study. The method, whereby the Institute Director obtains feedback regarding different courses was recorded, but more importantly were the themes "in accordance to the strategy of the I.H.C." and "there are components in the curriculum that need to be addressed".

Summary

The following points summarise this interview:

1. Physiotherapists are perceived as having a good standard of professional education.

2. Before 1992, the physiotherapy profession was considered an inferior education since it was not taught at university.

3. The superiority complex, perceived between medical education and the other professions is evident.

4. The Director of the I.H.C. is in a very strong position and can influence a course curriculum.

5. Physiotherapists are not deemed team members at St. Luke's Hospital.

6. Medical education is based on the medical model, and there is no contribution in that course from any of the other allied health professions.

7. It is the desire of the Director that the I.H.C. becomes a Faculty of Health Sciences.

8. The medical profession and the public are not aware of the physiotherapy services offered privately.

9. Feedback regarding the physiotherapy course comes about from different sources.

10. There are components in the new proposed curriculum that need to be addressed.

Interview: Registrar's Representative, Institute of Health Care (Appendix 17)

Category: European credit transfer system

Theme: One E.C. is equivalent to 25 hours of learning; 5 to 7 of which, should be direct contact (with students)

Theme: One E.C. is equivalent to 25 hours of clinical practice. There is no provision for supervision required during clinical practice to get one E.C.

The themes that constitute this category were very interesting: as regards the first theme, the amount of student/staff contact was specified, yet when

considering the clinical practice, no specified amount of supervision is stipulated. This means that students can obtain their clinical credits purely by attendance.

Category: Academic content of all the divisions within the I.H.C. ought to be of the same standard

Theme: The academic content of a study-unit at a particular level should be equivalent to the same level of a study-unit in a different division

> *"So when we talk about harmonisation, a B.Sc. in Nursing, a B.Sc. in Radiography, in Occupational Therapy and Physiotherapy will have the same amount of academic input for example?... They should do."* (Y69-70 2004)

This category contrasted sharply with that of the Chairman, and in the author's opinion, one cannot see a reason why the different professions should have the same academic content.

Category: The I.H.C. Board should regulate the academic standard of the courses on offer

Theme: It is the responsibility of the I.H.C. Board to ensure the standards and levels of the courses

> *"...acceptance has to be okayed by the I.H.C. Board, 1) in terms of standards and 2) to ensure conformity because at the end of the day we are issuing one degree, a B.Sc. in Health Science even though the areas are different."*
> (Y56 2004)

Theme: It is the duty of the I.H.C. Board to review the course content of the different divisions

> *"So from the Registrar's point of view, almost the standard of content, of academic content is the same throughout all the eleven courses offered at the I.H.C.?... If you are offering them at the same level, they should be..."* (Y63-64 2004)

Theme: The I.H.C. Board normally approves what the individual Board of Studies proposes

This category was very similar to the previous one. A number of professionals, including all the divisional co-ordinators make up the I.H.C. Board (Appendix 20). It is the responsibility of this Board to recognise, maintain and approve the various course curricula once presented by the various Boards of Studies. Emphasis on the fact that all courses should have the same academic standard is made.

Category: Common core subjects

Theme: Associated with timetabling problems

Theme: Clashes occur between common core lectures and clinical placements

Theme: The Registrar's Office is aware of complaints coming from students regarding course content

> "...we get a lot of em... complaints even from the students. Even though they should not be addressing the Registrar's Office really, that the content being covered does not always meet the students' requirements or sometimes the students complain that what they are being taught is not relevant to their courses."   (Y122 2004)

Theme: Common Core study units assessed individually

The concept of students attending lectures with students of other divisions is a healthy one as this promotes a team approach early on in the course but, these are bring about multiple problems to both the course and the administration.

Category: Shortage of staff

Theme: There are not enough lecturers to teach tailor-made courses

This category addressed the fact that some of the common core lectures are taking place due to the lack of funding to employ lecturers to teach particular subjects to the particular divisions.

Category: Physiotherapy students perceived as 'better students'

Theme: Number clause

Theme: Entry requirements

Theme: Students' expectations

"We tend to think that the students in the Physiotherapy course are a bit better, to be honest." (Y217 2004)

The themes in this category may explain why physiotherapy students are perceived to be 'better students' academically.

Category: Perceptions of the proposed changes to the physiotherapy curriculum

Theme: The academic content of courses at the I.H.C. appears to be too fragmented

Theme: The amalgamation of study-units into modules is ideal

Theme: A request to all divisions to reduce the number of assessments

Theme: Modules cannot be an amalgamation of Common Core study units

"You are going to amalgamate most of your study-units into larger chunks when it comes to Physiotherapy. It is not without its problems because … when it comes to … My main concern is when it comes … When it comes to the common core in the course programmes, it is difficult… it is very difficult to try and come up with a larger unit of learning."
(Y156 2004)

The Registrar's office has recognised the fact that courses at the I.H.C. are over assessed and has asked co-ordinators to re-evaluate their course programmes to come in line with new regulations. As a result of this study, these changes to the physiotherapy course were carried out more than one year prior to them being published.

This category had direct implications to the physiotherapy curriculum. The proposed changes to the curriculum tackled the theme concerning the 'fragmentation' of course content. The registrar's office applauded the amalgamation of study units into modules by the physiotherapy course, in principle, yet as the quote states this cannot be implemented due to various administrative problems.

Figure 6.30 Diagram of the Research Methods used for this study (Cycle VD)

Research Aims
- To investigate the views, opinions and perceptions of the medical profession regarding the physiotherapy profession and its curriculum
- To investigate the views, opinions and perceptions of some of the major influential stakeholders upon the physiotherapy curriculum
- To investigate a specific incident in which a physiotherapist underwent a legal disciplinary incident that was related to a confrontation between the medical and physiotherapy professions

Research Methods
- Focused individual in-depth unstructured interviews
- Focused individual elite interviews

Research Tools
- Tape recorder
- Field notes

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling
- Random typical case sampling
- Intensity sampling

Participants/Population
- 1 Senior clinical member of staff
- 1 Medical Physician
- 1 Member of the Council for Professions Complementary to Medicine
- Manager Physiotherapy Services
- Director – Institute of Health Care
- Chairman – Institute of Health Care
- Registrar's representative – Institute of Health Care

Location
- Boardroom – IHC
- Private residence
- Respondent's office
- Respondent's office
- Respondent's office
- Respondent's office
- Boardroom – IHC

Time Frame Data Collection
- July 2003 – April 2004

Data Analysis
- Thematic analysis

Implications

Findings & Comments

Research Objectives
At the end of this study:
- the research was in a better position to understand the relationship between the medical and physiotherapy professions in Malta
- the researcher had confirmed that the new curriculum is acceptable to the professional body
- the researcher discovered that the new curriculum was not acceptable to the Registrar's Office

Summary

The following is a summary of this interview:

1. One European credit is equivalent to 25 hours of academic study or clinical practice.

2. The academic content of the different divisions constituting the I.H.C. ought to be of the same standard.

3. It is the role of the I.H.C. Board to maintain the necessary academic and professional standards required.

4. The Registrar's Office recognises the fact that the common core lecturing system is associated with a number of difficulties.

5. Some study units not provided to individual courses due to a shortage of staff.

6. Physiotherapy students perceived as being 'better students'.

7. The Registrar's office is now recommending a reduction in the number of assessments.

8. The amalgamation of study units into modules is recommended.

9. Common core study units may not be included into the new proposed modules. (Appendix 21)

6.8.10 Implications at the end of this Cycle

The most important implication following this cycle is that the new proposed physiotherapy curriculum has incorporated the changes being suggested by the new University's regulations over a year before these were issued.

The new curriculum, which was to be 'competency based', and having all subjects supporting that competency incorporated into modules, as opposed to being based on the medical model, could not be adopted totally due to administrative reasons. The new proposed curriculum had to be altered in such a manner that all common core lectures were to be extracted from the competency-based modules, into separate study units based on the medical speciality system of the medical model.

To ensure that the altered curriculum met with the Registrar's approval, a new cycle was introduced to this study, which consisted of a number of Board of Studies meetings, cumulating with a meeting with the Registrar's Representative at the I.H.C.

Figure 6.31 Diagram of the Research Methods used for this study (Cycle VIA)

```
┌─────────────────────────────────┐
│         Research Aim            │          ┌─────────────────────────────┐
│  • To finalise the curriculum   │          │      Research Method        │
│    development programme in such │ ───────▶ │  • Group discussion         │
│    a manner that is acceptable   │          └─────────────────────────────┘
│    to the Registrar's Office     │                        │
└─────────────────────────────────┘                        ▼
┌─────────────────────────────────┐          ┌─────────────────────────────┐
│        Research Tools           │          │    Research Instrument       │
│  • Note taking                  │ ◀─────── │  • Self                      │
│  • Field notes                  │          └─────────────────────────────┘
└─────────────────────────────────┘                        │
                                                            ▼
                                            ┌─────────────────────────────┐
┌─────────────────────────────────┐         │   Participants/Population    │       ┌─────────────────────────────┐
│  Sampling Strategy – Purposeful │         │  • All academic members of   │       │         Location            │
│           Sampling              │ ◀────── │    staff                     │ ────▶ │  • Physiotherapy office -   │
└─────────────────────────────────┘         │  • Registrar's representative│       │    IHC                       │
                                            │  • Divisional secretary       │       └─────────────────────────────┘
                                            └─────────────────────────────┘
                                                            │
                                                            ▼
                                            ┌─────────────────────────────┐
                                            │        Time Frame            │
                                            │      Data Collection         │
                                            │  • April – May 2004          │
                                            └─────────────────────────────┘
```

6.9 Cycle VI

6.9.1 Research Aim

The aim of this final stage was to amend the curriculum in such a manner to make it acceptable to the Registrar's Office.

6.9.2 Research Method

- Group Discussion

6.9.3 Research Instrument

- Self

6.9.4 Research Tools

- Note taking
- Field notes

6.9.5 Population Description

The sampling strategy utilised for this cycle was 'purposeful sampling' (Patton 1990) as all the full-time members of academic staff were involved, as well as the Registrar's representative of the I.H.C. and the Divisional secretary.

6.9.6 Location

The Physiotherapy office at the I.H.C. was the most appropriate place to carry out these discussions.

6.9.7 Data Collection

This stage involved a meeting between the author and the Registrar's representative, whereby suggested guidelines to amend the curriculum were put forward. A number of meetings with the full-time members of the academic staff followed this. A further meeting was held together with the academic staff, divisional secretary and the Registrar's representative to discuss the final alterations to the new physiotherapy curriculum. During all the above meetings, the author's role was one of participant and observer.

Figure 6.32 Diagram of the Research Methods used for this study (Cycle VIB)

Research Aim
- To finalise the curriculum development programme in such a manner that is acceptable to the Registrar's Office

Research Method
- Group discussion

Research Tools
- Note taking
- Field notes

Research Instrument
- Self

Participants/Population
- All academic members of staff
- Registrar's representative
- Divisional secretary

Sampling Strategy – Purposeful Sampling

Location
- Physiotherapy office - IHC

Time Frame Data Collection
- April – May 2004

Data Analysis
- Discussion minutes – Thematic analysis

Findings & Comments

6.9.8 Data Analysis

The divisional secretary took minutes during all the meetings and the author kept a separate set of field notes. Following the discussions, the minutes and the field notes were compared (Appendix 18). This helped in the triangulation of the data obtained, leading to the new physiotherapy curriculum.

6.9.9 Findings and Comments

Category: Course programme – Common core module formation

Theme: Formation of new larger study-units by the amalgamation of previous individual study-units

Theme: The module will consist of fewer study-units

Theme: Overall credit value for the module remains the same

This category had a major impact on the physiotherapy curriculum. Due to the restrictions imposed by the Registrar's office, all common core study-units had to be removed from the proposed curriculum and amalgamated to form new modules. This was carried out as all common core study-units have to be assessed and have their results published individually. In order to decrease the number of study-units in the common core modules, it was decided that related study-units should be amalgamated. (Appendix 8)

Category: Biomedical Science – Physiology I & II

Theme: All physiology study-units placed into modules relating to each other

Theme: The physiology syllabus to be spread over two years

As a result of this category, the Physiotherapy Board of Studies decided to create two new modules titled 'Biomedical Science – Physiology I' and 'Biomedical Science – Physiology II', to be covered in the first and second year of the course respectively. The number of study-units has been decreased, by amalgamating a number of study-units; for example, PHB1101 – Body Fluids, Cells, Cardiovascular and Respiratory Physiology as opposed to the previous two study-units titled PHB1001 - Body Fluids, Cells and Cardiovascular Physiology and PHB1002 - Respiratory Physiology.

Category: Biomedical Science – Anatomy I & II

Theme: All anatomy study-units placed into modules relating to each other

Theme: The anatomy syllabus to be spread over two years

Theme: The creation of a new study-unit titled 'Thorax and Pelvis Dissection' to be included in the first year

Theme: The creation of two new study-units titled 'Head, Neck, Upper and Lower Limb Dissection' and 'Neuro-anatomy and CNS Dissection'

The implications of this category are similar to those discussed in the previous category. Students would benefit from more demonstrations on the human cadaver. As a result, a new study-unit titled 'Neuro-anatomy and CNS Dissection' has been proposed.

Category: Study-units pertaining to physiotherapy - Modular assessment

Theme: Each module to be assessed by one or more different methods

Theme: Modules to be assessed in more than one sitting

Theme: The module result for a failed module will be 'Incomplete'

Theme: Students to be allowed to re-sit the incomplete component examination

Theme: Students who fail their re-sit examination will have to repeat the module or repeat the year

All common core study-units have been removed from the physiotherapy related modules, because of the two previous categories. As a result of these identified themes, the course will be more advantageous to students in that: all study-units forming one module are related, assessment can be carried out by different methods, group-work is encouraged, and students will be able to re-sit a failed component and not the whole module. Should a module have a credit value of less than eight and the student fails, then progression to the next year is possible, during which the student must repeat the module. Should a student fail a module of credit value more than eight the student will have to repeat the year. Since all the study-units form a module, and assessment of the study-units is combined, one overall modular mark is awarded.

Category: Common core study-units - Modular assessment

Theme: Each study-unit assessed individually

Theme: No modular mark given

Theme: Students who fail a study-unit will be entitled to re-sit the examination

Theme: Should a student pass their re-sit, the only mark obtained is 45

Theme: Should a student fail a re-sit, this can be repeated in the following year

Each study-unit is to be assessed individually and a result issued. Common core modules do not necessarily mean that the subjects are directly related to each other but, rather, grouped together under a module title; for example, module 'Applied Sciences' comprises the two study-units 'Pathology' and 'Pharmacology for Health Care Professionals'. These modules, based on the medical model of education, are typical of the traditional physiotherapy curriculum.

Category: Optional study-units

Theme: The course programme consists of compulsory and optional study-units

Theme: To complete the course, a student must obtain eight E.C. from optional study-units

Theme: Students to be allowed to follow optional study-units during the second and third years of the course

Theme: Physiotherapy Division has provided a list of recommended optional study-units

All the study-units offered to the students in the course programme are necessary and compulsory. In addition, in accordance with the University regulations, students have the opportunity to choose units from a recommended list of optional study-units. Following discussion, the optimum timing for these optional study-units was the second and third years of the course.

Figure 6.33 Diagram of the Research Methods used for this study (Cycle VIC)

Research Aim
- To finalise the curriculum development programme in such a manner that is acceptable to the Registrar's Office

Research Method
- Group discussion

Research Tools
- Note taking
- Field notes

Research Instrument
- Self

Sampling Strategy – Purposeful Sampling

Participants/Population
- All academic members of staff
- Registrar's representative
- Divisional secretary

Location
- Physiotherapy office - IHC

**Time Frame
Data Collection**
- April – May 2004

Data Analysis
- Discussion minutes – Thematic analysis

Findings & Comments

Implications

Research Objective
- At the end of this final stage, the new physiotherapy curriculum was formulated in such a manner that met the academic and political requirements.

Category: Compensatory and Non-compensatory Study-Units

Theme: All physiotherapy and subjects directly related to physiotherapy are to be non-compensatory

Theme: 13 study-units are to be considered compensatory

The Regulations state that a number of study-units are to be given a compensatory pass status. This category comprises two themes that were related to this issue. All optional and some common core study-units were to be considered compensatory. (Appendix 7)

6.9.10 Implications at the end of this Cycle

Following the two meetings with the Physiotherapy Board of Studies, another was held with the Registrar's Representative. The changes made to the format of the course programme were amended in such a manner that was now acceptable to the Office of the Registrar. These were forwarded to the I.H.C. Board of Studies for approval and finally to the Senate of the University. The new proposed physiotherapy curriculum was now in line with the University regulations and acceptable to the Office of the Registrar. The final implication was that this study has resulted in two curricula. One considered ideal by the Physiotherapy Board of Studies but not acceptable to the Office of the Registrar, and the second, that is acceptable but not ideal.

6.10 Cycle VII- Q Methodology

6.10.1 Research Aim

The aim of this final stage was to return to the primary stakeholders with the finalised new curriculum and by means of Q Methodology triangulate the findings.

Glossary of terminology used in Q Methodology

Concourse	The flow of subjective communicability regarding any topic.
P-Set	The research population
Q-Set / Q-Sample	The constructed set of statements or questions that represent the concourse.
Q-Sort/ Factor Array	The ordered ranking of the Q-Sample into a predefined distribution across a Likert scale.
Condition of Instruction	The conditions under which the respondents are instructed to perform their Q-Sorts.
Factor	Clusters of respondents who have ranked the statements in the Q-Sample in the same way.
Factor Loadings	Correlation between the original variables and the factors. Squared factor loadings indicate what percentage of the variance in an original variable is explained by a factor.
Factor Matrix	Table displaying the factor loadings of all variables on each factor.
Factor Rotation	Process of adjusting the factor axes to achieve a more meaningful factor solution.
Factor Score	A measure created for each observation on each factor extracted in the factor analysis. Factor weights are used in conjunction with the original variable values to calculate the score of each observation. The factor scores are standardised according to a z-score.

6.10.2 Introduction

The aim of this research was to inquire whether the inherited physiotherapy curriculum taught at the Institute of Health Care was the most appropriate for Malta following the new millennium. A study using qualitative methodology resulted in data which revealed that changes were immediately necessary. As the study progressed it was deemed appropriate to quantify this subjective data. Q Methodology is a way of extracting subjective opinion and basically provides a basis for the general study of subjectivity and can be regarded as a technique for the objective study of subjective findings. It offers methods that permit empirical examination of the meanings and significance of data collected by qualitative means (Brown 1996).

6.10.3　Justification of Q Methodology

Brown (1995) argues that there is no other method or theory that matches Q Methodology's versatility yet is consistent with the concepts of contemporary science. This section will discuss the assumptions and interpretations made during the application of Q methodology, the quality of resulting individual perspectives, representativeness of shared perspectives and the efficiency of the application.

Q methodology promises that it can be used to identify individual perspectives and to objectively identify shared perspectives, using quantitative techniques. Q Methodology allows the researcher to understand and interpret the subjective data of his or her respondents. It was introduced by William Stephenson in 1935 and has evolved from factor analysis (Brown 1997). Q Methodology does not estimate population statistics but instead samples the range and diversity of views expressed; it does not make claims about the percentage of respondents expressing them (Kitzinger 1987; Stainton Rogers 1995). According to Prasad (2001), the first advantage of this type of methodology is that, even though the operation of Q Sorting is subjective in the sense that the respondent is sorting the statements from his or her point of view (Brown 1997), the forced grid method of response means that they have to consider their response more carefully and this brings about their 'true feelings'. Prasad (2001) further states another advantage of Q Methodology in that it can be used in a variety of settings, on the same individual, on multiple occasions with short inter-test intervals. Peritore (1989) is quoted as saying that it respects the integrity of the participant as the results can be recorded anonymously and factorial results cannot be predicted. Zraick and Boone (1991) argue that Q Methodology is more focused than a general questionnaire and that Q Sorts are normally distributed, hence, can be used parametrically in inter-group comparisons. It is said to combine the strengths of both qualitative and quantitative research traditions (Dennis and Goldberg 1996) and can also be viewed as the bridge between the two (Sell and Brown 1984) hence this methodology was considered ideal for this research. It bridged the gap between this PhD study being totally qualitative, and the rigour and scientific weight that a quantitative

study has to offer. Up to the early 1970s there was plenty of evidence of controversy and peer criticism regarding Q methodology in the literature (Brown 1997) however it is now being widely adopted as a recognized and accepted means of research predominantly in North America and in Europe. Even though there is no effective tool to measure attitudes and perspectives accurately, Q Methodology has become one of the more popular means to do so within the field of health education and health promotion (Peritore 1989; Zraick and Boone 1991; Dennis and Goldberg 1996; Barry and Proops 1998; Coffey et al 2004; Herron-Marx et al 2006). However, the literature especially up to the early seventies revealed that there was substantial controversy and criticism regarding this type of methodology (Brown 1997). The main reason that Q methodology has been criticized is that if the Q-Sort had to be repeated on the same persons, Q methodology does not necessarily yield the same results. This has questioned the method's reliability. However, Stainton Rogers (1991) sees no problem with this as there is no expectation that an individual will express the same view on two separate occasions and Brown (1995), has also demonstrated that there is an 85% consistency in the manner that participants reply if the study is repeated a year later.

Q methodology relies solely for its effectiveness on the cooperation and honesty of the participants and the results depend directly on the researcher's selection of statements to include in the Q-Set, and the stakeholders who are included in the P-Set. In an attempt to remain as objective as possible certain precautions were taken. Representativeness of the set of shared perspectives was determined by the P-Set being the same participants that were interviewed in the earlier stages of the research. Next, should all the statements in the Q-Set be loaded or geared towards the replies that the researcher wanted to receive then the outcome will definitely confirm the researcher's hypothesis (Stainton Rogers 1995). In order to prevent any criticism regarding the methodology used in this study regarding the formulation of the Q-Set this was overcome as all the statements for the Q-Set originated from the actual interviews that were held in the first three cycles. These were later reviewed both by the researcher

and his supervisor to confirm authenticity and those they represented the range of statements that covered that the topic.

Even though a Q-Grid was provided and the participants went through a reflective process prior to marking the grid, some for whatever reason might have tried to fake their responses to undermine the results or give answers that they thought the researcher might have wanted to receive. These faults have been pointed out in the literature (Rugg and McGeorge 1997). The use of a Q-Grid has been viewed as a major disadvantage of Q sorting and has received further criticism mainly as the participants' perspectives or opinions could not be expressed freely but had to abide by the fixed grid distribution (Rugg and McGeorge 1997. This, according to Steelman and Maguire (1999) could be solved by allowing respondents to rank statements as they please without adhering to the shape of the distribution of the grid. In such cases participants are, however, not stimulated to evaluate their agreement with one statement relatively to their agreement with another, and accuracy of the elicited replies will be less accurate than if carried out with the normal presented grid (Oppenheim 1992). The validity of elicited answers as stated previously depends on the willingness of the participants to reflect openly on their replies. This validity cannot be directly tested, but in order to get some feeling for it, individual replies were compared to the interview results collated earlier during the previous action research cycles.

There is a risk of bias occurring during the interpretation stage. This is because interpretation lies with the researcher himself. Pope et al (2000) states that to take the Q analysis beyond the most basic descriptive and counting exercise must require the researcher's analytical skills in producing results from the data. The same is true for the researcher's choice of the number of factors to use, the names given to the stories that emerge, and the reconstruction of the argumentation structures.

The efficiency of Q methodology is dependant on the researcher and the participants who rank the Q-Set. The Q analyst has to be familiar with the methodology required prior to attempting to apply it (Exel and de Graaf 2005).

At face value Q methodology appears very straight forward and an easy tool to use, but the researcher requires knowledge on how to develop and sample the concourse and a knowledge of statistics is required (Rugg and McGeorge 1997).

Finally, to summarise and endorse the trustworthiness of this study, the Q Sort consisted of the same themes that were generated from the previously held interviews and involved the same participants that had generated them. In this manner, triangulation of the data collected and analysed was carried out, giving more credibility to the study and the results generated.

6.10.4   Sampling of the Research Population

The population in conventional research refers to the group of people who qualify to participate in the study. The sample refers to those people on which the study has been conducted. In Q methodology, the population and the sample is not as rigidly defined as in quantitative research. The sample needs not be randomly drawn from the population but often are chosen for the research because they have special relevance to the topic or hold strong views about the topics of interest (Van Exel and de Graaf 2005). The focus is on in-depth analysis of a small number of respondents rather than superficial analysis of a large number of cases. In contrast to probability methods employed in quantitative research, sampling in qualitative research typically involves the selection of a small number of persons. Although the sample size is small the respondents are considered to be 'information rich' (Patton 1990) and for this reason, sampling is also "purposive," where the researcher bases sample selection on the purpose of the study and what is known about the population of interest (Rubin and Babbie 1997). Since the aim of the first stage was to investigate the opinions of the immediate stakeholders, it was considered necessary to choose a small population from within these stakeholders to exhibit sufficient similarity to be meaningfully compared to one another. Sample size in Q Methodology is backed by the need to create the 'stories' rather than increasing the numbers of respondents for each story (Block 1978). In accordance with Brown (1980) the P-Set is not chosen at random but are persons who are expected to have a clear and distinct viewpoint regarding the

problem. Hence, the newly qualified members of staff were chosen as all were the actual final year students who were interviewed during the first and third cycles of the research study and have qualified since then.

6.10.5   Research Method

Donner (2001) and Exel and de Graaf (2005) describe Q Methodology as being composed of five stages: (1) developing the concourse; (2) sampling the concourse; (3) constructing the Q-Set; (4) Q-Sorting; and (5) analysis and interpretation.

Stage (1) Devising the concourse:

This involves the development of the flow of ideas surrounding any topic referred to as a 'concourse', where suggestions occur together in thought, and it is from this concourse that a sample of statements is drawn. A concourse can be constructed in a number of ways (Brown 1995). Specific to this research study, the concourse evolved from the interviews that took place during the first three cycles as the action research developed. The first focus group interview was followed up by individual, face -to- face, in depth, semi-structured interviews that were all transcribed and it is from this data that the Q-Set/Sample was later selected.

Stage (2) Sampling the concourse:

The transcripts of the interviews were analysed by means of Thematic Analysis whereby single words, ideas, word sense or whole sentences were used to get a summary of the concourse yet, at the same time not identifying the actual respondent thus ensuring anonymity. This list of statements helped to formulate a number of themes which included Course Design, Course Content, Teaching/Delivery of the course, Learning, Clinical Practice, Course Assessment, Physiotherapy Skills and Clinical Supervisors.

Stage (3) Constructing the Q-Set/Q-Sample:

This was dervided from the large number of categories, sub-categories, themes and sub-themes that emerged from the interviews held previously. A subset of

shortened statements called a Q-Set or Q-Sample was later drawn from the larger concourse of statements together with the participation of my local supervisor (Stainton Rogers 1995). This Q-Set was pilot tested, originally on an academic who has used interviewing as the methodology for her qualitatively based PhD, next on a non-professional to see whether she understood the terminology used and, finally, on two present final year students. The aim of this was to achieve clarity, appropriateness, simplicity and applicability. Appropriateness and applicability are necessary to obtain the optimum balance between the statements generated by the interviews and the Q-Set thus ensuring constructual and contextual validation. Five different lists of statements (Q-Sets) were produced and each statement was allocated a number. The Box below refers to an example of one of the Q-Sets.

Q-Set 'B' – Course Content
S1: Is the course content irrelevant?
S2: Does the course content contain too much detail?
S3: Is there a discrepancy between the theoretical and practical components of the course?
S4: Do you consider that certain theoretical components have been omitted from the course content?
S5: Do you think that the course content is not suitable?
S6: In your opinion, do you think the course requires more supervision?
S7: Are certain components of the course not applicable to your professional development?
S8: Are there subjects within the course content which you perceive as a waste of time?

Stage (4) Q-Sorting:

These Q-Sets were presented to the participants in the form of a Q-Sort together with the 'Conditions of Instructions' (Appendix 27). The Q-Sort involves the placing of a set of statements in rank order from strongly disagree (-3) to strongly agree (+3) with 0 representing uncertainty or impartiality (Kitzinger 1987). Typically, one or two statements were placed in the extremes and the majority were placed towards the centre resulting in a normal distribution (Prasad 2001). This normal distribution was forced as the respondents had to record their statements according to a response grid (Q-Grid) that had been prepared by the researcher.

Figure 6.34   Example of the Q-Grid used for Q-Set 'B'

-3	-2	-1	0	1	2	3

Answer Key:

-3 – Strongly Disagree	0 – Uncertain	3 – Strongly Agree

The Q-Sort was narrowed down to five Q-Sets that the researcher thought pertinent with the development of a new curriculum. These were:

1. Q-Set 'A' – Issues concerning the Course Design and consisted of 31 statements.
2. Q-Set 'B' – The Course Content with 8 statements.
3. Q-Set 'C' – Teaching/Delivery of the course with 15 statements.
4. Q-Set 'D' – Clinical Practice with 18 statements
5. Q-Set 'E' – Course Assessment with 25 Statements.

(Appendices 22, 23, 24, 25, 26)

The Q-Sort was according to the 'Conditions of Instructions' given to the respondents (Appendix 27).   These were first asked to tackle each Q-Set individually.   The process commenced by reading all the statements in that particular Q-Set.   Following this, each participant was then given two high-lighters and asked to highlight the statements that they agreed with using a yellow high-lighter and those that they did not agree with using a blue high-lighter.   The statements that they were uncertain with, or that they felt impartial to, were left unmarked. They were then asked to review their responses and, finally, asked to complete the Q-Grid by ranking the statements that they did not agree with from -3 to -1, and statements they agreed with from +1 to +3. All remaining statements had to be placed in the 0 column.

Stage (5) Q Analysis and Interpretation:

The response grids were then factor analysed using PQMethod version 2.11 that was downloaded from the internet site –

. This software employs a particular form of multivariate analysis in order to identify and describe the different 'stories' that can be told about a particular issue by examining the way people respond in systematically different ways to propositional samples of discourse (Stainton Rogers 1995). It does this by generating clusters of P-Sets rather than clusters of variables. Principal Component Analysis (PCA) was the method used for factor analysis. QPCA calculates all Eigenvalues and their relevant corresponding percentage values for the unrotated factors. Finally, all Q-Sorts were processed by Q-Analyze that gave the complete analysis of the Q-Sorts. The outcome of Q-Sort factor analysis is a factor output that collects groups of respondents whose views of the curriculum were similar. From these factors the researcher interpreted the stories that emerged. Since this cycle wanted to verify and rank the themes that were analysed from the previous cycles, it was decided that the factors with the highest Eigenvalue values will be Q-Rotated using a Varimax method of orthogonal rotation.

The final stage of this Q study was to interpret the resulting factors. Interpretation is carried out by comparing and contrasting the positioning of items in the reconstructed Q-Sorts representing each factor. Interpretation was helped by theory, previous research and/or any specific knowledge of the researcher (Stainton Rogers 1995). The factor matrix or loadings summarises which of the Q-Sorts are similar or different from one another (Brown 1996). The different sorting patterns are evaluated in order to infer the particular 'story' that is being told (Stainton Rogers et al 1995).

6.10.6   Q-Set 'A': Factors pertaining to Course Design (Appendix 22)
First of all the correlation matrix between the sorts is calculated. This represents the amount of agreement and disagreement between the individual sorts. In other words, it represents the degree of similarity, and vice-versa, in points of view between the individual P-Set. '1.00' would be a perfect positive correlation and similarly, '-1.00' would be a perfect negative correlation.

Table 6.1   Correlation Matrix between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.59	.47	.49	.32	.31	.37	.11	.27	.53
2 Participant 2	.59	1	.44	.26	.43	.18	.40	.29	.48	.60
3 Participant 3	.47	.44	1	.59	.06	.42	.49	.24	.49	.58
4 Participant 4	.49	.26	.59	1	-.06	.55	.33	.30	.36	.44
5 Participant 5	.32	.43	.06	-.06	1	.27	.24	.31	.31	.31
6 Participant 6	.31	.18	.42	.55	.27	1	.39	.17	.35	.45
7 Participant 7	.37	.40	.49	.33	.24	.39	1	.23	.34	.60
8 Participant 8	.11	.29	.24	.30	.31	.17	.23	1	.42	.41
9 Participant 9	.27	.48	.49	.36	.31	.35	.34	.42	1	.61
10 Participant 10	.53	.60	.58	.44	.31	.45	.60	.41	.61	1

To determine how large a correlation must be if it is to be considered substantial, the standard error is calculated by the equation $1/\sqrt{(N)}$, where N is the number of statements. In this case, for Q-Set 'A', this was thirty one. The standard error of a method of measurement is the estimated standard deviation of the error in that method. Specifically, it estimates the standard deviation of the difference between the measured or estimated values and the true values. Hence, the standard error for the correlation matrix for Q-Set 'A' is equal to $1/\sqrt{31}$ (5.57) = 0.18. In Q Methodology a participant is deemed to have significant loading on a factor when the loading is equal to or in excess of, two to two and a half times the standard error. Therefore, if the Standard Error was 0.18 multiplied by 2 = 0.36, and, multiplied by 2.5 = 0.45 (irrespective of sign).

Hence, from the above correlation matrix one can note that:

- *Participant 1* is strongly correlated to Participants 2 (r=0.59), 10 (r=0.53), 4 (r=0.49), 3 (r=0.47), and to a lesser extent with Participant 3 (r=0.37).

- *Participant 2* correlates substantially with Participants 10 (r=0.60), 1 (r=0.59), 9 (r=0.48) and to a lesser extent with Participants 3 (r=0.44), 5 (r=0.43), 7 (r=0.40).

- *Participant 3* correlates strongly with Participants 4 (r=0.59), 10 (r=0.58), 7 and 9 (r=0.49), 1 (r=0.47) less with Participants 2 (r=0.44) and 6 (r=0.42).

- *Participant 4* correlates strongly with Participants 3 (r=0.59), 6 (r=0.55), 1 (r=0.49), and less with Participants 10 (r=0.44) and 9 (r=0.36).

245

- *Participant 5* only correlates weakly with Participant 2 (r=0.43).

- *Participant 6* correlates strongly with Participant 4 (r=0.55) and 10 (r=0.45) and less with Participants 3 (r=0.42) and 7 (r=0.39).

- *Participant 7* correlates strongly with Participant 10 (r=0.60) and 3 (r=0.49) to a lesser extent with Participants 2 (r=0.40), 6 (r=0.39) and 1 (r=0.37).

- *Participant 8* only correlates weakly with Participants 9 (r=0.42) and 10 (r=0.41).

- *Participant 9* correlates strongly with Participants 10 (r=0.61), 3 (r=0.49), 2 (r=0.48) and less with Participants 8 (r=0.42) and 4 (r=0.36).

- *Participant 10* correlates strongly with Participants 9 (r=0.61), 7 and 2 (r=0.60), 3 (r=0.58), 1 (r=0.53), 6 (r=0.45) and less with Participants 4 (r=0.44) and 8 (r=0.41).

According to the unrotated factor matrix, it appears that all participants were generally very consistent with each other in their replies to the extent that the Eigenvalue was 4.4653 accounting for 45% of the total variance (Appendix 22 Table 2).

Table 6.2   Rotated Factor Matrix with an X Indicating a Defining Sort

Loadings		
QSort	Factor 1	Factor 2
1 Participant 1	0.5405X	0.4256
2 Participant 2	0.3155	.7341X
3 Participant 3	0.8051X	0.2053
4 Participant 4	0.8736X	-0.0201
5 Participant 5	-0.1259	0.8284X
6 Participant 6	0.6657X	0.1521
7 Participant 7	0.5503X	0.3936
8 Participant 8	0.1846	0.5449X
9 Participant 9	0.4463	0.5686X
10 Participant 10	0.6167X	0.5992
% expl.Var.	32	26

The loadings express the extent to which each Q-Sort is associated with each factor. Hence, Participant 4 is correlated with Factor 1 to an extent of 0.8736, whereas Participant 5 is correlated -0.1259; on Factor 2 their respective

loadings are -0.0201 and 0.8284. As indicated previously, factor loadings in excess of 0.36 (plus or minus) can be considered significant. Therefore, only the first two factors contain significant loadings. When a participant's factor loading exceeds a certain limit (P = <0.01) this is called a 'defining variate or variable'. This limit is calculated by dividing the multiplier (2.575) by the square root of the number of statements in the Q-Set (31). Hence, the limit for statistical significance for this factor loading is 2.575 / 5.568 = 0.46. Also, at this stage one can identify '*exemplificatory*' or '*definer*' Q sorts as indicated by a loading greater than +/- 0.6 on one, and only one, factor (Block 1978; McKeown and Thomas 1988), and hence Participants 3 (f =0.80), 4 (f =0.87), 6 (f =0.66) and 10 (f =0.62) can be taken to be the 'exemplars'.

The next step in the interpretation of factors in Q methodology proceeds in terms of factor scores rather than factor loadings. In Q methodology, a 'factor' is a cluster of Q-Sorts with similarities or common attitudes or perceptions, about 'The Course Design' in this case. The factor score is the score of a statement as an average of the scores given to that statement by all of the Q-Sorts associated with that factor. For the sake of precision, the Q-Sorts are weighted to take into account the fact that some are closer approximations of the factor than others. This is calculated by the formula w=f / (1-f squared) where f= the loadings and w= weights. Hence, for example by referring to Table 6.2 for Participant 1: w = 0.5405 / (1 − 0.5405 x 0.5405) = 0.76.

Participant 1	f= 0.54	w= 0.76
Participant 3	f= 0.81	w= 1.24
Participant 4	f= 0.87	w= 3.69
Participant 6	f= 0.67	w= 1.20
Participant 7	f= 0.55	w= 0.79
Participant 10	f= 0.62	w= 1.00

Table 6.3   Factor Q-Sort Values for Each Statement

No.	Statement	Factor 1	Factor 2
		N=6	N=4
1	Change in sequence when subjects are taught	3	0
2	Coordination	3	3
3	Ratio	0	-1
4	Weighting	1	0
5	Layout	1	-3
6	Exposure	3	3
7	Observation	1	3
8	Ambiguous	1	-1
9	No stimulation	-2	-2
10	Assessment	2	0
11	Amalgamation	-3	1
12	Link	0	-1
13	PBL	-2	-2
14	FCE	-1	0
15	UOM No FCE	-1	2
16	Change necessary	0	-1
17	Students	-3	-3
18	Small number of students	0	-2
19	Entry qualifications	0	2
20	Teaching staff	-1	0
21	Not commencing annually	-3	2
22	Study-units	-2	0
23	Credits	-1	1
24	Rules & Regulations	0	-2
25	Clinical modules	-1	0
26	Earlier parts	2	2
27	More time FCE	1	1
28	Gap	2	1
29	Perception	0	1
30	Common core	2	-1
31	Sex	-2	-3

Variance = 3.097
St. Dev. = 1.760

The Factor Q-Sort Values for each statement provides a good indication of how each group ranked the statements. Table 6.3 above contains the P-Set 'A' data. The values in the columns represent the typical pattern sort of the participants that have been flagged with the symbol 'x' to that factor. From this table one can commence to get a generalised insight of each group's perspective on the issue about factors pertaining to the Course Design. However, it is difficult to get a sense of the relative priorities of any one group without sorting for that group. So, by reviewing the Normalised Factor Scores the profiles become much clearer. A statement's factor score is the normalised weighted average statement score of participants which define that factor and is referred to as the Z-score. According to their Z-score, statements can be attributed to the original quasi-normal distribution resulting in a 'composite'

(idealised) Q-Sort for each factor (Wong et al 2004). The Statements at the top of each table are ranked as more important by the group and the statements at the bottom less important.

Table 6.4   Normalised Factor Scores for Factor 1

		Factor 1
No.	Statement	Z-Score
2	Coordination	1.964
1	Change in sequence when subjects are taught	1.745
6	Exposure	1.444
26	Earlier parts	1.335
30	Common core	1.070
28	Gap	0.827
10	Assessment	0.617
7	Observation	0.605
5	Layout	0.587
4	Weighting	0.587
27	More time FCE	0.423
8	Ambiguous	0.332
19	Entry qualifications	0.297
18	Small number of students	0.269
12	Link	0.132
24	Rules & Regulations	0.131
29	Perception	-0.006
3	Ratio	-0.144
16	Change necessary	-0.177
15	UOM No FCE	-0.347
14	FCE	-0.490
20	Teaching staff	-0.528
25	Clinical modules	-0.621
23	Credits	-0.755
9	No stimulation	-0.793
31	Sex	-0.884
13	PBL	-1.038
22	Study-units	-1.117
21	Not commencing annually	-1.532
11	Amalgamation	-1.850
17	Students	-2.081

249

Table 6.5 Normalised Factor Scores for Factor 2

No.	Statement	Factor 2 Z-Score
6	Exposure	2.117
2	Coordination	2.108
7	Observation	1.198
15	UOM No FCE	1.169
19	Entry qualifications	0.985
21	Not commencing annually	0.934
26	Earlier parts	0.839
27	More time FCE	0.640
11	Amalgamation	0.457
29	Perception	0.418
28	Gap	0.416
23	Credits	0.333
22	Study-units	0.121
4	Weighting	0.098
14	FCE	0.072
20	Teaching staff	-0.045
1	Change in sequence when subjects are taught	-0.138
25	Clinical modules	-0.210
10	Assessment	-0.219
16	Change necessary	-0.315
3	Ratio	-0.402
30	Common core	-0.465
8	Ambiguous	-0.542
12	Link	-0.598
13	PBL	-0.730
18	Small number of students	-0.750
9	No stimulation	-0.807
24	Rules & Regulations	-1.281
5	Layout	-1.405
17	Students	-1.881
31	Sex	-2.117

The statements ranked at either end of the sort of a factor are called 'Characterising statements' and are used as a first description of the point of view represented by that factor and can be used to highlight the differences and similarities between factors (Van Exel and de Graaf 2005).

The final step in the profiling sequence is to isolate the statements in the sort that are distinctive for each group (factor). The 'difference score' is the amount of difference between a statement's score on any two factors. A difference of 2 between factor scores can be considered statistically significant (Brown 1996) (Appendix 22 Table 9). If a statement's score on two factors

exceeds this 'difference score' it is called a '*distinguishing* or *distinctive statement*' (Van Exel & de Graaf 2005).

Table 6.6   Distinguishing Statements for Factor 1 and 2

(P < 0.05; Asterisk (*) Indicates Significance at P < 0.01)

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
1	Change in sequence when subjects are taught	3	1.75*	0	-0.14
6	Exposure	3	1.44	3	2.12
30	Common core	2	1.07*	-1	-0.47
10	Assessment	2	0.62*	0	-0.22
5	Layout	1	0.59*	-3	-1.40
8	Ambiguous	1	0.33*	-1	-0.54
19	Entry qualifications	0	0.30	2	0.98
18	Small number of students	0	0.27*	-2	-0.75
12	Link	0	0.13	-1	-0.60
24	Rules & Regulations	0	0.13*	-2	-1.28
15	UOM No FCE	-1	0.35*	2	1.17
23	Credits	-1	0.75*	1	0.33
31	Sex	-2	0.88*	-3	-2.12
22	Study-units	-2	-1.12*	0	0.12
21	Not commencing annually	-3	-1.53*	2	0.93
11	Amalgamation	-3	-1.85*	1	0.46

This table shows that for Factor 1 the six participants rate statement 1 (Change in sequence when subjects are taught), statement 6 (Exposure), statement 30 (Common core), statement 10 (Assessment), statement 5 (Layout) and statement 8 (Ambiguous) higher than the average. In the same manner, they rate statements 19, 18, 12, 24, 15, 23, 31, 22, 21 and 11 lower than average.

For Factor 2 the four participants rated statements 6 (Exposure), 19 (Entry qualifications), 15 (U.o.M. no F.C.E.), 23 (Credits), 21 (Not commencing annually) and 11 (Amalgamation) higher than average and conversely statements 1, 30, 10, 5, 8, 18, 12, 24, 31 and 22 lower than average.

Table 6.7   Consensus Statements for Factor 1 and 2

All listed statements are Non-Significant at P>0.01 and those flagged with an *
are also Non-significant at P>0.05

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
2*	Coordination	3	1.96	3	2.11
3*	Ratio	0	-0.14	-1	-0.40
4*	Weighting	1	0.59	0	0.10
6	Exposure	3	1.44	3	2.12
7*	Observation	1	0.60	3	1.20
9*	No Stimulation	-2	-0.79	-2	-0.81
12	Link	0	0.13	-1	-0.60
13*	P.B.L.	-2	-1.04	-2	-0.73
14*	F.C.E.	-1	-0.49	0	0.07
16*	Change necessary	0	-0.18	-1	-0.32
17*	Students	-3	-2.08	-3	-1.88
19	Entry Qualifications	0	0.30	2	0.98
20*	Teaching Staff	-1	-0.53	0	-0.05
25*	Clinical Modules	-1	-0.62	0	-0.21
26*	Earlier components	2	1.34	2	0.84
27*	More time for F.C.E.	1	0.42	1	0.64
28*	Gap	2	0.83	1	0.42
29*	Perception	0	-0.01	1	0.42

A statement that is not distinguished between any of the identified factors is
called a 'consensus statement' (Van Exel & de Graaf 2005). This table shows
that for Factor 1 the six participants rate statements 2 (Coordination), 4
(Weighting), 6 (Exposure), 7 (Observation), 26 (Earlier components), 27 (More
time for the F.C.E.) and 28 (Gap) higher than average and in the same manner
statements 3, 9, 12, 13, 14, 16, 17, 19, 20, 25 and 29 lower than average.

For Factor 2 the four participants rated statements 2 (Coordination), 6
(Exposure), 7 (Observation), 19 (Entry qualifications), 26 (Earlier components),
27 (More time for F.C.E.), 28 (Gap) and 29 (Perception) above average and
similarily statements 3, 4, 9, 12, 13, 14, 16, 17, 20, and 25 below average.

6.10.7   Findings

Response rate

For the purpose of this study 10 out of the possible 14 newly qualified members
of staff took part representing the P-Set, a 71% response rate. Out of the four
members of staff who did not participate, one is now working overseas and the

remaining three did not respond even though a second letter was sent to them offering a second session.

6.10.8   Interpretable 'Stories'

In Q Methodology, interpretations are based on factor arrays and factor scores rather than loadings which are typical to factor analysis. After controlling the weighting of each factor loading, a Q-Sort can be viewed for each of the factors. These factors reflect an overall Q-Set for all the P-Sets (respondents). Based on these Q-Sets distinguishing statements that are associated with each factor can be identified. Two factors regarding the Course Design had an Eigenvalue of more than one. Hence, two interpretable stories became evident.

Story 1: programme of studies

With reference to Table 2 (Appendix 22), Factor 1 had an Eigenvalue of 4.4653 with a population of 6 statistically significant participants loading and four out of these six participants being considered as 'exemplars' with loadings of 0.8736, 0.8051, 0.6657 and 0.6167 respectively (Block 1978; McKeown and Thomas 1988). The participants that loaded significantly on this story felt very strongly that a more focused course design was necessary. Distinguishing 'exemplificatory' Q sort statements, such as that the course required a 'change in the sequence when subjects are taught' were expressed:

> *"'Disability issues' is in this year's module, they're going to do it in the 4th year and I think it's too late."*   (D23 2002)

> *"Reflective practice... should be done earlier, maybe in the third year."*   (D117 2002)

Other statements considered the course programme to be rather 'ambiguous' or vague, were identified.

> *"The actual design of the whole four years,...which as a whole,...which I find a big problem, the way, the ambiguity..."*
>   (A44 2002)

The 'layout' of the course was another statement that the exemplars highlighted showing that they felt that the course design required change.

> *"My opinion is that maybe we should, em, look at resetting the whole course into doing all the academic work, and when they finish, we do our exam in the clinical."* (E11 2002)

Another distinguishing statement that contributes to this story was that students felt that they ought to be given the chance to experience all the different clinical placements available in order for them to be given a complete clinical picture of conditions and pathologies.

> *"I didn't get the amputees placement, I didn't do it, and I had an amputee in the final."* (D159 2002)

The exemplars also loaded significantly on the statements regarding common core subjects and lecturing. Most participants regard this topic negatively and have expressed statements showing that they consider these common core subjects as being either: inapplicable, too generic, too broad, not done in enough detail or, occasionally, unrelated to the physiotherapy course.

> *"...Common core subjects, they weren't very much targeted to our needs, because we were with other courses, of various areas, and it was just a broad thing, very open, which most of the time wasn't applicable to us."* (G34 2002)

They also commented that the numbers of students attending lectures were so large that they felt distracted or did not have the opportunity to participate in the lectures.

> *"How many students are you talking about? A population! For Psychology, Introduction to Psychology, we were about a 100, or something like that, you know, a big lecture theatre, with a lot of students..."* (J77-78 2002)

Another concern related to this issue was that certain lecturers delivering these common core lectures were sometimes unfamiliar with their students and, as a result, were not aware of the detail some professions require.

> *"Most of the time, we have to tell the lecturer, 'listen we want to know this', even in first year we did that. But mostly in the*

254

*later years we did more, because we knew what we needed.
But sometimes they say, 'you don't need to know that'."*
<div align="right">(J42 2002)</div>

However, one has to state that not all participants perceived this concept as a negative experience. Some of them viewed common core lectures as a good way to exchange ideas and experiences with students from different divisions or faculties, and were very enthusiastic about learning about other professions.

> *"What I enjoyed most from common core lectures was being
> with other students from the different faculties, learning about
> their professions,...how they see things,...how they reason
> things out."* (H58 2002)

Story 2: Course management

Factor 2 with an Eigenvalue of 1.3913 and a population of 4 were identified, giving another 'interpretable story'. Two of the population of four were considered as exemplars as their loadings were 0.8284 and 0.7341. Referring to Table 6.2, it was interesting to note that the exemplificatory statement concerning the amount of clinical practice placements was again expressed.

> *"It would be have been ideal if we managed to do all the
> placements, I missed paediatrics,....now I feel I don't know
> enough about,... you know...treating children."* (C77 2002)

Students were also of the same opinion that courses should not commence annually and were very consistent that the entry qualifications ought not to be lowered; both these statements are concerned with course design.

Another suggestion expressed by the students that was very positive towards the design of a new curriculum was the move away from a speciality-based curriculum to a more competency-based curriculum that will be assessed as a whole at modular level rather than at individual study-unit level.

> *"We need to look at grouping more the sequence of subjects
> into one whole module and delivering it as a module, rather
> than particular subjects."* (E15 2002)

The participants also were concerned about the manner that the course was assessed. Another concern was that the course was over-assessed and unfair, in that even though the course was based on the credit system they also had to sit for final comprehensive examinations at the end of the fourth year.

> "Actually speaking, we're talking of a 120 credits being nothing more than just a ticket, a ticket to ride really... at the end of the day, it's all coming down to these 6 hours of written work... then it's the patient, it's pot luck... because in those nine hours of assessment... you get a pass, you pass and you become a physiotherapist." (E61 2002)

To conclude, it is evident from the analysis of Q-Set 'A' that there is a need for change in the curriculum and in course design. Both the negative criticisms and the positive suggestions have all been noted and incorporated into the new curriculum.

6.10.9   Q-Set 'B': The Course Content (Appendix 23)

The correlation matrix for this Q-Set is calculated. This represents the amount of correlation between the individual sorts.

Table 6.8   Correlation Matrix between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.96	.54	-.07	.82	.14	.14	.50	.29	.25
2 Participant 2	.96	1	.57	-.11	.82	.32	.11	.50	.46	.21
3 Participant 3	.54	.57	1	.39	.14	.54	.54	.29	.50	.21
4 Participant 4	-.07	-.11	.39	1	-.21	-.14	.57	-.50	.11	.54
5 Participant 5	.82	.82	.14	-.21	1	.11	0	.54	.36	0
6 Participant 6	.14	.32	.54	-.14	.11	1	.07	.25	.50	-.54
7 Participant 7	.14	.11	.54	.57	0	.07	1	.29	.46	.25
8 Participant 8	.50	.50	.29	-.50	.54	.25	.29	1	.50	-.25
9 Participant 9	.29	.46	.50	.11	.36	.50	.46	.50	1	.14
10 Participant 10	.25	.21	.21	.54	0	-.54	.25	-.25	.14	1

The Standard Error for this correlation matrix was equal to 1/SQRT 8 = 0.35 multiplied by 2 = 0.7 and by 2.5 = 0.88. Hence, it demonstrates that:

Participant 1 correlates strongly with Participants 2 (r=0.96) and slightly less with participant 5 (r=0.82).

Participant 2 correlates extremely well with Participant 1 (r=0.96) and to a lesser extent with Participant 5 (r=0.82).

Participant 5 strongly correlates with Participants 1(r=0.82) and 2 (r=0.82).

According to the unrotated Factor Matrix (Appendix 23, Table 2), it appears that all participants were rather consistent with each other regarding their replies to the Q-Sort to the extent that the Eigenvalue was 3.9797 accounting for 40% of the total variance.

These factors are then rotated to arrive at a clearer representation of distinct patterns of sorts.

Table 6.9   Rotated Factor Matrix with an X Indicating A Defining Sort

QSort	Loadings	
	Factor 1	Factor 2
1 Participant 1	0.8470X	0.1773
2 Participant 2	0.9079X	0.1610
3 Participant 3	0.5611	0.6163
4 Participant 4	-0.2812	0.8881X
5 Participant 5	0.8072X	-0.1008
6 Participant 6	0.5039	-0.0969
7 Participant 7	0.1998	0.7346X
8 Participant 8	0.7705X	-0.1961
9 Participant 9	0.6176	00.3613
10 Participant 10	-0.0871	0.7196X
% expl.Var.	39	25

These loadings are the extent to which each Q-Sort is associated to each factor. Factor loadings in excess of +/-0.7 can be considered significant; hence the first two factors only contain significant loadings.   The limit for statistical significance for this factor loading is again calculated using the formula of dividing the multiplier 2.575 (p= <0.01) by the square root of the number of statements in the Q-Set (8) = 0.91. 'Exemplificatory Q sorts' indicated by a loading greater than =/- 0.6 (Block 1978; McKeown and Thomas 1988) on a factor can be identified as well as the 'exemplars' (Participants 1 f=0.84, 2 f=0.91, 5 f=0.81, 8 f=0.77 and Participant 9 f=0.62).

For Q-Set 'B' the weighting for the following participants whose standard error is more than 0.7 is calculated using the formula w=f / (1-f squared):

Participant 1   f=0.84   w= 3.00

Participant 2   f=0.91   w = 5.17
Participant 5   f=0.81   w = 2.32
Participant 8   f=0.77   w = 1.90

Table 6.10 Normalised Factor Scores for Factor 1

No.	Statement	Factor 1 Z-Score
6	More supervision	1.655
3	Discrepancy	0.594
4	Omitted	0.498
2	Excessive data	0.376
5	Not suitable	-.150
1	Irrelevant	-0.552
7	Not applicable	-0.850
8	Waste of time	-1.571

Table 6.11 Normalised Factor Scores for Factor 2

No.	Statement	Factor 2 Z-Score
8	Waste of time	1.411
4	Omitted	0.833
5	Not suitable	0.544
3	Discrepancy	0.242
6	More supervision	0.017
7	Not applicable	-0.591
2	Excessive data	-0.682
1	Irrelevant	-1.774

At this stage, one can take note of the 'characterising statements' that are ranked at either end of the composite sort of the factor.

Table 6.12 Factor Q-Sort Values for Each Statement

No.	Statement	Factor 1 N=4	Factor 2 N=3	
1	Irrelevant	-1	-3	
2	Excessive data	0	-2	
3	Discrepancy	2	0	
4	Omitted	1	2	Variance = 3.500
5	Not suitable	0	1	St. Dev. = 1.871
6	More supervision	3	0	
7	Not applicable	-2	-1	
8	Waste of time	-3	3	

The characteristic statements also become recognisable. With regard to Factor 1 'more supervision' being ranked at 3, positively, and 'waste of time', -3 ranked at the opposite end of the scale. In Factor 2 the statement 'waste of

time' (3) is the characteristic statement that was ranked highest positively and while 'irrelevant' (-3) was placed at the other extreme.

Table 6.13 Distinguishing Statements for Factor 1 and 2

(P < 0.05; Asterisk (*) Indicates Significance at P < 0.01)

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
6	More supervision	3	1.66*	0	0.02
2	Excessive data	0	00.38*	-2	-0.68
1	Irrelevant	-1	-0.55*	-3	-1.77
8	Waste of time	-3	-1.57*	3	1.41

Table 6.14 Consensus Statements for Factor 1 and 2

All listed statements are Non-Significant at P>0.01 and those flagged with an * are also Non-significant at P>0.05

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
3*	Discrepancy	2	0.59	0	0.24
4*	Omitted	1	0.50	2	0.83
5*	Not suitable	0	-0.15	1	0.54
7*	Not applicable	-2	-0.85	-1	-0.59

Story 1: The lack of supervision

As illustrated in the above Table 13, the distinguishing statement (6) that is significant and ranked +3 with a Z score of 1.66 at P <0.01, indicating that most of the participants strongly agree with it, is that participants would like to have more supervision during their education as physiotherapists. It is being suggested that this increase in supervision has to take place both during their clinical practice and whilst being taught their physiotherapy skills. Statements forthcoming during the interviews were very straightforward, for example:

> *"We are not getting enough supervision"*   (C101 2002)

> *"Regarding practicals, everyone agreed that there should be more supervision."*   (C85 2002)

Story 2: A course with the right content

Another characteristic statement that demonstrated statistical significance, ranked -3 with a Z score of -1.57, is that some subjects are perceived by

259

students as being 'a waste of time'. By ranking this statement with a negative score, the participants are strongly disagreeing, hence, agreeing that the content of the course material is up to their expectations. This is further reinforced by another distinguishing statement that is also negatively ranked (-1) with a Z score of 0.55, stating that the course content is 'irrelevant'. Finally, the participants were indecisive regarding the amount of detail that was delivered during the physiotherapy course.

> "Our basic credits, like anatomy and physiology we study them with the pharmacy students, with the medical students, and you end up getting a lot and a lot of information, which some of it you need and some of it you don't need."
>
> (A55 2002)

To summarise, following the review of Q Sort 'B' regarding the course content, two stories become apparent. One is that participants are concerned about the amount of supervision that they are getting during the course and the second is that the course content was considered to be appropriate.

6.10.10 Q-Set 'C': Teaching/Delivery of the Course (Appendix 24)

This category consisted of 15 statements that formed the Q-Sample.

Table 6.15 Correlation Matrix between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.43	.37	.17	-.47	-.05	.20	.28	.50	.37
2 Participant 2	.43	1	.25	.62	-.20	-.10	-.25	.08	.65	0
3 Participant 3	.37	.25	1	-.10	-.50	0	.35	.45	.50	.20
4 Participant 4	.17	.62	-.10	1	0	.10	.03	-.12	.37	.32
5 Participant 5	-.47	-.20	-.50	0	1	.20	-.37	-.28	-.30	.03
6 Participant 6	-.05	-.10	0	.10	.20	1	.45	.28	.32	.43
7 Participant 7	.20	-.25	.35	.03	-.37	.45	1	.73	.28	.35
8 Participant 8	.28	.08	.45	-.12	-.28	.28	.73	1	.50	.10
9 Participant 9	.50	.65	.50	.37	-.30	.32	.28	.50	1	.32
10 Participant 10	.37	0	.20	.32	.03	.43	.35	.10	.32	1

The Standard Error for this correlation matrix was equal to 1/SQRT 15 = 0.26. According to the norm for Q Methodology, significant loadings on a factor occur when the loadings are equal to, or in excess of, 2 to 2.5 times the standard error (2 x 0.26 = 0.52 and by 2.5 = 0.65). The correlation matrix for this factor indicates that:

Participant 2 correlates strongly with Participant 9 (r =0.65) and less with Participant 4 (r =0.62).

Participant 4 correlates with Participant 2 (r =0.62).

Participant 7 correlates well with Participant 8 (r =0.73).

Participant 8 correlates well with Participants 7 (r =0.73).

Participant 9 correlates with Participants 2 (r =0.62).

The unrotated Factor Matrix (Appendix 24, Table 2) demonstrated that the Eigenvalue of 3.4415 was considered significant and, thus, Factor 1 appears to represent a common viewpoint held by a number of participants. This represented 34% of the total variance.

Table 6.16   Rotated Factor Matrix with an X Indicating A Defining Sort

QSort	Loadings Factor 1	Factor 2
1 Participant 1	0.3541	0.6409X
2 Participant 2	-0.1482	0.9236X
3 Participant 3	0.5803X	0.3646
4 Participant 4	-0.1484	0.6740X
5 Participant 5	-0.4108	-0.3721
6 Participant 6	0.5196X	-0.1202
7 Participant 7	0.8968X	-0.1076
8 Participant 8	0.8169X	0.0771
9 Participant 9	0.4822	0.7287X
10 Participant 10	0.4351	0.2303
% expl.Var.	28	26

From this table, one can note that Participant 7 correlates very strongly with Factor 1 with a value of 0.8968 and, similarly, that Participant 2 correlates very well with Factor 2 (0.9236).

As indicated previously, factor loadings in excess of 0.52 can be considered significant. The first two factors with the highest Eigenvalues were rotated. The defining variate for a participant's factor loading was calculated using the formula of dividing the multiplier 2.575 (p = <0.01) by the square root of the number of statements in Q-Set 'C' (15). This equated to 2.575 / 3.87 = 0.66.

According to Block (1978) and McKeown and Thomas (1988) the 'exemplificatory Q sorts' are taken as a loading of greater than +/- 0.6 on a factor with Participants 7 (f =0.90) and 8 (f =0.82) being taken as 'exemplars'.

To improve the quality of the Q-Sorts, the factor weightings for Q-Set 'C' are calculated using the formula $w = f / (1-f \text{ squared})$. The weighting for the following participants whose standard error is more than 0.52 are:

Participant 3   f = 0.58   w = 0.88
Participant 6   f = 0.52   w = 1.93
Participant 7   f = 0.90   w = 6.80
Participant 8   f = 0.82   w = 2.46

Table 6.17 Normalised Factor Scores for Factor 1

		Factor 1
No.	Statement	Z-Score
7	Problem based teaching	2.040
6	Evidence based	1.057
1	Real patient	0.858
13	Cancelled lectures	0.540
3	Not specific to physiotherapy	0.526
5	Patient to IHC	0.371
9	Unprepared lecturers	0.186
2	No clinical experience	0.115
15	Specialised lecturers	0.084
8	CCS taught by physiotherapist	-0.044
14	Good quality	-0.699
11	Self-directed learning	-0.809
12	Teaching style	-1.257
4	Video	-1.269
10	Punctuality	-1.699

Table 6.18 Normalised Factor Scores for Factor 2

		Factor 2
No.	Statement	Z-Score
15	Specialised lecturers	1.727
8	CCS taught by physiotherapist	1.093
13	Cancelled lectures	0.997
6	Evidence based	0.845
4	Video	0.582
5	Patient at IHC	0.509
11	Self-directed learning	0.104
14	Good quality	0.022
7	Problem based teaching	-0.046
12	Teaching style	-0.105
3	Not specific to physiotherapy	-0.457
10	Punctuality	-0.876
2	No clinical experience	-1.240
9	Unprepared lecturers	-1.532
1	Real patient	-1.622

Table 6.19 Factor Q-Sort Values for Each Statement

No.	Statement	Factor 1 N=4	Factor 2 N=4
1	Real patient	2	-3
2	No clinical experience	0	-2
3	Not specific to physiotherapy	1	-1
4	Video	-2	1
5	Patient to IHC	1	1
6	Evidence based	2	1
7	Problem based teaching	3	0
8	CCS taught by physiotherapist	-1	2
9	Unprepared lecturers	0	-2
10	Punctuality	-3	-1
11	Self-directed learning	-1	0
12	Teaching style	-2	-1
13	Cancelled lectures	1	2
14	Good quality	-1	0
15	Specialised lecturers	0	3

Variance = 2.667
St. Dev. = 1.633

The above table identifies the distinguishing characteristic statements. For Factor 1, there are only three that are ranked positive. The one with the highest Z score (2.04) and indicating significance at $p < 0.01$ concerns 'problem based learning'. The lowest ranked (-3) with a Z score of -1.70 concerns 'punctuality'. With respect to Factor 2, the highest scoring statement being 'specialised lectures' (Z score 1.73) and the lowest being 'real patient' (-1.62).

Table 6.20 Distinguishing Statements for Factor 1 and 2

(P < 0.05; Asterisk (*) Indicates Significance at P < 0.01)

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
7	Problem based teaching	3	2.04*	0	-0.05
1	Real patient	2	0.86*	-3	-1.62
3	Not specific to physiotherapy	1	0.53*	-1	-0.46
9	Unprepared lecturers	0	0.19*	-2	-1.53
2	No clinical experience	0	0.11*	-2	-1.24
15	Specialised lecturers	0	0.08*	3	1.73
8	CCS taught by physiotherapist	-1	-0.04*	2	1.09
14	Good quality	-1	-0.70	0	0.02
11	Self-directed learning	-1	-0.81*	0	0.10
12	Teaching style	-2	-1.26*	-1	-0.11
4	Video	-2	-1.27*	1	0.58
10	Punctuality	-3	-1.70	-1	-0.88

Table 6.21 Consensus Statements for Factor 1 and 2

All listed statements are Non-Significant at P>0.01 and those flagged with an *
are also Non-significant at P>0.05

No.	Statement	Factor 1		Factor 2	
		Rank	Score	Rank	Score
5*	Patient to IHC	1	0.37	1	0.51
6*	Evidence based	2	1.06	1	0.84
10	Punctuality	-3	-1.70	-1	-0.88
13*	Cancelled lectures	1	0.54	2	1.00
14	Good quality	-1	-0.70	0	0.02

Since two factors regarding the Q-Set (Teaching / Delivery of the Course) had significant Eigenvalues of more than one, two interpretable stories become evident.

Story 1: The case for Applied Teaching

The participants that loaded significantly on this story felt that, although they thought that the level of knowledge being delivered was of a high standard, they were of the opinion that the method how it was delivered could be improved. The 'exemplificatory' statements are all suggesting that a more applied method of teaching is adopted, specifically, problem based learning. These students were exposed to a number of lecturers from the United Kingdom who came over for a short period of time and all used this method of teaching. Although they were unfamiliar with this method, our students adapted quickly and appreciated it as a preferred method of teaching.

> *"I think that the best thing for us would be to have lectures*
> *on problem-solving skills. I have these signs and symptoms,*
> *how are you going to assess? How are you going to treat?*
> *What specific tests are you going to do?"*   (B31 2002)

This was again confirmed when the participants suggested that physiotherapy skills are taught and understood much better when carried out on real patients as opposed to models in a practical skills laboratory.

> *"We were taught how to do nags ...., but on a model, not in*
> *pain; usually if you have a patient with neck pain... I mean he*

264

> *doesn't even let you... to palpate his spinous process, let alone*
> *doing a whole minute oscillating his spinous process."*
>
> (D153 2002)

Finally, the participants are suggesting that other skills ought to be taught to students that are not directly included in the programme of studies, for example 'how to write a referring letter' or 'how to manage a unit' or 'entrepreneurship'.

> *"we could learn how, what it means to manage time, and to*
> *manage stress, and to manage our organisation, and things*
> *like that, but it's all in theory, I mean, you're told about it, you*
> *don't practise it."*   (C61 2002)

Story 2: The case for including clinicians further in the education of physiotherapists.

This second story that the participants are putting forward demonstrates the students concern regarding the delivery and quality of the teaching and learning that takes place in the course. The distinguishing statements are 'specialised lecturers', 'common core study-units taught by physiotherapists' and the use of 'video' to aid teaching.

The story expressed is that students would prefer to have their study-units concerning physiotherapy taught by university members of staff as well as having a component taught by clinical physiotherapists who are considered to be experts in the field. This same story is reinforced by comments that suggest that common-core lectures ought to be supplemented by physiotherapists.

> *"Imagine you go for 10 lectures with the psychology students,*
> *when you have all the theory and the types of approaches...*
> *then you'd have four hours lectured by a physiotherapist, for*
> *example: psychology of pain... psychology of a person who*
> *has a sudden disability."*   (D19 2002)

Another distinguishing statement arising from this factor concerns the use of 'video' as a teaching aid. One has to appreciate that students are not exposed to the clinical setting until the end of the second year. This posed as a problem both to the staff teaching the study-units and to the students as they found it

difficult to relate patients and their associated conditions. This suggestion was one method how this shortcoming could have been overcome.

> *"If we could get a video of a patient...of a condition... because one problem for example with the second years, we've never seen a patient."* (Bii77 2002)

To summarise, the participants' replies to the Q-Sort reinforce the findings obtained in the interviews held in the earlier cycles, that is, that they would prefer a change in the method of teaching that is being offered at the I.H.C. and proposed various suggestions how these could be improved.

6.10.11   Q-Set 'D': Clinical Practice (Appendix 25)

Table 6.22 Correlation Matrix between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.17	-.17	.02	.04	.27	-.29	.31	.33	.48
2 Participant 2	.17	1	.33	.56	-.42	.17	.33	.17	.48	.12
3 Participant 3	-.17	.33	1	.27	.04	-.04	.29	-.17	.35	-.25
4 Participant 4	.02	.56	.27	1	-.48	.29	.40	-.25	.35	.31
5 Participant 5	.04	-.42	.04	-.48	1	-.21	-.42	.17	.06	-.46
6 Participant 6	.27	.17	-.04	.29	-.21	1	.21	-.27	-.04	.08
7 Participant 7	-.29	.33	.29	.40	-.42	.21	1	.06	-.02	-.19
8 Participant 8	.31	.17	-.17	-.25	.17	-.27	.06	1	-.10	-.06
9 Participant 9	.33	.48	.35	.35	.06	-.04	-.02	-.10	1	.08
10 Participant 10	.48	.12	-.25	.31	-.46	.08	-.19	-.06	.08	1

The correlation matrix for this Q-Set is calculated and, following the calculation for the Standard Error (1/ SQRT 18 = 0.24 multiplied by 2 = 0.48 and by 2.5 = 0.59), the correlation between the participants could be demonstrated:

Participant 1 correlates with Participant 10 (r = 0.48).

Participant 2 and Participants 4 (r = 0.56) and 9 (r = 0.48).

Participant 4 with Participants 2 (r = 0.56) and 5 (r = -0.48).

Participant 5 with Participant 4 (r = 0.48).

Participant 9 with Participant 2 (r = 0.48).

Participant 10 with Participant 1 (r = 0.48).

The first two unrotated factor matrices (Appendix 25, Table 2) with Eigenvalues of 2.7814 and 1.9032, representing 28% and 19% of the total variance

respectively, can be considered significant. These reflect the amount of agreement among perceptions related to the individual Q-Sort statements.

Table 6.23   Rotated Factor Matrix with an X Indicating A Defining Sort

| QSort | Loadings | |
	Factor 1	Factor 2
1 Participant 1	0.3895	0.7486X
2 Participant 2	0.7500X	-0.2186
3 Participant 3	0.2118	-0.6318X
4 Participant 4	0.8045X	-0.2869
5 Participant 5	-0.6583X	0.1139
6 Participant 6	0.4287	0.0271
7 Participant 7	0.3508	-0.6550X
8 Participant 8	-0.1226	0.2867
9 Participant 9	0.4897X	-0.0220
10 Participant 10	0.5535	0.6014X
% expl.Var.	27	20

The loadings show the extent to which each Q-Sort is associated with each factor. This table demonstrates that Participant 4 correlates with Factor 1 to an extent of 0.8045 and Participant 5 to an extent of -0.6583; on Factor 2 their respective loadings are -0.2869 and 0.1139.

The defining variate for a participant's factor loading is calculated using the formula where the multiplier 2.575 (p = <0.01) is divided by the square root of the number of statements in Q-Set 'D' (18). This equated to 2.575 / 4.243 = 0.61 and this figure is set as the limit for statistical significance. This also happens to be very close to what Block (1978) and McKeown and Thomas (1988) take as the loading on the factor to be considered 'exemplificatory' (+/- 0.6). Hence Participants 2 (f= 0.75), 4 (f= 0.80) and 5 (f= -0.66) can be considered as 'exemplars'.

To improve the precision for Q-Set 'D' the weighting is taken into account and calculated by the formula w = f / (1 − f squared) for the following participants whose standard error is more than 0.5 are:

Participant 2   f = 0.75   w= 1.71
Participant 4   f = 0.80   w = 1.24
Participant 5   f = -0.66   w = 1.16
Participant 10   f = 0.49   w = 0.80

Table 6.24 Normalised Factor Scores for Factor 1

No.	Statement	Factor 1 Z-Score
15	M.D.T. discussion	1.982
6	Feedback	1.593
10	Emphasis	1.056
12	Time management	0.605
7	Payback	0.541
13	Clinical problem solving skills	0.527
14	Clinical reasoning	0.442
9	Assessment	0.300
2	Reasoning skills	0.089
1	Clinical reasoning	0.005
3	Communication skills	-0.210
5	Inadequate supervision	-0.322
4	Quality of supervision	-0.407
18	Not coordinated	-0.994
17	No-Few patients	-1.135
11	Complacency	-1.219
8	Amount	-1.264
16	Left unsupervised	-1.587

Table 6.25 Normalised Factor Scores for Factor 2

No.	Statement	Factor 2 Z-Score
18	Not coordinated	2.036
15	M.D.T. discussion	1.524
14	Clinical reasoning	1.338
17	No-Few patients	0.719
3	Communication skills	0.492
16	Left unsupervised	0.469
1	Clinical reasoning	0.457
11	Complacency	0.168
2	Reasoning skills	-0.052
13	Clinical problem solving skills	-0.071
12	Time management	-0.242
7	Payback	-0.482
10	Emphasis	-0.714
8	Amount	-0.812
9	Assessment	-0.868
6	Feedback	-1.170
4	Quality of supervision	-1.267
5	Inadequate supervision	-1.526

Table 6.26 Factor Q-Sort Values for Each Statement

No.	Statement	Factor 1 N=4	Factor 2 N=4	
1	Clinical reasoning	0	1	
2	Reasoning skills	0	0	
3	Communication skills	0	1	
4	Quality of supervision	-1	-2	
5	Inadequate supervision	-1	-3	
6	Feedback	2	-2	
7	Payback	1	-1	
8	Amount	-2	-1	
9	Assessment	0	-2	
10	Emphasis	2	-1	
11	Complacency	-2	0	Variance = 2.667
12	Time management	2	0	St. Dev. = 1.633
13	Clinical problem solving skills	1	0	
14	Clinical reasoning	1	2	
15	M.D.T. discussion	3	2	
16	Left unsupervised	-3	1	
17	No-Few patients	-2	2	
18	Not coordinated	-1	3	

At this stage, one can note that the most characteristic statements for Factor 1 are 'multidisciplinary team discussion' with a Z score of 1.982 and being ranked +3 and, in the same manner, the statement 'left unsupervised' with a Z score of -1.587 ranked -3.

Table 6.27 Distinguishing Statements for Factor 1 and 2

(P < 0.05; Asterisk (*) Indicates Significance at P < 0.01)

		Factor 1		Factor 2	
No.	Statement	Rank	Score	Rank	Score
6	Feedback	2	1.59*	-2	-1.17
10	Emphasis	2	1.06*	-1	-0.71
12	Time management	2	0.61	0	-0.24
7	Payback	1	0.54*	-1	-0.48
14	Clinical reasoning	1	0.44*	2	1.34
9	Assessment	0	0.30*	-2	-0.87
3	Communication skills	0	-0.21	1	0.49
5	Inadequate supervision	-1	-0.32*	-3	-1.53
4	Quality of supervision	-1	-0.41	-2	-1.27
18	Not coordinated	-1	-0.99*	3	2.04
17	No-Few patients	-2	-1.13*	2	0.72
11	Complacency	-2	-1.22*	0	0.17
16	Left unsupervised	-3	-1.59*	1	0.47

269

Table 6.28 Consensus Statements for Factor 1 and 2

All listed statements are Non-Significant at P>0.01 and those flagged with an *
are also Non-significant at P>0.05

No.	Statement	Factor 1		Factor 2	
		Rank	Score	Rank	Score
1*	Clinical reasoning	0	0.00	1	0.46
2*	Reasoning skills	0	0.09	0	-0.05
3	Communication skills	0	-0.21	1	0.49
4	Quality of supervision	-1	-0.41	-2	-1.27
8*	Amount	-2	-1.26	-1	-0.81
12	Time management	2	0.61	0	-0.24
13*	Clinical problem solving skills	1	0.53	0	-0.07
15*	M.D.T. discussion	3	1.98	2	1.52

Story 1: The clinical supervisors

The first emerging story is one where the students express their concern
regarding the Clinical Practice component of the course. This becomes evident
as the distinguishing statements from this factor are all concerned with
negative issues. In this first instance, the exemplars are agreeing that they are
concerned with the fact that they are not getting enough feedback from their
clinical supervisors regarding their clinical experience.

> *"There were a number of students who tried to voice their*
> *opinion about certain clinical placements, and no change was*
> *brought about."*   (C103 2002)

They also have the perception that too much emphasis is placed on the
assessment of a patient while too little time is attributed to the actual patient
treatment.

> *"You end up having your supervisor telling you go and assess*
> *that patient... importance given to the treatment is basically*
> *not nothing (close to nothing), but... you end up in fourth*
> *year, you realise that you've done a lot of assessments... but*
> *you can't really progress your treatment."*   (D68 2002)

Another serious matter that is also being expressed regards the fact that
students feel threatened in that they recognise that the clinical supervisors
might not be offering their best attention yet if they complained about the
situation they will be victimised as these same clinical supervisors are the

people who mark and confirm that they have successfully passed that placement.

> "*That is why the students are loosing hope of voicing their opinion, because it's to their own detriment, they're still at placement, the supervisor would work against them.*"
>
> (C105 2002)

The participants are also talking about the lack of clinical reasoning that the supervisors are offering the students during their clinical placements. A picture is being drawn that they are not being offered the time to help develop these skills.

> "*They are encountering problems...where they have a member or supervisor, they go to the supervisor with a problem, they try to give solutions, they discuss the solutions with the supervisor and then they go back to the clinical aspect and apply it.*"
>
> (A66 2002)

Story 2: Clinical Practice

The second story that emerges from this Q-Sort concerning Clinical Practice regards managerial issues. The students are painting a picture that the coordination of the placements needs to be revised, as well as the co ordination of the course content in that there is too much emphasis on the theoretical component of the course to the detriment of the clinical practice component. Another important managerial concern being mentioned regards the fact that sometimes students are being placed on units in which there are not enough patients for students to obtain the clinical expertise required from that placement.

> "*It appears that there is a discrepancy between the amount of theoretical credits and practical credits.*"
>
> (Bi15 2002)

> "*There was no co-ordination between the theory and the clinical.*"
>
> (D51 2002)

The issue regarding clinical supervision is again evident in this second story and again the matter regards the quality and quantity of supervision.

271

"There are certain situations where the student is allowed to perform an assessment alone, with the only techniques she would have remembered .... Treatment is done also most of the time alone." (H99 2002)

To summarise, the participants generally appear to be discontented with the Clinical Practice component of the course.

6.10.12 Q-Set 'E': Course Assessment (Appendix 26)

Table 6.29 Correlation Matrix between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.22	-.05	0	-.03	.39	.20	.17	.36	.03
2 Participant 2	.22	1	.33	.46	.14	.32	.36	.16	.36	-.03
3 Participant 3	-.05	.33	1	.29	.39	-.07	.13	.17	.04	.09
4 Participant 4	0	.46	.29	1	.07	.09	.28	0	.25	.17
5 Participant 5	-.03	.14	.39	.07	1	-.34	-.36	.08	-.22	-.13
6 Participant 6	.39	.32	-.07	.09	-.34	1	.46	.30	.54	-.14
7 Participant 7	.20	.36	.13	.28	-.36	.46	1	.28	.49	.45
8 Participant 8	.17	.16	.17	0	.08	.30	.28	1	.39	.18
9 Participant 9	.36	.36	.04	.25	-.22	.54	.49	.39	1	.16
10 Participant 10	.03	-.03	.09	.17	-.13	-.14	.45	.18	.16	1

In order to determine the correlation between participants, the standard error has to be calculated using the formula 1/ SQRT 25 = 0.2.   As is the case in Q methodology, for a participant to have significant loading on a factor, that loading has to be equal or greater than 2 – 2.5 times the standard error. Hence, for Q-Set 'E' this must equate to: 0.2 x 2 = 0.4 and 0.2 x 2.5 = 0.5. The correlation Matrix for this category indicates that:

Participant 2 correlates with Participant 4 (r= 0.46).

Participant 4 correlates with Participant 2 (r= 0.46).

Participant 6 correlates rather strongly with Participant 9 (r= 0.54) and, to a lesser extent, with Participant 7 (r= 0.46).

Participant 7 correlates with Participants 6 (r= 0.46), 9 (r= 0.49), and 10 (r= 0.45).

Participant 9 correlates well with Participant 6 (r= 0.54) and less with Participant 7 (r= 0.49).

Participant 10 correlates with Participant 7 (r= 0.45).

Following the unrotated factor matrix (Appendix 26, Table 2), the first two factors with Eigenvalues of 2.9678 and 1.8030 are considered significant and will be rotated.

Table 6.30 Rotated Factor Matrix with an X Indicating A Defining Sort

QSort	Loadings Factor 1	Factor 2
1 Participant 1	0.5106X	-0.0350
2 Participant 2	0.4415	0.6191X
3 Participant 3	-0.0347	0.7996X
4 Participant 4	0.2649	0.6081X
5 Participant 5	-0.4656	0.6280X
6 Participant 6	0.7794X	-0.1296
7 Participant 7	0.7714X	0.1405
8 Participant 8	0.4591X	0.2170
9 Participant 9	0.7990X	0.1065
10 Participant 10	0.2687	0.1422
% expl.Var.	29	19

This table demonstrates the correlation of participants to the factors. Hence, Participant 9 correlates to Factor 1 to an extent of 0.7990 whereas Participant 3 shows a correlation of -0.0347; their respective loadings on Factor 2 are 0.1065 and 0.7996.

The defining variable is next calculated using the formula of dividing the multiplier 2.575 (P = <0.01) by the square root of the number of statements. Hence, the limit for statistical significance for this factor loading is 2.575 / 5 = 0.515 or 0.52.

The next step is to identify the 'exemplificatory Q sorts' as indicated by a loading greater than +/- 0.6 on a Factor (Block 1978; McKeown and Thomas 1988) and, hence, the 'exemplars' will be Participants 6 (r = 0.7794) and 9 (r = 0.7990).

The weighting of the factor scores is then calculated. Thus, for Q-Set 'E' the weighting for the following participants whose standard error is more than 0.45 are:

Participant 1   f = 0.51   w = 0.69
Participant 5   f = - 0.47   w = 0.59
Participant 6   f = 0.78   w = 1.99
Participant 7   f = 0.77   w = 1.91
Participant 8   f = 0.46   w = 0.58
Participant 9   f = 0.80   w = 3.82

Table 6.31 Normalised Factor Scores for Factor 1

		Factor 1
No.	Statement	Z-Score
3	Stress	1.749
11	Not a failing exam	1.699
8	Commenced earlier	1.671
4	Repeat all	1.273
16	Standardised assessment sheet	0.934
10	Number of scenarios	0.753
22	Seen papers	0.541
5	More student-friendly	0.529
18	Clinical assessment ought to contribute to FCE	0.429
17	Emphasis on test	0.022
6	Unjust	0.010
15	Complying to please supervisor	-0.057
25	Change in means of assessment	-0.059
19	C.A. carried out by I.H.C. staff	-0.101
9	Specialisation	-0.184
20	Assessment following study-unit	-0.243
12	Viva unjust	-0.333
13	Adjusting treatment to please examiner	-0.479
21	Variety in mode of assessment	-0.590
24	Students over-assessed	-0.700
2	Stagger FCE	-0.834
23	Assessing modules not study-units	-1.013
14	Time consuming	-1.567
7	More than two papers	-1.609
1	Final Comprehensive Examination	-1.841

Table 6.32 Normalised Factor Scores for Factor 2

No.	Statement	Factor 2 Z-Score
22	Seen papers	1.891
13	Adjusting treatment to please examiner	1.468
18	Clinical assessment ought to contribute to FCE	1.100
19	C.A. carried out by I.H.C. staff	0.991
20	Assessment following study-unit	0.959
16	Standardised assessment sheet	0.948
3	Stress	0.894
12	Viva unjust	0.547
21	Variety in mode of assessment	0.394
2	Stagger FCE	0.286
14	Time consuming	0.282
9	Specialisation	0.157
10	Number of scenarios	0.022
25	Change in means of assessment	-0.012
17	Emphasis on test	-0.043
24	Students over-assessed	-0.169
5	More student-friendly	-0.255
15	Complying to please supervisor	-0.504
11	Not a failing exam	-0.650
6	Unjust	-0.812
7	More than two papers	-1.263
1	Final Comprehensive Examination	-1.414
8	Commenced earlier	-1.441
4	Repeat all	-1.618
23	Assessing modules not study-units	-1.760

Table 6.33 Factor Q-Sort Values for Each Statement

No.	Statement	Factor 1	Factor 2
		N=5	N=4
1	Final Comprehensive Examination	-3	-2
2	Stagger FCE	-2	1
3	Stress	3	1
4	Repeat all	2	-3
5	More student-friendly	1	-1
6	Unjust	0	-2
7	More than two papers	-3	-2
8	Commenced earlier	2	-2
9	Specialisation	0	0
10	Number of scenarios	2	0
11	Not a failing exam	3	-1
12	Viva unjust	-1	1
13	Adjusting treatment to please examiner	-1	3
14	Time consuming	-2	0
15	Complying to please supverisor	0	-1
16	Standardised assessment sheet	2	2
17	Emphasis on test	1	0
18	Clinical assessment ought to contribute to FCE	1	2
19	C.A. carried out by I.H.C. staff	0	2
20	Assessment following study-unit	-1	2
21	Variety in mode of assessment	-1	1
22	Seen papers	1	3
23	Assessing modules not study-units	-2	-3
24	Students over-assessed	-2	-1
25	Change in means of assessment	0	0

Variance = 3.040
St. Dev. = 1.744

The characteristic statements can be identified at this stage. For Factor 1, Statements 3 (Stress) and 11 (Not a failing exam) ranked +3 scoring, 1.75 and 1.70 respectively. Statements 1 (Final Comprehensive Examinations) and 7 (More than two papers) ranked -3 scoring, -1.84 and -1.61 respectively. These can be identified as the characteristic statements for Factor 1 (Van Exel & de Graaf 2005). In the same manner, for Factor 2, Statements 22 (Seen papers) and 13 (Adjusting treatment to please examiner) ranked +3 scoring 1.89 and 1.47 respectively and Statements 23 (Assessing modules not study-units) and 4 (Repeat all) ranked -3 scoring -1.76 and 1.62 respectively. These can be identified as the characteristic statements for Factor 2 (Table 6.34 overleaf).

Table 6.34 Distinguishing Statements for Factor 1 and 2

(P < 0.05; Asterisk (*) Indicates Significance at P < 0.01)

No.	Statement	Factor 1 Rank	Factor 1 Score	Factor 2 Rank	Factor 2 Score
3	Stress	3	1.75*	1	0.89
11	Not a failing exam	3	1.70*	-1	-0.65
8	Commenced earlier	2	1.67*	-2	-1.44
4	Repeat all	2	1.27*	-3	-1.62
10	Number of scenarios	2	0.75	0	0.02
22	Seen papers	1	0.54*	3	1.89
5	More student-friendly	1	0.53	-1	-0.25
18	Clinical assessment out to contribute to FCE	1	0.43	2	1.10
6	Unjust	0	0.01	-2	-0.81
19	C.A. carried out by I.H.C. staff	0	-0.10*	2	0.99
20	Assessment following study-unit	-1	-0.24*	2	0.96
12	Viva unjust	-1	-0.33*	1	0.55
13	Adjusting treatment to please examiner	-1	-0.48*	3	1.47
21	Variety in mode of assessment	-1	-0.59*	1	0.39
2	Stagger FCE	-2	-0.83*	1	0.29
23	Assessing modules not study-units	-2	-1.01	-3	-1.76
14	Time consuming	-2	-1.57*	0	0.28

Table 6.35 Consensus Statements for Factor 1 and 2

All listed statements are Non-Significant at P>0.01, and those flagged with an * are also Non-significant at P>0.05

No.	Statement	Factor 1 Rank	Factor 1 Score	Factor 2 Rank	Factor 2 Score
1*	Final Comprehensive Examination	-3	-1.84	-2	-1.41
5	More student-friendly	1	0.53	-1	-0.25
6	Unjust	0	0.01	-2	-0.81
7*	More than two papers	-3	-1.61	-2	-1.26
9*	Specialisation	0	-0.18	0	0.16
10	Number of scenarios	2	0.75	0	0.02
15*	Complying to please supervisor	0	-0.06	-1	-0.50
16*	Standardised assessment sheet	2	0.93	2	0.95
17*	Emphasis on test	1	0.02	0	-0.04
18	Clinical assessment ought to contribute to FCE	1	0.43	2	1.10
23	Assessing modules not study-units	-2	-1.01	-3	-1.76
24*	Students over-assessed	-2	-0.70	-1	-0.17
25*	Change in means of assessment	0	-0.06	0	-0.01

Story 1: The Final Comprehensive Examinations

The first story that emerges from this factor expresses the worry students have regarding the Final Comprehensive Examinations. Statements that are 'exemplificatory' and really give us a vivid indication of how they feel about these exams, concern the undue stress that students are made to feel.

"Everyone said that we're not happy with the actual assessment, the type of examinations we're having, the amount, the fact that we are stressed throughout the fourth year"

(D92 2002)

"Once you've accumulated those credits... why should I be examined again for a credit I have passed? And does the final exam really examine 85 credits in six hours?' (E63 2002)

"The placements you did before... if you pass from them and now you fail from the final, they ought to compensate for one another." (D106 2002)

These views express the fact that a pass in all the credits throughout the course does not compensate for a fail in the final examination, and the statement that these examinations should not be a 'one-off' failing exam but ought to be incorporated into a continuous assessment method.

The Participants did not agree with the statements that the I.H.C. ought to prolong the F.C.E. over a period of time and that they considered these examinations as a waste of time. It is also interesting to note that the participants viewed the viva which is held following the Final Practical Examination as a fair method of student assessment.

Story 2: Continuous Assessment

The second story concerns the continuous assessment that is held throughout the course. The first issue suggested concerns the assessment of their clinical practice. The participants are suggesting that these clinical assessments ought to be carried out by members of the academic staff and not solely by the clinical supervisors. Another notable comment related to this story concerns the student – clinical supervisor relationship in further detail. Concerns are expressed about having to change their reasoning and treatments according to the clinical supervisor present and not according to what they have learnt or how they have reasoned.

"They're not ready to accept that we were taught the same things in a different way. So then you try to do it the way

*your supervisor does it, but at the same time you know that
you're supposed to do it in a different way. So that you'll get
a good mark in your assessment."* (D84 2002)

Even though they are suggesting that the method of assessment ought not to be changed and that students ought to be given more guidance regarding the topic and method of assessment, they are suggesting that a standardized assessment form ought to be utilized and that of continuous assessment ought to contribute to the final grading that the student can obtain.

To summarise, it is evident from the stories generated from Q-Set 'E' that the participants replying to this category are not content with the manner in which the course is assessed and they are suggesting a number of ways that this can be improved.

6.10.13   Implications at the end of this Cycle

The strength of Q Methodology is in revealing the dominant attitudes, opinions and perceptions that surface within a group of participants. The analysis of the five Q-Sets revealed a number of stories. The first story concerned the programme of studies and is suggesting a change to the design and management of the course curriculum Q-Set 'A'. The next set of stories concern the course content, Q-Set 'B', where the overall impression is that the participants are satisfied with the content of the course. Q-Set 'C' concerned the teaching and learning that takes place in the course. The stories that are generated here suggest a change in the teaching methods used is needed and to increase the participation of the clinical staff in the teaching of subjects directly related to physiotherapy. Q-Set 'D' generated two stories. The first was very critical of the clinical supervisors and the second regarded the management of these clinical placements. The final Q-Set 'E' was related to the course assessment. The stories that emerged from this factor criticized, yet suggested manners how the final comprehensive examinations could be improved. Finally, the last story is suggesting that the continuous assessment that takes place during the course ought to contribute, or at least be taken into consideration, should a student fail the final comprehensive examinations.

6.11 Chapter Summary

The purpose of the first cycle was to confirm the researcher's hypothesis that the physiotherapy curriculum was outdated and needed to be changed in order to meet the island's medical needs. The opinions and views of all the primary stakeholders were researched and noted. Riding the wave of their initial enthusiasm regarding their empowerment to actually play a part in the designing of a new curriculum, all participants of the first cycle were asked to become active participants in this Action Research study.

The second cycle consisted of the formulation of the new curriculum. This was done by first carrying out a retrospective study into the previous curricula held in Malta, researching the curricula of fourteen other universities that have a long history in physiotherapy education and a six month study of all the physiotherapy referrals within the state hospitals. The new curriculum was then evaluated.

The third cycle consisted of a number of meetings with students and staff who initially were given the new curriculum; these in turn had meetings with their peers and were later interviewed to obtain feedback regarding the new curriculum. Any further changes were discussed together with the curriculum committee and included when considered appropriate. This third cycle also included a number of interviews with co-ordinators of different divisions at the I.H.C. to investigate whether the problems that the physiotherapy division experienced with the curriculum were present in other divisions. These interviews initiated a mentality that previously imported curricula could be adapted to meet the local medical needs.

The next step in the research cycle was to investigate the views and opinions of the public as they were considered to be one of the major stakeholders of this study. The involvement of the public in health and education is well documented and proven to promote positive changes (Taylor and Le Riche 2006). Their perceptions regarding the physiotherapy service being presently offered and their views regarding the medical and physiotherapy professions were of particular importance and require further investigation. Having evaluated the data obtained from this cycle the curriculum was further updated and this led to the next cycle that included a number of interviews with important individuals who are directly involved with the physiotherapy curriculum, culminating with the Registrar's representative at the I.H.C. to study and approve the new curriculum prior to presenting to the I.H.C. Board for approval.

The most important outcome of this fifth research cycle was that the physiotherapy course is held in high esteem by the university administration, but the format of the new proposed curriculum was not acceptable to the Registrar's Office for administrative purposes. This stimulated the next stage of this research study that included of a number of meetings between the academic staff to reorganise the new curriculum into a format that was acceptable to the university administration. This was followed by another meeting with the Registrar's representative at the I.H.C. to confirm that the

new curriculum was in line with all the rules and regulations governing undergraduate courses.

The final logical cycle, typical of action research was to return to the initial primary stakeholders to confirm their opinions and views regarding the curriculum that included further changes following their contribution. Q Methodology is a method for exploring dominant perceptions or patterns of thought within participants. In essence, it was a method that helped to capture the richness and complexity of the various statements presented to them. It was used primarily to identify groups with correlating or conflicting values, preferences, and opinions to better understand the differences. It was used to identify the potential areas of the research data findings. In other words, Q Methodology was a complementary tool offering insight and triangulation to the findings of the previous action research cycles.

DISCUSSION

Figure 7.1   Summary of the Discussion Chapter

Discussion

Research Methodology	Findings Related to Original Research Questions	Findings Revealed by Methodological Changes
Research Method	Course Assessment	Physiotherapy and the Medical Model
Action Research	Clinical Practice	Relationship of the Medical and Physiotherapy Professions in Malta
Q Methodology	Inter Professional Learning as opposed to Common Core Learning	Physiotherapy: a vocation, a profession or a semi – profession?
	Barriers to IPE	That other Divisions Within the Institute of Health Care, require or want a New Curriculum
	Course Content	Public's Perception of Physiotherapy
	Teaching Methods	Professional Attitudes and Values

This chapter is divided into three main sections: the first discusses the research methodology; the second findings related to the original research questions; and the third discusses other findings revealed by methodological changes.

7.1   Research Methodology

The original plan was to carry out a quantitative study regarding the content of the physiotherapy curriculum as taught at the I.H.C.   At the time, Malta had applied to join the E.U. and this was an opportunity to devise a curriculum that was specific to the nation's health needs and meet the E.U.'s directives regarding professional training. The intention was to compare this content to other

curricula taught in various countries that form the E.U. by means of the survey method. The results were to be statistically analysed, and a curriculum devised.

However, the need to provide a curriculum that met all the needs of the major stakeholders was also apparent. The growing importance for a new curriculum changed the focus of the research and generated a revision of the methodology. Rather than statistical analysis of quantitative data, a qualitative approach was required to understand perceptions of the curriculum. Qualitative research is about the 'human being' as the primary research instrument. Qualitative researchers attempt to understand meanings that people give to their deeds. A particular concern was the perceptions of the physiotherapy curriculum by both course staff and students. A central process, the interviewing of the staff and students, revealed an insight into people's feelings about the curriculum, about what they think or thought of it, and how they dealt with perceived or actual shortcomings. This method differed from the traditional positivists' research whereby "*The inquirer and the object of inquiry are independent; the knower and the known constitute a discrete dualism.*" (Lincoln and Guba 1985 p94). Angrosino and Mays de Perez (2000) insist that a distance between researchers and their subjects can no longer be assumed. "*Indeed, the very term 'subject' with its implicit colonialist connotations are no longer appropriate. Rather, there is said to be a dialogue between researchers and those whose cultures/societies are to be described*" (p675). Glesne and Peshkin (1992) suggest that face-to-face interactions are the predominant distinctive feature of qualitative research. Hence, in accordance with the literature, this study involved the researcher being at one with the 'researched' (the primary stakeholders), the 'researched for' (any future physiotherapy students) and finally, the secondary and tertiary stakeholders (the University, the Department of Health and the public). Lincoln and Guba (1985) talk about a naturalistic perspective, thus "*The inquirer and the object of inquiry interact to influence one another; knower and known are inseparable*" (p94). This mutual bonding, involving both the investigator and the respondent, is influenced by each other's values.

284

The quantitative and the qualitative approaches to research were both looked at, without going into the polemic argument as to which approach is more scientific. A justified account is given showing that there is more to truth than scientific method and that the type of research used does not provide one single model of rationality. According to the philosophical approach described by Lincoln and Guba (1985), it was determined that the constructivist paradigm was the most appropriate for this research study. Constructivism is a learning theory describing the process of knowledge construction. This choice was based on the importance placed on physiotherapy and the need to transform the way the curriculum was provided. This required the help of a large number of stakeholders, reflecting Guba and Lincoln (1990): "*If the aim of inquiry is to transform the (real) world by raising the consciousness of the participants so that they are energised and facilitated toward transformation, then something other than an experimental, manipulative methodology is required*" (p142). The constructivist paradigm was appropriate because the values that influenced this search for a methodology, lay somewhere in between the two perspectives of effective human interaction and shared meaningful understanding. Constructivism has led to the discovery that powerful gains are made when people work together (Strommen and Lincoln 1992). The advantage of collective effort is that researchers and participants are able to reflect on and elaborate on all ideas generated by the group and not just on their own personal ideas. The mutual knowledge gained from each other provides a sense of shared progress and shared goals. This feeling of teamwork was the natural outcome of collaborative problem solving and has been the methodology chosen for this study.

7.2   Research Method

Since the study was initially qualitative in nature, the research method chosen was the interview. Qualitative interviewing is a flexible and powerful tool which can be used to obtain thick, relevant information (Fontana and Frey 1994). The aim at the first stage of the study was to verify whether the physiotherapy curriculum that was taught at the I.H.C. was the most appropriate for the

health services and needs of the island. To acquire this information a survey/questionnaire or the interview technique could have been used.

One may argue that the use of a questionnaire for this study could have been more beneficial. However, questionnaires are not a good strategy to uncover the voices and thoughts of participants. Questionnaires, in their search for 'objectivity', are pre-focused according to an agenda of interests closer to that of the researcher than the researched; as a result interviews were the methodology adopted.

At the most basic level, interviews are conversations (Kvale 1996). Kvale defines qualitative research interviews as "attempts to understand the world from the subjects' point of view, to clarify the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations." While interviews for research or evaluation purposes may also promote understanding and change, the emphasis is on intellectual understanding rather than on producing personal change (Kvale 1996). In all these cases, the opinions and the perspectives of the interviewees were required.

The first cycle consisted of a group interview of the immediate stakeholders. These included a final year student, a newly qualified physiotherapist, a senior and a principal clinician and the two other fulltime members of the academic staff. The focus group interview was considered the most appropriate manner in which to commence this study as this created an interaction among the interviewees yielding discussion and information (Kreuger 1994; Stewart and Shamdasani 1990). Since the number of the group was small and the topic of discussion was known and relevant to all, each member of the group could contribute without feeling any interviewer pressure. Following this group interview, each member of the group was interviewed individually.

Patton (1990) identifies three basic types of qualitative interviewing for research or evaluation: the informal conversational interview, the interview guide approach and the standardized open-ended interview. Although these

286

types vary in the format and structure of questioning, what they have in common is the fact that the participant's responses are open-ended and not restricted to choices provided by the interviewer. A fourth type of interview, the closed, fixed-response interview, falls in the realm of quantitative interviewing and hence will not be discussed any further.

In the first cycle the need was felt to obtain the opinions of the stakeholders, hence the use of open questions was considered necessary. The 'Standardized Open-Ended Interview' (Patton 1990) was utilized. In this format, the interviewers adhere to a strict script and there is no flexibility in the wording or order of the questions to be asked. It is still considered a qualitative interview rather than a quantitative interview because the responses are open-ended. This is the most structured and efficient of the qualitative interviewing techniques and is useful for reducing bias when interviewers are less experienced or knowledgeable, or, when it is important to be able to compare the responses of different respondents. The major drawback is that the interviewer has little flexibility to respond to the particular concerns of the individual.

The face-to-face qualitative semi-structured interview provides the opportunity to discuss sensitive issues, allowing the respondents to express themselves freely, rather than being confined to a set of pre-determined answers. Unlike a questionnaire, since the interviews were of the semi-structured type, it gave the researcher the opportunity to gather underlying perceptions and possible reasons behind respondents' answers (Fitzpatrick and Boulton 1994).

The greatest disadvantage of the face-to-face interview is the time required. It is also worth noting that interviewer bias is greatest using this technique. Another disadvantage is that the interview technique does not offer any anonymity; both the respondent and the interviewer are aware of who the other person is, hence, the importance of all the ethical issues discussed previously being adopted and abided by.

In the third cycle, two Course co-ordinators were interviewed to compare whether the problems the physiotherapy division were facing regarding the curriculum were particular to it or common to other professions being taught at the I.H.C. A newly qualified junior clinical member of staff and two final year students were also interviewed in another attempt to obtain further feedback and to discuss the new proposed curriculum developed at this stage. Again, the semi-structured interview was adopted but this time with a little bit more flexibility, described by Patton (1990) as the 'Interview Guide Approach'. In this approach, the interviewer has an outline of topics or issues to be covered but is free to vary the wording and order of the questions to some extent. A semi-structured interview was again adopted for the fourth cycle of the study involving the interviewing of the public. It was decided to use this method of interviewing in order to aid the comparison of data analysed as the same questions were asked. This, however, did not restrict the interviewer in any manner from asking any other questions or changing the sequence of questions asked, or, delving deeper into the topic by the use of prompts.

The following cycle involved interviews with the Physiotherapy Representative on the Council for Professions Complementary to Medicine, the Manager Physiotherapy Services, the Registrar's Representative at the I.H.C., a physician and a senior clinical member of staff. It was considered necessary to change the type of interviewing techniques at this stage. The purpose of these interviews was not to compare data but to extract as much deep information regarding the physiotherapy profession and the physiotherapy curriculum as possible. An open/unstructured approach was adopted for all these interviews, thus allowing the interviewer and the respondents the possibility to explore and express themselves freely. There were no pre-prepared questions and even the topics were not predetermined. The major advantage to this type of interview is that it is highly individualized and relevant to the individual. Thus, it is likely to produce information or insights that the interviewer could not have anticipated. This type of interview could easily go astray and could only take place after the interviewer obtained a certain degree of proficiency in interviewing skills. However, since the interviews are not focused, the different information

collected is not systematic or comprehensive, making this kind of interview more difficult and time-consuming to analyse the data. Patton (1990) describes these types of interviews as 'Informal Conversational Interviews'. These interviews can take place spontaneously but in this study all interviews were booked in advance and a specified location given. The first interview was with a senior member of staff who was involved in a legal dispute with the health department following a confrontation with a medical consultant. The purpose of the interview was to delve deeper into the issue to investigate whether any connection could be found between this case and medical dominance, critical reasoning and autonomy of physiotherapy practice. The second interview was with a medical consultant to investigate the perception of physiotherapy practice and education and medical dominance relative to this study. The physiotherapy representative on the Council for the Professions Complementary to Medicine was interviewed next. This was relevant to the study in order to investigate the legality and any regulations regarding the development of a new curriculum. The Manager of Physiotherapy Services was interviewed next to obtain her perceptions regarding the physiotherapy graduates, the new physiotherapy curriculum, new policies regarding the profession, manpower studies and the proposed deployment to the new hospital. The University Registrar's representative at the I.H.C. was also interviewed to confirm the applicability of the new proposed curriculum to the existing rules and regulations of the university and her perceptions of physiotherapy students and the present course on offer.

Finally, the Chairman and Director of the Institute of Health Care were interviewed. The latter two are considered to be influential and prominent members not only of the U.o.M, but of Maltese society as a whole. It was an advantage and privilege to interview these participants as it gave an overall view of the organisation, became informed about the relevant past history of the I.H.C. and privy to future policies. The whole format of the interview had to change. The interviews had to be booked well in advance, they were held in the interviewees' respective offices and I was informed prior to starting that the time available was limited. One of the respondents refused the use of the tape

recorder even though the interview was guided by the researcher. It really revolved around what and how much detail the 'elite' interviewee was willing to reveal.

As this research started to take practical significance, a slant towards another research approach became apparent and necessary. At a meeting with an external assessor for the confirmation document, it was suggested that 'Action Research' be the preferred methodology to adopt. 'Action Research' is a proven means of tackling problems in various settings (Dick 2000). Should this study have to be repeated again, 'Action Research' would be the preferred research methodology from the initial stage as it clarifies the thought processes regarding the methodology used and apart from making the study easier and more straight forward to carry out, it would have saved time. It is worth noting that the journey along the trail of the research methodology that was utilised for this study definitely contributed to the learning and maturation of the researcher. From the researcher's point of view, on retrospective reflection of the methodology applied in this study, the quantitative paradigm appealed to his scientific background, possibly being influenced by his 'scientifically minded' colleagues at the I.H.C. Physiotherapists are always looking at objectivity, formulating these thoughts to make a physiotherapeutic diagnosis; hence, this frame of mind became the initial approach. However, further research into the different methodologies, and the rationale behind them confirmed that the qualitative approach was more appropriate. The final choice seems obvious now. The swing from seeking an absolute truth, to a perceived, 'constructed' truth, working closely with colleagues as co-researchers and involving all the stakeholders determined Action Research as the method of choice. At the end of the Action Research cycles it was considered necessary to include a different research methodology to help triangulate the findings. This was carried out by means of Q Methodology.

Figure 7.2
Summary: The Six Formative Cycles of Action Research

Cycle	Purpose	Means	Participants	Outcome
1	Assessment of current curriculum	Focus group interviews	Teaching staff, clinical staff & students	Curriculum considered dated, very stressful, not conducive to deep learning and critical thinking and required immediate change.
2	Identification of curricula being offered by universities within the E.U. and medical conditions referred to physiotherapy within Maltese state hospitals over a six month period.	(a) Documentary research (b) Meetings to design modules	(b) Academic staff teaching a speciality and clinician in charge of treatment unit	Curriculum matching the local medical needs.
3	Evaluation of new curriculum by primary stake holders. To investigate whether any other Divisions within the IHC were facing the same problems with their curriculum.	(a) Focused semi-structured interviews with primary stakeholders (b) Meetings between primary stakeholders and their cohorts (c) Interviews with teachers in other divisions of IHC	(a) Final year students and newly qualified staff (b) Other students and staff (c) Co-ordinators of the Radiography and Occupational Therapy Divisions	Confirmation that the new curriculum was acceptable to the primary stakeholders. Better understanding of the curricular problems and methods of rectification faced by other Divisions.
4	Investigation of the public's opinions of the physiotherapy profession and the service it offers	Eight in-depth semi-structured interviews	Inpatients and outpatients attending state and private hospitals or clinics	Input of the publics contribution into the new curriculum making it more acceptable to these stakeholders.
5	Investigation of the views, opinions and perceptions of the medical profession and major influential stakeholders regarding the physiotherapy profession and curriculum of study.	(a) Six unstructured/open elite interviews (b) One unstructured interview	(a) Stakeholders who influence the curriculum directly or indirectly (b) Senior member of clinical staff	The new 'ideal' curriculum was not acceptable to the office of the Registrar and changes were necessary
6	Alteration of proposed new curriculum to meet all the administrative rules and regulations	Discussions between teaching staff and the office of the Registrar	Academic staff, representative of Registrar and Curriculum Research Committee	Revised curriculum acceptable to UoM is implemented.

7.3   Explanation and Development of the Q-Sets

The purpose of the seventh and final cycle was to explore the opinions and perceptions of newly qualified staff regarding the changes made to the physiotherapy curriculum. However, there are a number of limitations that need to be pointed out and considered at this stage. The Q methodology study was carried out on the newly qualified staff who had been the fourth year students that contributed to the first cycles of the study. This could also have been carried out on the other stakeholders who contributed to the curriculum but, since the students and staff are the primary stakeholders, it was considered adequate to triangulate the data utilising this research population.

This cycle has been divided into five sections, each of which will be discussed in turn.

1. Q-Set 'A' – *Course Design*

The participants have shown that there is a need to change the manner in which the course was designed. There was consensus that the general layout of the course was too vague and ambiguous. The participants suggested that the sequence of the study-units which are taught ought to be changed and that there ought to be better coordination between the academic and practical components of the course. The clinical component of the course was also criticized as, due to the number of students and the number of clinical sites available, some students were not getting exposure to all the placements prior to them completing the course. The common-core study-units also seem to be a major source of concern for the participants. These are viewed as being a method whereby the university is preventing duplication of lectures and pooling large numbers of students together without taking into consideration that certain professions require more details or depth than others. However, the participants did appreciate common core lectures as being one of the only times that they intermingled with students from other professions and considered it to be the preliminary to inter-professional learning. The participants were also consistent in not agreeing that the number of students per intake should be increased and that they felt unstimulated to think during the course.

To conclude, it is evident from the analysis of the Q-Sort that there is a need for change to the curriculum and the manner in which the course is designed.

2. Q-Set 'B' – *Course Content*

The outcome of this Q-Sort is very apparent. The distinguishing statement that is statistically significant and has been ranked +3, indicating that most of the participants strongly agree with it, is that the participants would prefer to have more supervision during their clinical placements and during their physiotherapy skills sessions. Participants were not concerned about, or were impartial to, showing consensus with the statements that there was a discrepancy in the amount of time spent on particular topics and that certain subjects were either not given in enough detail or omitted. Finally, the participants strongly disagreed that some subjects were perceived as a waste of time or that they were not applicable to the physiotherapy profession.

To summarise the review of this Q-Sort regarding the course content, it is apparent that participants are concerned with the amount of supervision that they are getting during the course. It can be inferred from the negative ranking obtained both from the distinguishing and consensus statements regarding the course content being perceived as 'not applicable' or 'not suitable' that the participants considered that the course content to be appropriate. This information has triangulated the findings that the course content was thought to be appropriate and the Board of studies has been advised not to alter the academic content.

3. Q-Set 'C' – *Teaching and Delivery of the Course*

The outcome of this Q-Sort is that the participants have expressed a need to change the manner in which the teaching and learning takes place. The method that has been suggested by the participants following a limited exposure during their course is 'Problem-Based Learning'. It was also interesting to note that the participants suggested that most of the physiotherapy skills lessons ought to have sessions on real patients, as they felt that practicing on each other or on models did not prepare students enough for

293

when they started clinical placements. The participants were suggesting that certain topics which cannot be considered specific to the course should be included in the teaching of the course. The examples specified included how to 'refer a patient to a consultant' or how 'to write an official patient report that will stand up in court'. It has, therefore, been included in a new study-unit that includes professional ethics and issues. To summarise, the participants' replies to the Q-Sort reinforce the findings obtained in the interviews held in the previous cycles, where they expressed that they would prefer a change in the method of teaching at the I.H.C. The method being suggested is one of greater student participation and with a more evidence-based approach.

4. Q-Set 'D' – *Clinical Practice*

The distinguishing statements that are disclosed from this Q-Set suggest a story that the participants are having problems regarding the quality of clinical supervision. One of the complaints concerns the amount of time that it takes to get feedback regarding their performance during and on the clinical placement. It is also evident that clinical supervisors are placing too much emphasis on the actual patient assessment and less on the actual patient treatment. The participants also identified a problem that they were experiencing whilst on clinical placements concerning time-management. The participants complained that they were taking much longer to assess and treat a patient than the official time allotted to them. However, there was general consensus that participants are content with the amount of clinical reasoning that takes place during their practice and the manner in which the clinical practice component of the course is held. These comments and suggestions are being recommended to the Board of Studies to note and take action.

5. Q-Set 'E' – *Course Assessment*

The stories being generated from this Q-Set regarding the assessment of the course have all been identified in the previous interviews held during the action research. The main story that emerges concerns the overall discontent of the participants with the manner in which the course is assessed. The criticism is generalized and not targeted solely at the final comprehensive examinations as

was originally thought to be the case. The final examinations are held once a student obtained all 240 credits, often meaning that a student has to pass over fifty unseen written tests plus a number of clinical assessments. These, together with the writing of the dissertation during their final year, have been the cause of excessive stress on students that could have been averted if managed or organized in a better manner. The main suggestion put forward to help alleviate this situation is that the final examination should not be a failing examination but ought to take into consideration the course work carried out during the previous four years. It was also suggested that the dissertation ought to be assigned earlier thus giving the students more time to concentrate on their final examinations. It was surprising to note that even though the students complained about the amount of written tests given, they did not express that the course is over assessed and did not accept the suggestion that, instead of assessing individual study-units, these ought to be amalgamated into related modules and later have these assessed as a whole.

7.3.1 Conclusion

The possibility for further research by Q Methodology is being recommended. Having carried out this final cycle of this study by Q methodology, it will be interesting to research how the various stakeholders that were involved in the designing of the new curriculum interpret the stories that have been generated from this final cycle.

Methodologically, the Q-sort could have been improved by combining all the Q-sets into a single set for sorting. This would have had the effect of ensuring that the emerging stories took account of all the issues involved in the curriculum and its delivery. As it is, the separated Q-sorts mean that the participants' stories have been pre-classified by the researcher, thereby imposing a preliminary categorization that may not accurately reflect the participants' experiences. Furthermore, Q-sort usually demands a Q-set of c 40 items. The Q-sets used for B, C and D may therefore be too small to generate useful information. The interpretation of the Q-methodology data should therefore be interpreted with caution.

Following this research study, as suggested in the literature (Maasen and Weingart 2005), the Q sorting results will be reported to all the participants and all who contributed to this study. Any aspects on which the shared statements disagree and have been ranked negatively point to actual points of contention within the curriculum being implemented at the I.H.C. It is also being recommended that the different perspectives offered by the participants should be passed on to the University of Malta authorities in order to develop better mutual understanding and consensus.

7.4 Findings directly related to the Research Questions

Was the old physiotherapy curriculum the most appropriate for the Maltese people? This was the initial research question. It was felt that the physiotherapy curriculum needed to be changed. It had been established previously that the curriculum needed to be revised (Sacco 1999). Both Sacco and Brook (2000) identified the clinical component as the main weakness: inadequate clinical supervision resulted in poor clinical reasoning and the professional skills required practising effectively.

Time brings about change. The constant flood of information, scientific developments and the expectations of the health service provider and the public necessitated a new curriculum (Organisation for Economic Co-operation and Development 1995). The new physiotherapy curriculum had to adapt to the new millennium. The expectations of the students, who are the primary stakeholders of the curriculum, have also changed as they now attend a four-year University degree course as opposed to the previous three-year diploma course, resulting in increased expectations in their education and employment possibilities. The variations in graduate employment destinations and opportunities, as well as the requirements of the registration authorities and employers, had to be taken into consideration. With Malta's entry to the E.U. and the fact that there are now more physiotherapists qualified on the island than the State Health Service requires (Muscat 2004), more locally educated physiotherapists will be seeking employment overseas. This introduced a new dilemma, as initially the aim of this study was to design a curriculum to meet

the local health needs; yet, it became apparent that this curriculum also had to be versatile enough to be academically sound and attractive to overseas employers and registration bodies.

By the end of this study, a curriculum had been devised that met all the local health, professional and academic needs. It had the same core competencies required to practise physiotherapy anywhere in the world and met the requirements of the Health Professions Council in the U.K. This is extremely important for our students as nearly all post-graduate specialisation is carried out in that country. According to Muscat (2004), the U.K. is the preferred country for qualified physiotherapists seeking employment overseas.

The content of the curriculum was the main concern. As the study unfolded, following the initial cycle with the primary stakeholders, it became evident that changes to the course were drastically required, if the curriculum were to live up to the expectations of the students, academic staff and clinical physiotherapists.

> "I also noticed that there were other people ...who are taking part in this discussion, who agreed that there is supposed to be a change... nearly everyone is aware that a change has to take place which is important, in my opinion." (C7 2002)

Curriculum development is much more than just adding or removing study-units to a course programme. The development of physiotherapy education meant the integration of professional practice, theoretical education and research. This new curriculum had to address the issue of the globalization of healthcare and the demand by the health service provider for more accountability. The increased influx of foreign nationals to Malta, following our integration into the E.U., and the increasing numbers of illegal immigrants is an issue that the education of physiotherapy has not had to face previously. Changes within the Maltese family culture, historical changes, political changes, economical changes and environmental issues all needed to be taken into consideration when planning the new curriculum (Higgs et al 1999). Research data revealed

297

that the actual 'design of the course' had to change if all the stakeholders were to be satisfied with the final, 'ideal curriculum'.

Another research question that this study addressed was whether the course was successful in producing physiotherapists that were equipped to meet the health needs of the Maltese. The primary stakeholders were of the opinion that the course on offer needed to be altered if the next generation of physiotherapists were to become the autonomous, accountable professionals that the new health service required.

> "I think students have to be encouraged to question their learning experiences, in the sense, I don't think they're trained how to do it. I mean concerning clinical reasoning skills and problem solving skills. That is were they are lacking". (A65 2002)

As seen from the previous quote and those following, serious constructive criticism regarding the design of the course was generated from the first set of interviews and this, in turn, was one of the contributing factors to the initiation of this study. The study identified many major flaws in the design of the course that the Curriculum Design Committee had to address in order to develop this new curriculum. Statements such as "*not stimulated to think*" (A54, 2003), "*changes to the layout of the course* required" (C67, C69, C77, D55, D63, D98, D194, E11, E17, E59, E82, 2002) and there '*ought to be better co-ordination between the clinical and theoretical component parts of the course*' (Bii42 2002) are examples of these flaws.

This research also questioned the stronghold of the medical-model within the education of the physiotherapy profession. The profession as a whole and our academic staff are perpetually talking about evidence-based practice, which in itself leans towards the quantitative 'supreme level' type of research. This is associated with the biomedical model (Crosbie et al 2002). The lecturing staff and clinical staff all consider themselves as experts or specialised in various fields. Following this study, it was decided that the new curriculum should have

its core based on the biomedical model of education whilst instilling a 'holistic' approach tending towards 'patient-centred' care.

The old curriculum was criticised as being stressful. The Curriculum Development Committee has gone to great lengths, following the data obtained from this study, to minimise the stress caused by the course and to ease the transition from the university environment to the workplace. Stress, related to physiotherapy training, has been reported globally and is not particular to the course in Malta (DiGiacomo and Adamson 2001; Balogun et al 1999; Clouder and Dalley 2002). No undergraduate course can ever be completely stress-free, and an element of anxiety can motivate students to work harder (Imperial College Health Centre 2005). This study has investigated the main issues causing stress within the physiotherapy curriculum at the I.H.C. and addressed them by revising the curriculum.

The move of the physiotherapy course from the D.H. to the University should have brought about an ethos of research and inquiry. The profession was presented with a unique chance to enhance the quality and diversity of instruction, as well as the actual course content. Unfortunately, this opportunity was not taken and only now, following the changes to the new curriculum is academic freedom being offered to lecturers. This freedom allows and encourages lecturers to pursue research (Mercer et al 2002) that in turn will influence their teaching, thus promoting a stronger researched-based profession. The I.H.C. is the main source of professional knowledge. It is the academics who set the standard of the physiotherapy being practised, as they have access to the most recent knowledge and developments within the profession. It is their duty to pass on this knowledge to the professional working in the field and this had to be incorporated into the design of the new curriculum.

Changes to the curriculum involved changes to the mode of assessment, the course content, the clinical practice modules and the teaching methods. Each of these is being addressed separately.

7.5   Course Assessment

> *"Assessment is at the heart of the undergraduate experience. Assessment defines what students regard as important. How they spend their time, and how they come to see themselves as students and then as graduates. It follows, then, that it is not the curriculum which shapes assessment, but assessment which shapes the curriculum and embodies the purposes of higher education."*   (Brown and Knight 1994 p12)

Evaluating outcomes in physiotherapy students focuses on their competency to enter the profession on graduation and to apply the acquired knowledge and reasoning skills competently. One major concern in the physiotherapy curriculum was the assessment of student work throughout the course and the Final Comprehensive Examinations (F.C.E.). The overall conclusion, having reviewed the data collected, was that the course was generally over-assessed and that the Practical/Viva component of the F.C.E. was considered to be very unfair (E61, J216,C161 2002) and caused students a lot of stress (A50, D92, J214, J218 2002). This supports the findings of Sarros and Densten (1989) who found that the most frequently mentioned stressors for undergraduate students were the assessment and workload. All the primary stakeholders including the academic staff contributing to the course backed this observation.

> *"Everyone said that we're not happy with the actual assessment, the type of examinations we're having, the amount, the fact that we are stressed throughout the four years and then we end up trying, you know to fit in ..... all the information."*   (D91 2002)

The old curriculum involved assessing the students on sixty-seven separate occasions, plus all the clinical assessments and the F.C.E. This over-assessment gave rise to an element of stress and, of more concern, promoted a superficial learning that was not consistent with the modern reflective physiotherapist. Superficial learning has been widely reported in the literature. Following Marton and Säljö's (1976) original distinction between deep and superficial learning, higher education has been encouraging students to take a deep approach to their studies (Gibbs 1994, 1995, 1996; Rust 1998, 1999,

300

2002; Rust and Gibbs 1997). There have been many studies exploring the link between learning and assessment, and most studies agree that students will use different forms of understanding depending on the type of assessment required (Biggs 1992; Ramsden 1992). Brown (1997), after reviewing the literature on the effects of assessment on student learning, concluded that the traditional assessment carried out in higher education promotes a poor quality, superficial approach to learning. As a consequence, the course was redesigned by decreasing the number of study-units which were combined together into related modules. These modules, rather than the individual study units, will be assessed, thus significantly decreasing the amount of assessment. This decrease is what McDowell and Mowl (1996) suggest, yet Greer (2001) proposes that changing the mode of assessment can affect the performance of students. Many students, coming to the I.H.C. from their secondary education, have been spoon-fed, are familiar with rote learning and repetition of knowledge. They lack the skills required to become autonomous learners. The danger exists that too drastic a change in assessment method can result in actually putting students at a disadvantage. The purpose of assessment is to assist students in the learning process and to consolidate their knowledge, as well as the administrative purposes of obtaining a grade (Ramsden 1992).

The change and improvement in the design of the course resulted in the development of an 'ideal' curriculum. Unfortunately, this could not be implemented as it did not comply with the rules and regulations of the University and challenged the workings of the Registrar's Office. This Office (Stivala 2004) could not handle the amalgamation of study-units into new modules, and their assessment. As a result, the new 'ideal' curriculum had to be altered in such a manner, to make it conform to the workings of the Registrar's Office. Therefore, future physiotherapy students will not be getting the optimal education possible. They will have to be satisfied with a curriculum that meets the University's needs but is not 'ideal' to the primary stakeholder.

Following the data collected, the Curriculum Design Committee recommended the removal of the written component of the F.C.E. in early 2003. This

committee believed that since the course followed a credit system, having F.C.E. was simply a matter of over-assessment. In order to be in line with other E.U. universities that utilize the European Credit Transfer System and in preparation for the accession of Malta into the E.U., the University issued new, harmonised rules and regulations in late 2003. These changes were introduced for the October 2003 intake and the written component of the F.C.E. will be eliminated by the year 2007.

Students will be assessed and will obtain their necessary credits by means of continuous assessment. This fact together with having no final written examinations has raised many comments from different sources: past students complained that this course would be easier than theirs (Davies 2004) and some senior clinical members of staff think that the professional standard will fall (Bezzina 2004). Co-ordinators within other divisions of the I.H.C. have expressed surprise and questioned whether it is fair that physiotherapy students undergo a four-year course with no final examinations, whilst their students have to sit for 'x' amount of examinations and yet both will qualify with the same degree, due to the new harmonized rules and regulations. Final Examinations still appear to be the norm in nearly all the countries in the European Union (E.N.P.H.E. 2004), hence this move away from them must be viewed as audacious in both Malta and further afield.

The Board of Studies decided that Final Practical Examinations should be retained. However, current practical examinations were considered to be 'unfair' (E61, J216, C161 2002) and 'unjust'. They were described as 'tough' by an external examiner (Selfe 2004). This has resulted in changes to ameliorate them whilst maintaining standards. Prior to the 2003 changes (that will come into effect in 2007), these examinations were held on patients unknown to the student, in a hospital environment on a 'one-off' basis. In 2007, once introduced, the practical examinations will be held on two separate occasions, five months apart. The first examination will evaluate the student's assessment skills on an unknown patient but on the ward or unit where the student is currently working. The second assessment will take place five months later and

will test the treatment and clinical reasoning skills of the student, on a known patient, on the ward or unit where they are currently working.

Continuous assessment is not without its problems either, amongst which is its superficial approach to learning (Davies 1994). One must take into consideration the fact that if students do not feel the threat of final examinations they may become complacent and decrease the effort to learn (Montgomery 1994). Hence, one may think that developing a curriculum that promotes a deep approach to learning is pointless, if continuous assessment encourages a superficial approach. Turnbull (1994) claims that physiotherapy, as a professional subject offered at university is often perceived as being too theoretical and unrealistic from the clinical perspective. Shepard and Jensen (1990) note that education is too often directed towards the adoption and practice of technical skills. Following reflection on the data collected and the literature, the Physiotherapy Board of Studies has changed the method of teaching and assessment, from being factual and rote to placing more emphasis on verbal discussion, reasoning, group and assignment work. Further to the above, Trigwell and Prosser (1991) suggest that there ought to be clear links between the objectives and the assessment, and that these ought to be made clear by the academic tutor. The Board of Studies has decided to adopt this suggestion. On commencement of the course, the students will be made aware via a handbook and a copy of which will be placed in the library, that progression from one year to the next is dependent on this continuous assessment. The teaching staff should discuss the objectives and method of assessment with the students, at the very early stages of the study-unit, in an attempt to promote deeper learning. The above changes are relevant to the modules taught by the Physiotherapy division and do not include the common core subjects. These are still being assessed by a multiple-choice format, even though the literature suggests that testing in this manner promotes superficial learning (Maclellan 2004).

7.6 Clinical Practice

Problems related to clinical component of the course, still existed in the courses running prior to the study and implementation of the new curriculum, (as identified during initial research into the subject in 1999). The design of the course was similar to most physiotherapy courses in England and in Europe, in that the clinical placement modules were interspersed throughout the course. The criterion, of most institutions or regulating bodies that teach physiotherapy, states that there ought to be a minimum of one thousand hours of supervised clinical practice. The norm is somewhere around one thousand two hundred and one thousand eight hundred hours (E.N.P.H.E. 2006). The new curriculum will consist of one thousand six hundred hours. The course can afford the extra hours of clinical practice, as it is a four-year course as opposed to the English three-year courses and some European three and a half year courses.

A. Course Design relating to Clinical Practice Modules: Following the research data, it became apparent that the stakeholders were dissatisfied with the manner in which clinical practice took place and was supervised (I32 2002; J152 2002; D190 2002). It was decided to commence clinical practice in the first year rather than at the end of the second year. A practical placement is a learning experience that enables students to develop their knowledge and skills, hence commencing this practice in the first year make good academic sense. Additional periods of clinical practice during the second and third academic years were also introduced. The major differences between the old and the new curriculum are that clinical practice will commence in the first year and that the final year will now be dedicated solely to clinical practice. This can take place either in Malta or overseas, whilst students are writing their dissertation.

B. Overseas Exposure: The Physiotherapy Board of Studies believes that the course and students will benefit from overseas exposure and has signed a number of Erasmus/Socrates agreements whereby all students will be given the opportunity to take part in a three-month clinical exchange period to various institutions anywhere in Europe. This will add a new dimension to the course. It will give the students the opportunity to experience: different teaching

304

methods, alternative methods of treatment and different cultures. On their return, the students are expected to write up and exchange their case studies and reflective diaries, thus helping consolidate and share with their peers this learning experience.

Language and the means of assessment are two of the problems associated with the Socrates programme. A number of administrative headaches to many participating universities (Callus 2004) exist, even though the E.U. actively encourages and financially supports the Socrates programme. The European Credit Transfer System (ECTS) was developed to facilitate the recognition of periods of study in other universities within Member States. The premise being that a grade for an assessment that was carried out in a different E.U. country represents the same workload and achievement as though it were carried out in the home university. Unfortunately, a grade given in one country is not necessarily equivalent to that grade in a different country (Sullivan 2002). The physiotherapy division at the I.H.C. has experienced this phenomenon this year when four students returned from a Socrates exchange in Spain, all having obtained a 'B' grade in their clinical assessments even though none of them could speak Spanish.

The final year of clinical education is intended to provide experiences in various occupational situations, and to act as an interface between the didactic, 'artificial university practical skill training environment' and the real workplace, with all the competencies required by the profession and professional.

> "*Mobs we learnt how to do most, we learnt subjects well. But it is something very different when you come to practise these skills, on patients than when you practise them on your friends or for a credit test. The fact that I know how to carry out Mobs on another student does not mean that I know how to do it exactly on a patient, and what force I have to use, em...*" (I50 2002)

The quality of clinical supervision was another inadequacy that this study revealed. Most respondents were pleased with the concept of clinical practice

(D7 2002; F19 2002). Students commented positively on the clinical environment, and their state of competence to commence clinical practice following their graduation. However, the actual clinical supervision remains a shortcoming to this course.

> "*Or on the other hand, the supervisors would have too much work and wouldn't have the time to be with us, you would be on your own, and on your own, if you are a student you still won't have the experience to take certain decisions on what you are supposed to do. You will not know whether what you are doing is correct or not, and you will not have anybody to guide you, do you understand? For me, wasting time is something I cannot take.*"   (I36 2002)

The above quote is disheartening to a course co-ordinator, but on the other hand increases the determination to correct this shortfall. The I.H.C. has been tackling this problem for the past three years and the improvements have included clinical supervisors' courses, identification of clinical staff willing to become officially nominated clinical supervisors and the employment of university-based clinical educators.

An interesting observation from the study was that the means of assessment for clinical modules was criticized by the clinical supervisors and educators but not by the students themselves (D64 2002; Bi21 2002). Previous attempts, to make the marking of clinical assessments more objective and transparent, utilised a detailed format that examiners had to follow. Clinical supervisors and educators' criticism indicated they felt restrained by its format and had no freedom to go beyond the existing parameters. The emphasis was on the actual technical performance of the physiotherapeutic skills required and not on the clinical reflection and reasoning required by the student to plan and treat the patient. Consequently, a team made up of the co-ordinator for clinical practice, clinical educators, clinical supervisors and final year students devised a new, leaner assessment format.

The final grade for the clinical module is made up of two separate marks: that of the continuous assessment given by the clinical supervisor and that awarded

by the clinical educator following a one-off assessment. A discrepancy existed between these two marks. The former always tended to be more generous. In line with what Cross (2001) states regarding clinical practice-based assessment this might be due to what she describes as assessment by different notions of 'fitness'. The clinical supervisors are members of staff and are guided by the notion of fitness for 'practice', yet the clinical educators, who are academic staff, are sometimes more concerned with the notion of fitness for 'award'. They are concerned with the specific skills required and grade the student as objectively as possible. However, the clinician in the field assesses a student on whether they treat patients effectively, efficiently and safely; hence a mismatch between the grades given by the two assessors can occur. The study has unveiled this issue, which has to be tackled in the near future.

7.7 Inter-Professional Education as opposed to Common Core Learning

Common Core study units are those that are taught to physiotherapy students together with students from other divisions that constitute the I.H.C., or other faculties within the University. Common Core Lectures to the Physiotherapy Division include the Biomedical and Behavioural Sciences. Physiotherapy education has traditionally been rather insular, yet health education in general has moved away from being 'mono-professional' to 'multi-professional', to 'inter-professional'. Students from the I.H.C. gain many different professional qualifications, yet the majority, following graduation, will be working in a multi-disciplinary environment.

> *"There are potential benefits in introducing active inter-professional education activities at an early stage of professional preparation to capitalise on students' positive attitudes towards their own and other professional groups."*
> (Hind et al 2003)

In 1988 the World Health Organization saw inter-professional education in health care as a key area for development and since then an international move away from 'mono-professional' educational practices has been taking place (Harris and Viney 2003). In 1998, Parsell and Bligh can be quoted as stating

that *'higher education institutions are understandably cautious about adopting new learning methods ...... More studies are therefore needed to show whether inter-professional learning during basic education has an impact on future working practice'.* The findings of this study indicate that the stakeholders of the physiotherapy curriculum undertaken at the I.H.C. are in favour of not just common core teaching, but inter-professional education in principle. These findings are similar to those of a study carried out at Bournemouth University in 2003 (Hind et al 2003).

The I.H.C. has been an advocate for shared learning since its conception; whether the reason behind this is financial, or beneficial to the student, is a difficult question to answer. It has been argued both in Malta and overseas that the development of common core lectures will create savings associated with designing, delivering and assessing these repeated lectures (Harris & Viney 2003).

> *"It is more to do with............, as we all know not having enough people to teach tailor-made courses, because ideally, I would imagine, we would have somebody to teach ... Physiology related to Physios or whatever."* (Y134 2004)

The method of common core teaching has led to a number of difficulties highlighted by this research. Comments, regarding this, have come from students, academic staff and the university administration. The following are some examples of the adverse comments: *"Lecturers not familiar with the Health Care Professions"* (F53 2002; H85 2002; J42 2002); *"Professional jealousy between attending students"* (F119 2002); *"Too many students"* (I62 2002; G48 2002); *"No discussion takes place during the lectures"* (J124 2002); *"Lecturers prejudiced against I.H.C. students"* (H85 2002); *"Better if common core lectures never took place"* (J58 2002); *"Not done in enough detail"* (A60 2002; C17 2002) ; *"Lectures too generic"* (J80 2002).

> *"Common Core subjects, they weren't very much targeted to our needs, because we were with other courses, of various disciplines, and it was just a broad thing, very open, which most of the time wasn't applicable to us."* (G34 2002)

The students however were aware that attending lectures with students from other divisions or faculties instilled a sense of teamwork "*Common core lectures with other students offered different opinions*" (J88 2002). This has created a controversy not tackled by this research. On the one hand, the participants are in favour of common-core learning, a model of good practice, yet on the other, recognise some of the disadvantages and limitations associated with multi-professional learning.

Traditionally, at the I.H.C. common core teaching has always been used to teach the Biomedical subjects: Anatomy and Physiology, and the Behavioural subjects: Sociology, and Psychology. Recently, the I.H.C. Board has recognised the fact that many staff were preparing and delivering many different versions of the same study units, especially those that could be transferred to other courses (I.H.C. 2006). As a result, in 2000 (Stivala 2005), it was decided to pool the educational resources and create common core lectures. Examples of these new study units are Research, First Aid and Communication Skills. However it must be pointed out that common core teaching is equivalent to multi-professional education and not inter-professional.

The outcome of this research indicated that the new proposed curriculum should have more 'inter-professional education' and not more common core teaching. In a health education environment there has been a global move away from 'mono-disciplinary practice'. The ideal situation would be one where medical students and students from the allied professions were made to interact in the early stages of their education fostering team spirit from the start. This shared learning experience would make members of the different professions appreciate the different roles played by their colleagues. In the physiotherapy courses held in 1976 and 1982, the curriculum in Malta included a two-week nursing observational period. The intention behind this was for student physiotherapists to appreciate the role of the nursing profession. This practice was discontinued following the 1982 intake and the following courses due to time restraints. The question could be asked whether the observational

period in the 1976 physiotherapy course was an embryonic start to a multi-disciplinary approach. Consequently, the Curriculum Design Committee endeavoured to promote the multi-disciplinary approach by means of 'inter-professional education' as opposed to pure 'multi-professional education'.

The Chairman and Director of the I.H.C., as well as some members of the Board, support the concept of inter-professional education for both medical students and those of the allied professions, but believe that presently the time is not right, fearing medical dominance.

> "*Because traditionally we have always kept... we have always received unidisciplinary training. It is all part of the philosophy, that has been going on year after year, and administratively we are separate. And, you also have to appreciate that the Institute of Health Care has not been in existence for very long ...you could not just have people moving into sessions for medical students. I think it is easier said than done. ...I don't think we should rush into conducting changes like that.*" (W28 2004)

The I.H.C. Board and the Physiotherapy Board of Studies are optimistic that this will occur in the not too distant future.

> "*Eventually, people will have to be working in teams. The times when there was the doctor, and then the nurses were given various orders ...... that has gone now.*" (V49 2004)

This method of shared learning is common practice in Australia (University of South Australia 2004; University of Melbourne 2004). Graham and Wealthall (1999) describe a number of examples in which various schools and faculties including medicine, dentistry and physiotherapy have introduced a range of teaching strategies to encourage greater mingling of professions. At Kingston University, for example, that is integrated with the St. George's Medical School in U.K., shared learning across the health and social care sciences is the norm, and this includes a Common Foundation Programme held with medical students, nurses, radiographers and biomedical science students (Kingston University 2004), however this is not the norm in the U.K. either.

7.7.1 Barriers to Inter-Professional Education (I.P.E.)

There are problems and certain barriers associated with any change. I.P.E as stated previously is not a part of any of the under-graduate curricula at the I.H.C. and the majority of healthcare professionals, including the teaching staff, have little or no formal experience of learning with or about other professions. In Malta clinical supervisors and educators are influenced by professional bodies, and usually offer uni-professional scope of practice and do not necessarily address inter-professional learning and teaching. Not all the different divisions that constitute the I.H.C. promote the multi disciplinary team and this present arrangement unfortunately, reinforces professional boundaries and fails to prepare clinical supervisors to support practice-based Inter professional Learning (I.P.L.). Effective I.P.L. depends on clinicians and educators being willing and adequately prepared to act as facilitators during classroom and practice learning opportunities (Freeth et al 2005). The benefits of a joint placement experience have been recognized as having an impact on both students and on supervisory staff, who also gain cross professional understanding (Ponzer et al 2004). Assuming that the primary purpose of I.P.E. is to facilitate the students' ability to value the contribution by other professionals towards the understanding and the treatment of a clinical situation, two issues become apparent. The first is how our own knowledge and treatment is presented to other members of the team and the second is how we interpret and perceive others' knowledge and contribution. In view of the changing trends to the health services in Malta corresponding changes must be made to the way health care providers are educated and trained. If health care providers are expected to work together and share expertise in a team environment, it is only logical that their education and training should prepare them for this type of working arrangement from the very start.

According to Oandasan et al (2004 p97), an "*awareness by team members of these interactional factors such as a sense of bonding with one another and willingness to work together, contributes to building a sense of mutual trust amongst health professionals who are working within teams.*" Effective interdisciplinary health care teams must understand the ways in which team

members from other disciplines perceive and solve problems. Hence, it is very important that team members develop an understanding of other professions as this has a direct influence on their ability to develop cross-functional skills and knowledge. Exposure to the unique attitudes, values and problem-solving methods of the other health care professions should also be an important component of the knowledge-base for members of inter-professional health care teams.

However, a number of barriers to the successful implementation of inter-professional education have been identified. Barriers related to the perceived loss of professional and disciplinary status, curricular and scheduling challenges and lack of familiarity with interdisciplinary education amongst and within universities, faculties and departments have been described in the literature for some time now (W.H.O. 1988).

Figure 7.3   Barriers to Inter-Professional Education

- Educational Policy Barriers
- Administrative / Structural Barriers
- Timetabling and Assessment Barriers
- Curriculum Design
- Time
- Attitudinal Barriers
- Teaching and Learning
- Clinical Practice Barriers
- Professional Association / Accreditation Barriers
- Professional / Interdivisional Barriers
- Inter-Actional Barriers

Educational Policy Barriers

The educational system has a strong influence on the development of I.P.E. and collaborative practice. Parsell and Bligh (1999) and Oandasan et al (2004)

suggest that the educational system is a main driving force for inter-professional practice as it is in a position to control the building up of collaboration among future health care professionals. The current structure of the educational system within the University of Malta setting is such that professional education is 'isolated'.

> *"Because traditionally we have always kept ... we have always received un-disciplinary training. It is all part of the philosophy that has been going on year after year, and administratively we are separate."*   (W28 2003)

As a result, the university is structured on this disciplinary basis that fosters a climate of 'segregation between disciplines' (Gilbert 2004; Lahey and Currie 2004). The very notion and history of the 'professions allied to health' is based on the connotations of autonomy, hierarchy, and control. This is very evident within the health sector in Malta (Galea 2003). According to Oandasan et al (2004) both the institution and the hospital play a key role in controlling what is taught to learners. Gilbert (2004) believes that faculties as governance and management entities, faculty members, external associations, the diverse nature of academic programs and the fragmentation of health and human service programs are some of the many potential barriers that effect change within the universities.

Another important factor that concerns the author is that due to the Institute being situated within hospital grounds there is a shortage of space which has resulted in there being no student common room within the premises. As a result, it is difficult to get students to socialise with each other in their free time. Another barrier to socialisation described by Parsell and Bligh (1999) is geographical, in that other faculties could be situated on different sites. This situation occurs in Malta as the I.H.C. is not situated on the main campus, nor is it close to the Medical school, thus further aggravating the inter-professional student socialisation process. However, following the transfer of the I.H.C. to the new teaching hospital, this situation should be rectified. To summarise students at the I.H.C. are not exposed to any inter-professional learning and

313

even during their free time socialisation with other professions is very difficult resulting in very little exposure to the practices, expertise, responsibilities, skills, values and theoretical perspectives of other professions.

Administrative/Structural Barriers

Gilbert (2004) reports that the content, organization of curricula and the examination of students are the responsibility of university departments, faculties or schools, again a situation similar to that in Malta. The problem at the U.o.M. is that the rules and regulations regarding course programmes have been modelled on the organization and management of the traditional faculties of the Arts and Sciences which do not have to contend with patient-centred learning. Hence, the concept of cross departmental, or interfaculty, or interdivisional education is new and unproven. This same single subject approach to teaching has been described by Parsell and Bligh (1999), Lahey and Currie (2004), and Hall (2005) to be one of the main barriers to I.P.E.

Timetabling and Assessment Difficulties

Common issues surrounding time-tabling and differences between the course characteristics of different health professional curricula pose significant challenges to any administrative department (Headrick 2000). This issue is further complicated as each discipline may have the core areas of learning and clinical experience at different levels in the courses. As a result, there can be serious difficulties in coordinating the curricula of different professional groups so that the demands of interdisciplinary learning can be met. Variations in the duration of courses and in the educational backgrounds of the students can also be another reason why it is difficult to prepare common core curricula. A number of reasons, including lack of communication and the lack of administrative support staff, have been described by Parsell and Bligh (1999) as being intricate barriers to collaborative learning in many teaching institutions. This research has revealed similar issues to these regarding any attempts to promote I.P.E. Not only was there concern regarding the lack of administrative staff to prepare new timetabling schedules but the author was made aware of a new set of problems regarding assessment procedures. This has also been

mentioned in the British Medical Association (2005) as being one of the barriers the medical profession foresaw to I.P.E. Should students of different divisions attending a study-unit in I.P.E. be assessed by members of staff representing that division or should a member of staff from a particular division be responsible for marking such a study-unit. Problems anticipated are that each division has different academic standards and what might be a very good assignment for one profession might be considered lacking to another. Furthermore, it would not be possible to actually mark an individual's contribution and even though the participants come from different professions, a group mark will often have to be awarded. The depth of the knowledge base could also become another issue to be dealt with. One division might be more familiar with a subject and have covered that topic in greater detail, resulting in some students either feeling out of their academic depth or a large proportion of the work not being carried out evenly by the group or, worse still, dominated by one profession. A real danger can occur where I.P.E. might end up eroding professional values or, even entrenching negative stereotypes which is the exact opposite effect I.P.E. wants to eliminate.

> *"You will have problems with timetabling, you will have problems when trying to get hmmm papers or the students to be assessed for that particular."*   (Y146 2004)

However, a study by Behringer et al (1999) states that 'mismatched learners' can work well together when there is attention to ground rules and clear expectations.

Curriculum Design

At various stages during the development of the new physiotherapy curriculum, this study encountered a number of administrative difficulties. The old curriculum was divided into many subjects that were taught at different stages of the course yet were not being necessarily related to each other. The new curriculum attempted to amalgamate the subjects that are related and teach these subjects as modules. This was one of the reasons given by the Registrar's Representative as to why the new proposed 'ideal' curriculum could

not be implemented as the software at the Registrar's office only recognises grade, or mark, inputs for each individual study-unit which are automatically collated to produce a student's transcript of studies.

> *"You are going to amalgamate most of your study-units into larger chunks when it comes to Physiotherapy. It is not without its problems because ... when it comes to ... My main concern is when it comes ... When it comes to the common core in the course programmes, it is difficult... it is very difficult."* (Y156 2004)

Time

The timing at when I.P.E. ought to be introduced to the course is another issue that needs to be considered when planning the new curriculum. Should it to be introduced early in the course, prior to the embedding of uni-professional identity, or does one introduce I.P.E. later on in the curriculum when students have a better understanding of their own professional role? According to the B.M.A. (2005) I.P.E. should be viewed as a continuum of learning, starting during the under graduate experience, continuing into postgraduate education, and finally extending into continuing professional development. Learning about health care as a whole, rather than as a collection of discrete but disjointed activities, may also help to create a deeper understanding of the processes of care and preparing professionals to contribute to the development of a better health care service.

Another structural barrier cited by Parsell and Bligh (1999), similar to the problems this research encountered, is the actual lack of time to plan a curriculum. It was difficult to get the participants to meet to design this curriculum. More than half the co-ordinators did not attend when an attempt was made to get representatives of all the eleven professions to meet at the same time to discuss I.P.E.. The reasons for not attending clearly indicated the lack of knowledge about I.P.E. or the role that their profession can actually play in I.P.E. It was for this reason that it was decided to introduce I.P.E. at I.H.C. Board level.

Attitudinal Barriers

Values, attitudes and historical rivalries among some professions have also been reported in the literature and can become barriers to change. (Hammick 2000; Boaden and Leaviss 2000). Parsell and Bligh (1999) also mention that lack of senior management support and lack of commitment and/or unwillingness to change attitudes are common barriers to I.P.E. This change in attitudes and believes must be one of the first issues to be tackled at the I.H.C. if I.P.E. is to be given a chance to take off. One must comment that the literature also states that, in some instances, there may also be an a certain level of "unwillingness" on the part of both students and teachers alike to experiment with new ways of learning and teaching, or with the use of different learning and teaching materials and this could become a major barrier to the implementation of I.P.E. (Steinert 2004). These findings are also very similar to those expressed by some of the students, staff and co-ordinators at the I.H.C.

Teaching and Learning

This research recognised that teaching had to move away from the traditional lecture mode towards a more problem based, student led approach. The Physiotherapy Board of Studies also realised that all lecturers concerned had to be supported and given the necessary support to become familiar with the new teaching methods to be adopted. However, should I.P.E. be introduced this issue will become a real barrier to its adoption as both students and staff from the different divisions are not familiar with, or very receptive to changing their style of teaching.

> *"I am a bit wary of new-fangled approaches to teaching. I am a bit wary about that, I have to confess. I mean I may be a bit conservative."* (F73 2002)

Clinical Practice Barriers

The most obvious problem to I.P.E. at clinical practice level must be the different clinical sites which have to be large enough to cater for the clinical modules. Lahey and Currie (2004) recommend that there is a need for cultural inter-professional practice and that this must parallel the cultural transformation

that interdisciplinary practice requires at clinical practice level. The structure of an organization can be of assistance or create barriers to a team's, or work groups, ability to function. Some health care institutions have structures that are more supportive to the team approach than others, and it is up to the Board of Studies to promote these placements. In a large teaching hospital like St. Luke's Hospital which is specialised, team work appears to function very well in certain units. These are usually small like the Burns Unit, I.C.U. or the Cardio-thoracic unit staffed by personnel that have been trained and working together for long periods of time. However, on the general wards where staff change over is common and the various consultants together with their teams visit their patients randomly, the multidisciplinary team does not exist and patients are treated by individuals all carrying out their duties to the best of their abilities, yet with little collaborative intervention taking place. Unfortunately, most of the physiotherapy students spend a lot of their clinical time on such placements. Other hospitals, however, have instilled a sense of collaborative practice and such placements ought to be encouraged as in a supportive structure the team approach is understood, appreciated, and utilized throughout the various levels of the organization.

> *"St. Vincent de Paule and Zammit Clapp Hospital, the physiotherapists featured very, very much as a team member, whereas at St. Luke's Hospital in my career working in places like orthopaedics, medical wards, paediatrics and surgical wards I used to meet physiotherapists coming over to the wards, and I would say giving their contribution yes, more as a referral, ... They never featured as a member of the team. The physiotherapist comes not as a member of the team, but as a ... as a person who is consulted to come over or else actually being part of the treatment management plan but not being part of the team physically. Where as in the other settings I could appreciate the contribution of the physiotherapist more as a team member and as giving direct, direct contribution to the management plan."*   (W16 2003)

Professional Association/Accreditation Barriers

Both Oandasan et al (2004) and Parsell and Bligh (1999) note that professional programmes are subject to accreditation requirements and that professional accrediting authorities are hence in a position to influence what should or

should not be included in professional education curricula. It was for this reason that the physiotherapy representative on the Council for the Professions Complimentary to Medicine (C.P.C.M.), the president of the Malta Association of Physiotherapy and the Registrar's representative were included amongst the participants of this study and the formulation of the new curriculum in an effort to pre-empt any later barriers to the new curriculum. The inclusion of I.P.E. in accreditation standards, or criteria, was one strategy for the fostering of this form of learning in the physiotherapy programme. The eventual aim was to get the C.P.C.M. to encourage I.P.E. and recognize the role of interdisciplinary education from the administrative point of view. According to Oandasan et al (2004) professional associations normally seek autonomy and respect for their members and suggest that professional associations have a significant influence over whether I.P.E. and patient-centred collaborative care becomes reality. The professional associations are responsible for advocating standards of practice within a profession, identifying ethical standards and establishing practice competencies. Lahey and Currie (2004 p44) recommend that there is a need for "*cultural transformation at the regulatory level that parallels the cultural transformation that interdisciplinary practice is said to demand at the level of clinical practice.*" Lahey and Currie (2004) also suggest that the adoption of self-regulatory models may offer one possible strategy for fostering greater flexibility and change in scope of practice regulation. Hopefully, this may be implemented in Malta too. Some professions, including physiotherapy could be concerned that I.P.E. could dilute their professional identity or diminish the autonomy of their professions, after having worked very hard to attain it (Guilliland 2001). However, some professions appear to be protecting their professional identity to such an extent that it appears that they do not have the willingness or confidence to become transparent and participate in I.P.E. At the I.H.C. a fear exists that some of the newer professions will be threatened or dominated by the more traditional well established professions, the medical course in particular (Rizzo Naudi 2003; Buttigieg 2004).

"*Gradually we have to integrate these various professions. One has to move a little bit slowly... If we do it quickly, too*

*quickly then the medical profession will dominate, and will
continue dominating."* (V49 2004)

There appears to be a lack of knowledge and understanding of the other professions with a resulting worry that professional boundaries will be redrawn at the expense of the weaker and less established professions. Lahey and Currie (2004 p5) suggest that self-regulating professions *"have a tendency to place their own professional interest in control of a scope of occupational turf ahead of their obligation to serve the broader public interest."* Throughout the entire professional socialization phase of learning, students of the different professions are exposed to philosophies, values and basic theoretical perspectives that are inherent to each profession. In most health professional education programs, the multidisciplinary team is assumed rather than explored, spoken about rather than practically examined. Students quickly learn the process of professional isolation, yet are aware that being a member of a multidisciplinary team is important if they are to do well in their studies. Teaching and learning experiences often reinforce the solitary nature of learning, with few courses emphasizing the importance of teamwork or working in small groups (Lahey and Currie 2004). Again, this was very similar to the findings of this research which, in many ways, works contrary to the notions of collaboration. The present method of teaching may be an effective way to instruct students but may prove detrimental later in their professional lives when they are expected to work as a united team working with one scope in mind, the wellbeing of the patient.

Professional/Interdivisional Barriers

The literature also highlights the importance associated to the significance of "language" acting as a barrier to I.P.E. and collaborative patient practice. There will be a need for educators and clinicians to work across boundaries and to agree on what vocabulary can be shared. In Malta, for example physiotherapists and the medical professions refer to patients, yet occupational therapists and speech and language pathologists refer to clients. A number of researchers and authors identify the importance of 'reaching agreement' and

'consensus' on the use of language, the differences and similarities between terminologies to describe and discuss any medical condition, as well as inter-disciplinary/inter-professional education and collaboration (I.P.E.C. 1999; Oandasan et al 2004; Gilbert 2004; Steinert 2004; Cook 2004).

Inter-actional Barriers

Several inter-actional factors described by Parsell and Bligh (1999) can affect the level of collaboration within any team and these include the willingness on the participants to collaborate at all levels. A means of open and easily available communication channels have to be established and the patronizing language used by some professions has to disappear. All professions must be capable of communicating like equals. There has to be an element of trust and mutual respect between all the participants, especially amongst the newer professions and, possibly, those professions deemed more prestigious than others if I.P.E. is to take place.

The I.H.C. Board should make it imperative that the various divisions recognize and contribute to solutions that overcome traditional faculty barriers. Oandasan and Reeves (2005), Steinert (2004) and Wilkerson and Irby (1998) all state that faculty development is in a very strong position to promote or contribute to:

- Addressing any *attitudes* and beliefs that can impede successful I.P.E. and ought to work together to promote collaborative patient-centred practice;
- The transmitting of *knowledge* and the advantages associated with inter-professional learning, practice and teaching;
- Developing *skills* in teaching, curriculum design and inter-professional work. One can propose I.P.E. but to actually have it running one has to have the experience and the time to organise it. Hence, the approval of the I.H.C. Board is necessary. The Board may provide or suggest and release individuals with the knowledge and skills needed to design and facilitate I.P.E. from some of the duties that they are presently doing. Therefore, board members play a critical role in the teaching and learning of IPE and must be prepared to meet this challenge;

- **Create opportunities** for learning together;

- **Empower teams** and reward collaborative practices. The I.H.C. board is in a very strong position as it recommends to the Registrar's Office which study-units are to be accredited or not. Hence, it can act as a powerful force for change and can be a strong lever for advancing I.P.E. if it is persuaded and chooses to encourage structured inter-professional educational activities and collaborative practice, similar to what has been described in the literature (D'Amour & Oandasan 2005). This would be an ideal opportunity as all the co-ordinators would be present and, having previously won the approval of the Chairman and Director, then peer pressure would encourage the rest of the co-ordinators to participate in an I.P. learning attempt. The use of formal leaders to promote I.P.E. and set the strategic direction for change is well documented in the literature (Barker et al 2005; D'Amour et al 2004; Ginsburg and Tregunno 2005; Leathard 2003). The I.H.C. members could establish structures and parameters for implementation and nominate interested personnel to become 'motivators for change'. According to the literature, the use of champions or opinion leaders and their ongoing involvement are key features to overcoming structural barriers to successful organizational change (Oandasan and Reeves 2005; Gustafson et al 2003). The Board members can be and are the people to stimulate change interest and commitment across a variety of stakeholders (e.g., clinicians, ward-managers, and educators, etc.);

- **Address** any issues as a co-ordinating board that can impede I.P.E.;

- Placing a budget on each of the divisions at the I.H.C. **Financial constraints** must have been one of the primary reasons why common core learning and not I.P.E. was introduced. However, if the I.H.C. Board is made to realise the importance of I.P.E., then a claim for more funding could be made.

"It is more to do with, as we all know, not having enough people to teach tailor-made courses because ideally, I would imagine we would have somebody to teach em... Physiology related to Physios or whatever. " (Y134 2004)

Thus, supporting the I.H.C. Board may represent a significant lever for collaborative practice and IPE implementation (Gilbert 2004). The members of the Board will, thus, have a shared purpose with clear goals being in a position to set standards for an improved performance. They will appoint competent 'champions for change' who will have a result-oriented direction and will work in a collaborative climate, knowing that they have external support and recognition from the Board.

Finally, my examiners and supervisors are not the only intended readers of this study, it is also aimed at the Directors and co-coordinators of all the divisions at the I.H.C., as well as the medical school. It is hoped that this section will shed light on the context of inter-professionalism. It is important to recognize that there are entrenched barriers in the I.H.C. and the University of Malta that are going to need help and leadership to get things done. This section is intended to stimulate the target readers, highlighting the literature and some recommendations, with a proposed strategy to link these recommendations into a strategic pathway that can eventually help the quality of health care offered to the Maltese public. Inter-professional education is both timely and highly relevant for the current context of the multi disciplinary team towards patient-centred care. The Physiotherapy Board of Studies following this study, may become a motivator to influence change both within the physiotherapy division as well as the I.H.C.

7.8   Course Content

The next research question discusses the actual content of the curriculum. It is worth noting that literature on physiotherapy curriculum design and content is scarce. In the past twelve years, only two articles directly related to this topic have been published and appeared to have prompted little further discussion (Broberg et al 2003). The curriculum in Malta was a 'hand me down' from the Chartered Society of Physiotherapy, in England. Nobody can deny the positive contribution of this curriculum in the late 1970s. The question now is "was this the most appropriate curriculum for the Maltese islands, then and now?"

Article 3 of 'The Charter of the European Network of Physiotherapy in Higher Education' - (E.N.P.H.E. 2005) states that:

"The objectives of the network are:

1. *To unite the European Institutes and Schools of Physiotherapy in order to advance the body of knowledge of physiotherapy, assist in the convergence of the educational programmes, and the exchange of staff and students."*

The Bologna Declaration (1999) that was signed by twenty-nine countries and is to be implemented by the year 2010 states that there has to be *"An adoption of a system of easily readable and comparable degrees"*, and again talks about *"creating convergence"* at European level. However, the Bologna Declaration and process that follows aims at creating 'convergence' that can be defined as *'moving toward union or uniformity'* (Webster-Merriam 2005), but must not be interpreted as a path towards 'standardisation' of European higher education. The fundamental principles of autonomy and diversity, especially amongst physiotherapy education must continue to exist and be respected, as only then can the profession develop further.

The curriculum content was the study's original concern. The study included the review of curricula from all over the world, but emphasis was placed on E.U. countries, as there is an increased interest in evaluating and comparing educational standards in Europe (Eraut 1994). The search, to investigate whether a harmonised content of constituent subjects that make up the subject matter required producing a physiotherapist, was carried out. Language became an obstacle, as some countries do not have an English translation of their curriculum. These documents were obtained by either accessing the relative websites or by writing to the various institutions. Certain institutions were very suspicious of forwarding their curriculum, and in some instances, this was never sent. The literature revealed that in 1998 a Socrates/Erasmus Curriculum Development Intensive Programme was formed. One of its aims was to enhance pedagogic development. Five Scandinavian teaching

institutions and one from Greece formed this initiative. The outcome of this Programme was the formation of a 'framework' that did not prescribe the content of the curriculum or the way that it ought to be taught, but "*was an attempt to describe some basic underpinning in physiotherapy, which could stimulate discussion and contribute to the development of a workable theory of physiotherapy*" (Broberg et al 2003 p166). The outcome of Broberg's research was that there is no harmonisation of course content amongst physiotherapy educators in Europe. Not only is there no harmonised course content but the duration of the course varies, the institution where the courses are held varies, the award granted at the end of the course varies, the authority that regulates the profession varies and the ethos behind the course in each country varies too. Having said this, there is a strong movement in Europe via E.N.P.H.E. to harmonise physiotherapy education. Following participation at the last E.N.P.H.E. conference held in Warsaw in April 2005, and my interest in developing the physiotherapy curriculum, an opportunity, as an appointed E.N.P.H.E. co-ordinator, has arisen for me to review the physiotherapy curricula from various European countries presented to E.N.P.H.E. to try to find 'convergence'.

The curricula, particularly of institutions, within the U.K. were looked at in depth. Until the 1980s, the Chartered Society of Physiotherapy dictated the curriculum to be implemented by all teaching institutions. Following the mid-1980s, the curriculum varied from one institution to the next. This situation meant that no one curriculum could be taken as a model to compare the new proposed curriculum to. However, great care was taken in its design, to ensure that the new curriculum was acceptable for registration with the Health Professions Council of the U.K. Students graduating in Malta have had no problems registering with the above Council and are often employed by the National Health Service. The Department of Health in the U.K. has asked the I.H.C. in Malta to promote and encourage employment within the U.K. (Kidd 2003).

A core number of subjects are common to all courses of physiotherapy, yet a discrepancy exists in the number of teaching hours of these subjects. It was noted that the biomedical subjects: anatomy and physiology have very similar course hours; yet the behavioural subjects: psychology and sociology have a greater variance compared to the proposals for the new curriculum. Some subjects, which the local Board of Studies (Physiotherapy) considered vital for the education of physiotherapists, in some European curricula, were either not given a lot of time, and detail, or were totally omitted. There are four study units relating to 'research methods' and 'reflective practice' in the Maltese physiotherapy curriculum, yet these are not included in the undergraduate curriculum at the University of Verona (Italy). In Spain, France, Germany and Italy, the courses appear to be very skill-orientated, with great emphasis given to the actual skills required to practise proficiently on qualification. The policy adopted by the Physiotherapy Board of Studies at the I.H.C., is that all the required skills necessary to practise the profession effectively and safely are taught, yet not to the same extent as in the countries mentioned above. The underlying philosophy is that newly qualified staff will acquire the necessary expertise at the same time as they obtain their clinical practice on employment.

This introduces the dilemma of whether physiotherapy 'education' or 'training' was being offered. In the past, one spoke about 'training'. This was associated with the acquisition of the skills required to practise physiotherapy. Following the incorporation of the physiotherapy course into the University, the emphasis changed and a broader 'education' is offered leading to a more reflective practitioner.

The research highlighted the fact that the content of the old curriculum and the depth to which it was taught depended on: a) the old Chartered Society of Physiotherapy Curriculum, b) the lecturer's pet topics, and c) the institute or country in which the lecturer obtained his/her experience or specialisation. In most cases, this was the United Kingdom. This study included researching the medical conditions referred for physiotherapy, within the Maltese health services, resulting in the compilation of a list of conditions prevalent in Malta

and commonly referred for physiotherapy (Appendix 14). The course content was duly altered relative to the findings. The co-operation of the lecturer, teaching that subject, and the clinician, in charge of that area of specialisation, helped in the formulation of the new course. As a result, a lecturer now places more emphasis on those conditions that are common to the islands, and less on those, that are still included in the curriculum, yet not prevalent in Malta.

7.9 Teaching Methods

Physiotherapy education has changed dramatically over the past twenty years: from an apprenticeship system, focusing on the skills required to treat a patient, to one that encourages students to become autonomous, reflective professionals.

Following a review of the literature and the data obtained from this study, a change in teaching methods came about. Not only was it necessary to change the content of the curriculum, the curriculum design and the course assessment but also the manner in which the student learns. Research has demonstrated that a deep approach to learning results in: students remembering more, taking more interest in the subject and a general reduction in anxiety (Chambers 1992). This approach has been associated with greater involvement of the student, reflecting on their previous learning and their personal experiences (Biggs 1987; Entwistle 1998; Meyer and Muller 1990).

A greater emphasis on self-directed learning and the introduction of 'Problem Based Learning' are among the changes that have been introduced. In 2003, Morris can be quoted as stating that *"despite its use in medical and health education in several countries, problem-based learning has to date not been adopted in undergraduate physiotherapy education in the U.K".* P.B.L. presents some deeper and very relevant approaches to learning that are appropriate for students in physiotherapy. The new curriculum has attempted to foster this change in mentality. The 'lecture' is still the predominant teaching method at the I.H.C. and the literature review has demonstrated that most other institutions where physiotherapy is taught still use some form of didactic

teaching. Following the introduction of different teaching techniques, including P.B.L., the feedback from our students is positive, similar to that reported by Morris in 2003.

The Physiotherapy Division could not adopt this method of teaching completely, as a large proportion of lectures are common core. However, within the Division, change introduced problems of administration, resources and acceptance. Initially, it was greeted with a lot of scepticism "why change?" but following a number of trials and encouragement, all the academic staff have accepted the new teaching methods. These changes have taken place because of this research. They initially challenged and later motivated the staff, however, Morris (2003) points out that there are those who doubt the effectiveness of P.B.L. as being the best method for teaching physiotherapy students. The content of the curriculum was altered to reflect the health needs of the Island and the manner through which it was taught and delivered. This resulted in a modular approach to delivery. A ladder within the module was designed whereby students learn the basic concept of the module progressing to more taxing material, as it develops. In this manner, the students can grasp the overall picture of the module through a series of steps.

> "*These more effective approaches emphasize small, modularized units of content, student mastery of one unit before moving to the next, immediate and frequent feedback to the students on their progress, and active student involvement in the learning process.*"
>
> (Terrenzini and Pascarella 1994)

This modular approach is seen as an opportunity to increase staff collaboration together with the integration of the clinicians in the design and teaching of the new curriculum. It is beneficial to progress the curriculum towards a more integrated model as opposed to a single-focused model. The reason for moving away from the traditional subject-focused curriculum is that literature claims that the latter results in less retention (Kezar and Eckel 2000). This modular model is commonly used by other universities teaching physiotherapy within the U.K. and the Commonwealth countries, where the encouragement of self-

directed learning and the working together in groups has produced a better camaraderie between the students. The onus of learning is now on the students, hence instilling the urge to learn, and hopefully the desire for lifelong learning. The intention of the Physiotherapy Division is to increase independent learning, meaning there will be less didactic time spent in the classroom. There is some evidence to support that: "*less content results in better retention and performance*". Two studies have been identified (Sundberg and Dini 1993; Russell et al 1984) that state that students actually perform better in examinations and retain information better when there is less material presented by didactic means.

The changes brought about by this study are very difficult to quantify or put on paper, yet have changed the whole ethos of the course. In line with other universities overseas, this change in teaching style will help the next generation of physiotherapists adopt a more evidence-based practice and, more importantly, be given the skills to become lifelong learners (Radloff and de la Harpe 1999). These changes mean that future physiotherapists will want more autonomy. This autonomy in turn is going to challenge the medical profession.

7.10 Physiotherapy and the Medical Model

Literature strongly suggests that the time has come to reform the local education model of physiotherapy education, prior to discussing the reformation of physiotherapy education; the medical model will be discussed.

Why use the term 'medical model' in the first case? This implies that physiotherapy as a profession is striving to be like medicine. This is probably the view that a lot of the medical profession in Malta would like to encourage. However, even a change in the nomenclature can be more acceptable to physiotherapy. McCready, in 2000, talks about a 'medical metaphor'. This places physiotherapy as a discipline with its own identity, facilitating the integration of contributions from other professions, including that of medicine, thus enriching the practice and scope of physiotherapy.

As one can imagine, this model has been criticised extensively over the years. The majority of the criticism is targeted towards the dehumanising effect of the medical model on the patient. Instead of a patient being seen as a whole, the medical model looks at disease as individual pathology and the patient bearing this pathology is seen as a problem to be corrected. The cause of any pathological condition is regarded as abnormal, being attributed to the malfunction of a physiological system. It is associated with an over-simplified mind/body relationship. Due to the great strides in medical science and technology, the medical model is seen as a myth of scientific accuracy, which believes that disease can be explained through rational scientific argument. This has led to unrealistic expectations about the predictability of aetiology and course of the disease. The implication of the medical model is that it reduces problems of patients to their own personal inadequacies or functional limitations. By primarily focusing on the pathology and only secondarily on the individual who bears the disease, and giving minimal attention to the social and physical environment of the patient, leads to the exclusion of the patient from society. The model considers itself objective; hence, a physician working to objective rules considers himself to be independent of social and cultural influences.

With respect to research, the medical model is largely orientated towards the objectivist model of the quantitative paradigm. However, patients are human beings, who unfortunately for followers of this model are all different, and apart from having measurable ailments, have symptoms, which by definition, are only experienced by the patient; hence cannot easily be measured quantitatively.

> "Scientific method focuses on one variable at a time across a hundred identical animals to extract a single, generalisable 'proof' or piece of 'truth'. Clinical practice deals with a hundred variables at a time within one animal... In order to optimise a mix of outcomes intended to satisfy the particular animal's current needs and desires." (Cox 1998 p114)

Having read the above quote, one can easily translate the animal to mean patients. The modern approach to treatment is that we view all patients'

problems as a 'whole', and acknowledge that there is more than one way to treat the patient. Patients should make an active contribution to the decisions regarding their own treatment.

Apart from the fact that physiotherapy education in Malta and many other countries still follows the medical model, the physiotherapy profession as a whole has evolved from a physiotherapist perceived as a technician, to that of a professional, capable of making decisions regarding diagnosis and treatment. It is also true that the physiotherapy profession has been eager to prove to the medical world that its interventions are founded on evidence-based practice, (Bury 1996), and that patients' conditions improve due to the physiotherapeutic interventions themselves, and not due to time, chance or coincidence (Twomey 1990). The profession has sought to demonstrate that treatments are based on sound scientific principles, which have been validated by research.

Physiotherapy, in its desire to be acceptable to the medical profession, has sought to rely on scientific research methods. There is a marked difference between seeking an objective research outcome, based on a scientific approach, and a clinical outcome, based on a holistic approach. Quality treatment concerns itself with the patient's experience of both the condition and the treatment being given. A qualitative contribution to quality care must be incorporated into the medical model.

The concept of the medical model of disease based on the germ theory has developed into medical specialities. The education of physiotherapy has developed along these lines, in such a stringent manner that the theory that a physiotherapist is expected to learn, is taught in specific specialised sections. A student must learn anatomy independent of physiology; for example, a student must learn the pathology of stroke unrelated to the consequences of such a condition upon society. In the past, physiotherapy education, at the I.H.C. was based on the medical model whereby a student went through the four-year course, learning subjects or parts of subjects individually.

331

The physiotherapy course consists of 67 study-units, which were assessed 71 times in the following manner:

Unseen written tests   –   45

Assignments   –   14

Practical tests   –   12

These 71 means of assessment gave a student 85 Theoretical credits. Over and above, students also had to obtain 35 Clinical credits achieved by being assessed a further 10 times in the clinical setting (Appendix 7). Students were over-assessed; this is a vivid example of the medical model of education. Students were expected to learn 67 separate topics, some of which are fairly detailed; and more often than not, these subjects were totally unrelated to each other. In this manner, we were encouraging superficial learning in an academic environment, and not the deep thinking, reflective practitioner that the original goal set out to be. This method of assessment and the whole ethos of the curriculum being dependent on the medical model became one of the primary targets that this research needed to address.

The medical model encouraged students to learn separate pathologies without seeing the patient as a whole. This influenced the student, as they entered their clinical practice. There was a danger that we were training our students to assess patients 'wearing blinkers', by concentrating their efforts solely on the initial pathology. The reality existed that a student might assess a patient who sustained a hip fracture without really assessing 'the person' as a whole. The patient might have had osteoarthritic changes to his or her body associated with generalised osteoporosis, and might also have some respiratory or cardiovascular problems. These are purely physical problems; what if there were any associated psychosocial problems? Were we encouraging discharge without any appropriate follow up? Were students reflecting on the potential complications that could arise following discharge, and giving the appropriate instructions and advice?

The reductionist approach of the medical model also influences students during the clinical component of the course. The influence of the medical model on physiotherapy education at undergraduate level means that a student gains their clinical experience on specific units only. These clinical placements are according to the medical specialities available, surgical wards, orthopaedic wards etc. Again, the danger that students perceive their patients as only being an orthopaedic case exists, and not as 'a patient' who unfortunately suffered a fall and fractured their hip.

The administrative process lends itself to the medical model of education. The office of the Registrar appears to be interested in controlling and standardising results and study unit formats. On a number of occasions, this has been detrimental to the student and the mode of education. This occurred when changes to the curriculum proposed by the Physiotherapy division were presented to the Registrar's office for approval. The aim of the new curriculum was to integrate related study units together and teach them in as a broad a manner as possible, giving the students the opportunity to study the subject as a whole concept rather than as separate components. A module entitled "The Rehabilitation of the Neurological patient" was aimed at teaching the students the anatomy of the neurological system together with the neurophysiology. The different pathologies associated with neurological deficits and the problems associated with tone would be taught together with the respective physiotherapy skills and techniques required to treat these conditions. Concurrently students will also be learning other common core subjects such as "Disability Issues", "Helping Skills", "Health Psychology I" and "Communication Skills".

The planning and coordination of this proposed curriculum change took a lot of time. Meetings with all the lecturing staff within the physiotherapy division were held during the summer recess. The new curriculum was presented to the Registrar's office for approval, but was shot down categorically as "unworkable". One of the reasons given was that study-units from different

faculties could not be inserted into separate modules, as these did not comply with the computerised recording system of results.

Following the introduction of the 'European Credit Transfer System' a subcommittee of the I.H.C. Board was set up. Its remit was to review the common core study units. This committee consisted of nearly all the divisional coordinators, together with the Chairman (a medical doctor). This was the opportune time to initiate these changes away from the medical model of teaching. The Registrar recognized that students were assessed too often and requested a change. The solution the subcommittee proposed was to amalgamate study units, which were sometimes totally unrelated to each other. Taking Physiology as an example the new physiology study units now consist of:

- Body Fluids, Cells, Cardiovascular and Respiratory Physiology
- Renal Physiology and Haematology
- Gastrointestinal, The Endocrine System and Neurophysiology

The physiotherapy division had no option, but to adhere to the newly introduced changes. As a result, a large portion of the proposed curricular changes had to be abandoned, pro tem.

This reductionist influence continues to dominate the progression of the individual after a student qualifies. It is customary for a junior physiotherapist to work on a rotational basis for two years after which they can choose the area they would like to specialise in. This is repeated in post-graduate education. A physiotherapist can specialise in Respiratory Physiotherapy only or obtain a Masters Degree in Neurology. More often than not, these post-graduate education courses take place within the U.K. On their return to Malta, the physiotherapists are considered 'specialists' within that medical boundary. Most physiotherapists are not concerned by this medical model and accept it without further thought. This is probably due to the status attached to it: that of being considered a 'specialist' by the medical team and the other physiotherapists working within that speciality. This appears to be more evident in certain

specialities than in others; for example, the senior physiotherapist working on the Orthopaedic Wards would know the routine of physiotherapy that ought to be carried out following surgery, as the orthopaedic surgeon had dictated this on previous occasions.

A similar situation evolved in the late 1990s within the state hospitals. The physiotherapy department was asked to produce protocols of treatment for specific operations together with the consultants involved. This not only reinforced medical dominance over the profession but also relegated the physiotherapist to a technician by making them work to a set regime of treatment, rather than encouraging individual thought and creativity.

Not all physiotherapists are in favour of such a close relationship with the medical profession. Those, who have a knowledge base of their own or are not dependent on the instructions of a physician, are against it. Obvious examples within physiotherapy must be neurology or care of the elderly. Geriatric patients do not suffer from one specialised, compartmentalised condition but have a multitude of different pathologies including psychosocial ones that a physiotherapist is expected to treat. The concept of a 'specialist' physiotherapist based on the specific medical reductionist approach does not hold in this area.

The medical model has served its purpose well within education. It was probably, the correct, if not the only model to follow for the continuation of physiotherapy education in Malta. The time might be opportune to try to initiate changes away from this model but unfortunately, many of the study units taught in the physiotherapy course are 'common core subjects'. It is very difficult to move away from such a system that not only influences the physiotherapy course but also the other divisions that constitute the I.H.C. This situation is further compromised as all the other co-ordinators have been taught and run their courses along the lines of the medical model especially since medical doctors teach many of these subjects.

Physiotherapy education in general has and will continue to be influenced to some extent by the medical model of education. Malta is no exception. The University of Malta, with its long tradition of medical education and rigidity within its administrative structure, is very apprehensive of change. As the Physiotherapy division is closely integrated with other divisions at the I.H.C., changes cannot take place, unless agreed to by all the divisions. Research has shown that many course coordinators are content with the present system of education. They are either not in a position to or do not want to promote change. One might have all the good intentions in the world but unless the administration is willing to allow or promote curricular development then academic stagnation becomes a reality.

7.11 The Relationship of the Medical and Physiotherapy Professions in Malta

This study identified the friction between the medical and physiotherapy professions. The medical dominance that occurs within the state health service does not replicate itself within the private service, and does not appear to be a point of contention at upper levels of the hierarchy within the physiotherapy profession. This is similar to the outcome of the study carried out by Kenny and Adamson in 1992 in Sydney, Australia.

> *"Length of service significantly contributed to perceptions of professional autonomy amongst allied health professionals."*
> (Kenny & Adamson 1992)

This issue is one that cannot be ignored as junior and senior members of the clinical staff working at St. Luke's Hospital, the physiotherapist's representative on the Council for the Professions Complementary to Medicine, the interviewed public and some members of the medical profession have all mentioned it.

Malta has traditionally followed the British Health Care system and has thus inherited the issue of 'Medical Dominance', which has been described as a case of *"Occupational Imperialism"* (Larkin 1983).

"We trust our health to the physician; our fortune and sometimes our life and reputation to the lawyer and attorney. Such confidence could not safely be reposed in people of a very mean or low condition. Their reward must be such, therefore, as may give them that rank in the society which so important a trust requires."

(Smith 1776/1976- Glahe 1978 p118)

The medical dominance of health care is a global issue and has been manifested through the professional autonomy of doctors, through their pivotal role in the economics of health services, their traditional dominance over allied health professions, administrative influence and through the collective influence of medical associations (Friedson 1970). Physiotherapy was a predominantly female profession in Malta, and historically, the first physiotherapists were all females. Could a gender issue be the cause of this medical dominance, as is the case in other countries (Parry 2001; Australian Institute of Health and Welfare 2000)? Or could it be a result of the medical profession in Malta, following the British medical system, and the fact that most physicians have carried out their post-graduate specialization in the United Kingdom?

7.12 Physiotherapy: a vocation, a profession or a semi-profession?

The present situation is similar to that of the U.K. in the past, but due to the size of the island and our own particular social class system, the decline of medical dominance over other professions is still evolving. If one had to define a 'profession' as an occupation that requires extensive training and study, leading to mastery of specialized knowledge and skills, usually having a professional association, with an ethical code and registration, then physiotherapy should be regarded as a profession. Unfortunately, a number of influential people, both in the political and academic fields, still perceive physiotherapy as a 'vocation', and not as a 'real profession', even though physiotherapy in Malta meets all the criteria for it to be considered a 'profession' as expressed in the literature for medicine (Parry 2001). *"Professions are essentially the knowledge-based category of occupations which usually follow a period of tertiary education and vocational training and experience"* (Evetts 2003 p397). The "semi-professions" theory, popularized in

337

the late 1960s by Etzioni (1969) and Simpson and Simpson (1969) have influenced those who paid interest to the relationship between gender and professionalism. To sum up, this thesis contends that the "semi-professions" of teaching, nursing, and social work amongst others, failed to become professions because of the attitudes and behaviour of the people who dominated them. Thus, women were said to lack occupational motivation and ambition, to be more amenable to administrative control than men were, and to willingly accept their subordinate position. In other words, women in the "semi-professions" were ideally suited to the role of "*handmaidens of a male occupation that has authority over them*"(Simpson and Simpson 1969).

At this point, it all becomes confusing as legally, in Malta, physiotherapy does not have 'professional status', hence a physiotherapist cannot be considered a 'professional', yet every single physiotherapist is registered under what used to be called the Board for Professions Supplementary to Medicine or the new Council for Professions Complementary to Medicine. This misnomer has led to a lot of antagonism within the profession, yet when the issue was investigated; it seems to boil down to two issues, the first being financial, and the second sociological. Regarding the former, to be given professional status on the island requires the issue of a 'warrant'; a physiotherapist on the other hand is issued with a 'Certificate of Registration'. One might state 'What's in a name?', and is this all a case of 'much ado about nothing'? However, as the following paragraphs will indicate, certainly this issue needs to be elaborated further.

In Malta, doctors for example, are given a warrant after practising medicine under supervised conditions for two years whilst working in the state health service. Following this period, the doctor receives his warrant. The medical doctor is considered to have acquired enough skills and experience to work in the private sector without any supervision. A physiotherapist does not require this mandatory two-year post-qualification supervised experience in order to practise his profession within the private sector. A physiotherapist must register with the C.P.C.M. on qualification, and once the 'Certificate of Registration' is issued, the applicant can practise physiotherapy. This

338

registration with the Council does not specify where the applicant can practise, hence theoretically and in reality, a student will be supervised and will ask for advice, prior to their final exams, and a week later following registration, is officially allowed to open a private clinic and treat patients unsupervised. Therefore, one might state that physiotherapists are better off than doctors are, in that they can start their private practice immediately, as opposed to having to wait for two years as medical doctors. A suggestion is being put forward that a time period ought to be introduced by the Department of Health, along the same lines as those for medical doctors, prior to a 'warrant' or a 'certificate of registration' being issued. The Manager of Physiotherapy Services (Muscat 2003) supports this proposal. At the same time, the Malta Association of Physiotherapists is holding talks with influential members of the civil service in an attempt to obtain a warrant on qualification.

Another important factor associated with the issue of a warrant and 'professional status' is financial. Following a four-year course leading to a B.Ed., a student teacher, on qualification is issued with a warrant allowing the graduate to teach, and be called a 'professional teacher'; the starting salary being that of Salary Scale 9. A physiotherapist also follows a four-year course, is registered with a Professional Body, yet their commencing salary on qualification is at Salary Scale 10. So financially, a difference does exist between having a warrant and being registered. This might be why the government is dragging its feet in tackling this issue, as an increase in salary to all those registered with the C.P.C.M. would have to be implemented.

Whether a warrant or not is granted, is also associated with deeply rooted sociological implications. The Government stands to gain from granting warrants in two ways. Firstly, the Government is guaranteed to have this number of staff working in its employ for the two-year warranty period; secondly, the public are protected, as any private physiotherapist will have a minimum of two-year post-qualification experience. The final reason why the granting of a warrant is important to the profession is that it will become 'self regulatory', that is with its own Council or Association to regulate the profession

thus not being dependent on the Council for Professions Complementary to Medicine.

Physicians have also successfully subordinated female-dominated occupations by barring them from central tasks, mainly diagnosis, through the mechanism of referral. Such has been the case in physiotherapy. This corresponds to Eliot Friedson's (1970) definition of the paramedical occupations as "part of a division of labour, organized and controlled by a central dominant profession." Gerald Larkin (1983) has correctly pointed out however; that paramedical occupations carry out medicine's professionalizing strategies and attempt to mould the division of labour to their own advantage. As a result, this may involve them in professional boundary disputes, not only with the medical profession but also with other paramedical professions. However, both Larkin (1983) and Friedson (1970) overlook the gender dimensions of limiting strategies in the health division of labour. Indeed, during the last decade, feminist sociologists have strongly denounced the overall 'gender-blindness' of the more recent approaches to the study of the professions. Anne Witz pointed out that sociologists have neglected female professions in the past, maybe because the successful professionals were class-privileged males, doctors, who at a particular point in history became "*the paradigmatic case of the profession.*" Does one support Witz's (1992 p64-69) logical conclusion that "*because women are not men, 'semi-professions' are not professions*"; does it follow that had mainly men staffed these, they would have become fully-fledged professions?

The medical profession appears to be playing a 'power game' as it does not want to lose its control on patient healing via medical referral. After having studied for six years and qualified as doctors, the medical profession feels that they have to impose their authority over physiotherapists by being the only ones who can refer patients for treatment.

> "*Well I must say as you know... going through the medical course we were rather... you feel that you are in a special world just made up of doctors, and ..., at that time I*

remember when I qualified in 1987, physiotherapists were not part of university, their education was not part of university. So em... for me, I could not appreciate physiotherapy as coming out from an academic institution. You feel that there was not that academic background." (W18 2004)

Different sections of society have commented:

A member of the public, who was interviewed following a physiotherapy session:

"In my opinion, you are getting a bum deal from the medical profession." (P28 2003)

A senior member of the physiotherapy staff:

"The lack of respect from other professions, example medical doctors and consultants using physiotherapy for their private patients......" (R12 2004)

A medical doctor in confidence:

"What impressed me most during my stay in the States was the relationship of the multi-disciplinary team... We all respected the contribution of each other. In Malta on the other hand, doctors have an attitude problem. They all feel that they are up there... " (S10-12 2003)

Yet, an influential and respected member of the medical profession in Malta made the following comments regarding the education of physiotherapy

"First of all, the basic degree course has to remain one of the most difficult courses. There is very little difference between doctors and physiotherapists. They have to know practically the same thing.......So a physiotherapist's basic training has to be very, very extensive." (V38 2004)

To put things into perspective, an explanation of an aspect of Maltese culture should be included here. In the past, when the population was smaller, villages or towns had distinct borders, and the local community was tightly knit. The most influential members of society consisted of the parish priest, the headmaster of the local school, the doctor and the maestro of the band club.

341

The medical profession has always been a powerful lobby in Maltese society; many District Medical Officers have been elected as Members of Parliament.

> "*This is a very small country. Unfortunately, the health services and health professions are still run by doctors. And I say unfortunately, not because I have anything against doctors but it is the medical profession that takes the largest bulk of all the important things that happen, that is going on in the health sector.*" (T66 2003)

This dominance over the 'control of healing' is something that is not limited to the shores of these Islands, but seems to be the norm throughout Europe. A desire, to harmonise a curriculum, exists amongst the physiotherapy educators of E.N.P.H.E. Their major concern is that of medical dominance. A number of countries represented at E.N.P.H.E. have their profession regulated and taught by members of the Medical Profession. The Physiotherapy Profession in England and to a certain extent in Malta has tackled this issue for some time and as a result of which the profession is considered autonomous.

The results of this study show that this dominance by the medical profession is not as evident as some of the physiotherapists make it out to be. The profession appears to be in a suspended state of limbo. Within the state health service, some older consultants still refer patients with a medical diagnosis and the treatment they expect the physiotherapist to give. At the same time on the same ward, other consultants will only give a medical referral and expect the physiotherapist to provide a treatment plan themselves; and yet again, other consultants operate on an open referral system letting the physiotherapist decide which patients to treat, make their own diagnosis, treatment and discharge.

This research has revealed that there seems to be a complete difference of opinion regarding medical dominance between the senior management and the older members of staff within the Physiotherapy Department and the younger physiotherapists working within state health services.

342

> "*I believe that our relationship with the medical staff within the organisation is actually a very good relationship....it has improved over the years....we are consulted, our opinion is sought, all right, which is a bit different to what it used to be.*"
>
> (U74 2003)

This quote has been included at this stage to illustrate that change has commenced yet certain physiotherapists seem to lack the confidence to confront (in a professional manner) any decision regarding treatment suggested by the referring medical doctor. The main reasons regarding this observation are either due to the age difference between the two parties concerned, or the fact that many doctors are unapproachable, or that some physiotherapy staff in management, for reasons best known to them, still consider themselves as professionals *supplementary* to medicine. This servile attitude to the medical profession is passed onto newly qualified staff, who, during their training are taught to be autonomous professionals, and yet, when in the hospital environment are losing their individuality and professional freedom.

The fear that physiotherapists might be eroding the control of healing from the medical profession has not only taken place within the state health service but has also trickled over into private practice. To ensure this dominance, private medical insurance companies, following pressure by the Medical Association of Malta, will not compensate patients who opt for physiotherapy by means of self referral.

> "***** Ghanna* (a Maltese expression) *because you would be taking a part of their **** package* (private practice)."
>
> (T146 2003)

This medical dominance has filtered into the education of physiotherapy. In an attempt to reduce this, some schools of physiotherapy in the United Kingdom, during the transition period from hospital based training to university education, deliberately chose to merge with a university or institution of higher education that was not associated with a medical school. In 1992, the Physiotherapy course joined the I.H.C. This institute is not part of the Medical School nor

does it form part of the Faculty of Medicine. However, medical dominance is still manifest. Is it a coincidence that the Chairman and Director of the I.H.C. has always been a medical doctor?

Outside the state health services, the situation is different. In reality, many patients refer themselves directly to a physiotherapist, who, as a courtesy, might inform the patient's general practitioner that he is treating their patient and ask of any known medical contra-indications that might hinder treatment. The Code of Ethics in Malta states the following:

> "*Co-operate with registered medical practitioners in the diagnosis and management of patients. This rule is not intended to restrict physiotherapists from practising their profession independently from a referral by any medical practitioner.*"
> (Council for Professions Complementary to Medicine 2003)

The effects of medical dominance *are* important and are directly relevant to the design of the new course. Should the aim of the new physiotherapy curriculum be such, as to develop students into becoming autonomous professionals and in this manner, further challenge the dominance of the medical profession and the method of medical referral? Or should it change the whole ethos of the course, to one that is dependent on a medical diagnosis thus assisting the physiotherapist to plan a treatment? Which road is the profession in Malta to follow, that which is traditional to these islands, the British model, or the European model? From the research data that have been analysed, the profession is crying out for autonomy (T17 2003; Agius 2004; Galea 2005). The philosophy behind the physiotherapy curriculum as taught at the I.H.C. leans towards the autonomous, reflective practitioner. On the other hand, the physiotherapy management is still in favour of maintaining medical referral within the state health service (U90 2003).

> "*I think I should state this now, within the health service set-up, the service that I represent, the current system is that the patient will be referred by a medical officer. It is that way because we have decided that it is that way. We do not have*

344

self referral (direct referral) *within the public sector, the bit that I am responsible for, right, but we can change that tomorrow if we feel that is the way we want to go".*

<div align="right">(U90 2003)</div>

Today, physiotherapy has achieved an autonomous professional status in many countries. It is appropriate therefore, as we enter a new millennium that the profession reviews its status and its mission, particularly in light of significant changes occurring internationally in healthcare and educational settings. Among these changes are: globalisation, the widespread impact on health and traditional modes of healthcare delivery; greater community expectations of accountability; the information technology revolution; and the increasing demand for a social model of health. This model must be oriented towards the person as a whole, rather than the condition, and its recognition of the phenomenon of societal health, provides a valuable alternative framework for future physiotherapy education and practice. If physiotherapists wish to be proactive professionals with the capacity to determine their own future, then they must ensure that future graduates receive the relevant education to facilitate achievement within this new direction.

Following these findings, the Curriculum Development Committee decided that the curriculum ought to be one that develops students into becoming autonomous practitioners. This was necessary as a physiotherapist working in the private sector treats either patients who have been self-referred or those referred by a doctor.

The beliefs behind the new course are to produce an autonomous practitioner. As a result, part of the final practical examination consists of an assessment and a treatment session on an unknown patient. The student is expected to assess the patient, produce a physiotherapeutic diagnosis, formulate a reasoned treatment plan and carry out a treatment session. In so doing, the physiotherapist identifies the patient's problems and formulates a diagnosis, questioning the relevance of a medical referral.

7.13 A Need for Change?

This study confirmed that the problems within the curriculum that the Physiotherapy Division were facing were also present in two other divisions, chosen randomly from all those that constitute the I.H.C. Most follow professional curricula that have been imported from countries overseas, more often than not, the U.K. (Jaccarini 2004; Bezzina 2003; Mifsud 2003). None has adapted their curricula to the local needs as the Physiotherapy Division has.

> *"Basically I would like a change in how... That I think I would like to see change. As it is, I think it is a bit crammed, the course. Maybe we could re-evaluate its content, maybe we put too much pressure on theoretical taught outside of the profession, like Medicine, Pathology, we could maybe do away with those, and integrate that knowledge with the teaching of occupational therapy."*   *(F23 2002)*

Whether or not this study will stimulate the need for change, or act as a catalyst in other Divisions at the I.H.C., is a question that only time will tell? Should they decide to implement change, the methodology that was used for this study, can be utilized.

7.14 The Public's Perceptions of Physiotherapy

This research included interviewing the public in order to obtain an insight into what they thought of the profession and the service it offered. The data revealed a number of unsolved problems that could be researched more extensively in the future.

The first issue to be dealt with is one of nomenclature and perception. The research data clearly indicated that the public is unaware of the role of the physiotherapist in the health sphere. Nearly all the people interviewed associated physiotherapy with massage, and only a few with exercise. A reason for this might be due to the colloquial translation of the word 'physiotherapy' into Maltese; as physiotherapists are known as "Tal-massaggi", which literally translated means "those who carry out massage".

346

"I still remember the first treatment session; I remember being referred for physiotherapy... I remember being told to continue my treatment at home... I thought to myself aren't these people going to treat me? Do you understand? I was always under the impression that I would be given a lot of massage or things like that. Having said that with the treatment I was given, I still got better." (L18 2003)

Physiotherapists are also referred to as "tat-terapi" which means "those who carry out therapy", but there is no reference to which therapy or what this therapy consists of.

"I don't think the public see any difference between massage and physiotherapy. For them, going for a massage is having physiotherapy. Initially I used to think like this too... maybe the public think like this also. I think that the public think that chiropractitioners, acupuncturists, and physiotherapy are all the same." (R8 2003)

This problem regarding the perception of the physiotherapy profession is not only pertinent to the Island but also occurs in other countries that have been exposed to the profession for many more years than Malta (Sheppard 1994; Struber 2003).

This issue is further complicated in the fact that a status concern arises. In Malta, law protects the term 'physiotherapist', indicating that the person has followed an undergraduate course and is registered with the C.P.C.M. A masseur to date is not a registered professional; hence being called "tal-massaggi" might imply that the person is not a physiotherapist, but also a non-professional. As far as the law goes, the issue regarding the nomenclature whether a physiotherapist or any other member registered with the B.P.S.M. is a professional or not, has been tackled by the new Council for Professions Complementary to Medicine in the 'Health Care Professions Act, 2003'.

"Professional Complementary to Medicine' means a health care professional whose name is entered in the registers of professions complementary to medicine.

'Health Care Professional' means a person who is authorised to practise a health care profession in accordance with the provisions of this act."   (Health Care Professions Act 2003)

Unfortunately the new law does not define the physiotherapy profession.

Apart from misconceptions over nomenclature, a disparity exists in the public's perception between the physiotherapy service offered and that given in reality by the state. The public at large are under the impression that physiotherapy offered via the State is associated with long waiting lists, long delays, and a no-appointment system.

> *"Ok. Now that you have been attending physiotherapy for some time, can you tell me why you decided to go for private physiotherapy treatment as opposed to physiotherapy provided by the state?"*
> *"Because I would have had to wait much longer and because there is no parking at St. Luke's."*   (M15-16 2003)
>
> *"The most important reason is because I can choose the physiotherapist. I am very particular whom I go to. And also anything that has to do with the hospital isn't efficient enough."*   (R24 2003)

However, the research findings consistently show that in reality this was not the case.

> *"But this time because the condition was worse and I had it for a longer period of time I decided to go to St. Luke's ... but I think as regards the service I found it very good. To the extent that if I couldn't keep my appointment on the day I would phone and be given an alternative appointment. Do you understand, it was very good."*   (L22 2003)

Poor facilities, dated equipment, poor treatment, and lack of supervision during treatment, on the other hand are valid critical comments given regarding the service.

> *"They used to leave me on my own, they used to tell me what to do... like that you know. I used to get into the pool do the*

> *exercises I was supposed to and when my time was up they would appear and tell you that the session is over."*
>
> (K28 2003)

Another interesting finding is that the state physiotherapy service has to improve its communication skills.

> *"The staff at St. Luke's suffer from the St. Luke's or Government syndrome, i.e. when they talk to you or explain things to you, they talk to you as though you are an idiot."*
>
> (Q28 2003)

Patients who underwent physiotherapy following surgery at a private hospital also made this criticism.

> *"She didn't actually tell me what to do, she just told me every so often, just put your arm up and that's it. Then it was somebody else who had had the same experience, said 'make sure that you do your exercises'..... I wasn't told how important it was to do them."*
>
> (O56-62 2003)

In an attempt to remedy this, a compulsory study-unit in communication skills has been introduced to the course prior to students commencing their clinical practice. Physiotherapists appear to be good at explaining the pathological condition to the patient and the treatment plan but not the treatment itself.

> *"I had discussed things with my therapist. He told me what his opinion was regarding the condition, I told him mine and together we formulated a treatment programme to help me get better."*
>
> (L26 2003)

External environmental factors indirectly relating to the service, such as the lack of patient parking spaces, or the fact that St. Luke's Hospital is situated at the top of a steep hill are valid:

> *"It is too much of a hassle, especially I mean for people who don't drive. I mean, ok I am fine I drive. I can stop right there but then all right at the moment we are still at St. Luke's, hopefully at the new hospital they wouldn't have this problem, but at the moment they have to stop down there*

349

and they have to walk up that hill. People who need physiotherapy in their legs, it's not doing them much good."

<div align="right">(O42 2003)</div>

It was interesting to discover the public's perception of the medico/physio professional relationship. The fact that medical referral is not required outside the State Health Service means that patients are attending physiotherapy prior to consulting the medical profession, normally the general practitioner. This has resulted in physiotherapists being perceived as a 'threat' to their livelihood.

> *"Doctors are reluctant to send you for physio. Instead of sending you for physiotherapy, they give you painkillers. You then feel better and so; as a result, you don't need to go for physiotherapy."* (R20 2003)

In situations similar to the above, the medical profession is treating the symptoms and not the cause, resulting in patients being referred for physiotherapy at a later stage, once the condition has deteriorated.

> *"The last time I was an in-patient at St. Luke's I had to ask myself... I almost had to beg the consultant to refer me for physiotherapy."* (Q4 2003)

This perception by the public can only be ameliorated through education, which should start within the two professions by inter-professional learning and by holding an educational awareness campaign by the local physiotherapy association targeted at the medical profession and the public.

7.15 Professional Attitudes and Values

The philosophy behind the new curriculum is to promote teamwork amongst the different members forming the multi-disciplinary team that contribute to the rehabilitation of a patient. The next generation of physiotherapists has to realise that this rehabilitation can only take place as long as the team as a whole carries out patient treatment. Physiotherapy is one of the contributors to this team.

"Eventually people will have to be working in teams. The times when there was the doctor, and then the nurses were given various orders, task oriented, that has gone now. Every member of the team has to be involved now, with the care of particular patients. In a way what is happening in the special units when nurses and physiotherapists take complete charge of patients; and the doctor, heart surgeon, whoever is there, only for the operation and to maybe supervise the patients some of the time. We need people who know what they are doing, and ... they are pro-active."   (V49 2004)

There exists a belief amongst physiotherapists, that the rehabilitation team is hierarchal: following the physician, the physiotherapist is the next most important member (Galea 2003). Changing the curriculum will also mean changing deeply rooted pre-set ideas, regarding identity and attitude towards a professional structure that has been moulded over time, fostering a true multi-disciplinary team attitude.

The study revealed a change in the values and attitudes of junior physiotherapists, also noted by senior management. The present physiotherapist appears to be going through an identity crisis. The image of the profession has changed as their education has progressed, from that of a three-year to a four-year University course. A change in the teaching style, together with the amount of self-directed study being promoted, means that new graduates are highly motivated to identify with the image that is presented to them throughout the course. This image is one of an autonomous professional, capable of being part of a team and of diagnosing and treating patients but not one dependent on the medical profession. Students attending other allied health professional courses do not share this image. This change in values and attitudes has been described as a 'life-view' and is not only present in Malta but has been researched in depth at Lund University in Sweden (Gard et al 2003).

Ought the I.H.C. to continue to reinforce the concept of the autonomous professional if in reality within the state service the medical profession still holds a strong hold by referring patients? Is it ethical for the I.H.C. to hold

such stringent Final Practical Examinations that include patient assessment, diagnosis attainment, and a problem solving exercise to plan a treatment, when after all, it is a doctor who provides the diagnosis, and the physiotherapist is bound to treat such a condition? Is this the reason why newly qualified physiotherapists who have raised expectations regarding their professional role, feel frustrated when in the clinical setting? The University has a responsibility towards the education of students. It is ethically bound to teach the most comprehensive, 'ideal' curriculum that it, through the I.H.C., is capable of offering.   Even though to date the state is the main employer of physiotherapists, manpower studies are now beginning to demonstrate that the health service has reached maximum capacity; this has put the physiotherapy division at the I.H.C. in a dilemma. One of the initial reasons for this study was to organise a curriculum that would meet local needs. Since Malta joined the E.U. and the fall in local demand, overseas employment became an easier option. As a number of our students must now seek employment abroad, the importance that this 'ideal' local curriculum be recognised in other countries is paramount.

The expectations of newly qualified physiotherapists have duly changed, and the I. H. C. may be responsible for this. The process of evolution from a Diploma course run by the D.H., to an Honours Degree course held at the University, implies more than a student just obtaining a Degree in Physiotherapy. More important is the associated 'image' in the eyes of the public. A degree increases the physiotherapist's status within Maltese Society, as it would in any other country, yet the basic tools of any physiotherapist are their hands and brains. To a bystander, the treatment by a physiotherapist may actually look simple.   Newly qualified staff, who do not appreciate or who undervalue the thought processes, the underlying knowledge and the clinical reasoning involved in the decision making necessary to carry out effective treatment, may see their profession as demeaning. This may be a reason why a certain amount of 'glamour' is associated with musculoskeletal physiotherapy. These physiotherapists use 'high tech' apparatus to supplement their treatments, which in their opinion and that of the unknowing public raises it

above a manual skill. The old-fashioned 'hands-on-approach' seems to have lost its popularity. Certain physiotherapists, especially newly qualified graduate physiotherapists, do not want to be associated with this manual skill, and would rather it be handed on to a masseur, even though it is one of the founding skills of their profession. A danger exists that a past analogy is being replicated. Slightly over a hundred years ago, the medical profession found itself in the same situation and started to hand over some parts of their work that were considered demeaning to 'lady-helpers', resulting in the creation of ancillary staff or 'hand maidens'. The danger that some physiotherapy skills will pass to other professions has become a reality, some examples of which are: at St. Luke's Hospital 'Paraffin Wax Baths' are now carried out by the Occupational Therapy Department; ante-natal exercises are carried out by midwives and massage as a physiotherapeutic modality is rarely carried out.

Some physiotherapists try to improve their perceived social status by emulating the medical profession by refusing to wear the state physiotherapist's uniform and by wearing a white overall over their shirt and tie, in an attempt to appear more 'doctor-like' and, in their opinion, earn more respect from the public. Reputation plays a very important part in Smith's (1776) 'Theory of Motivation' and in his world; people are not driven solely by material gain, but also by the symbolic rewards of others' good opinion.

> "The public admiration....makes a considerable part of that
> reward"   (Smith 1776/1976 in Glahe 1978 p119)

The problem of medical referral within the State Health Service contributes to frustration. This frustration has been re-enforced by the handing down of a fine by the C.P.C.M. to a senior physiotherapist, who did not follow the doctor's referral instructions but decided on his own treatment plan.

> "In my case, he did, she was a private patient and he ordered
> hydrotherapy....I got given the patient and I realised that she
> was not a candidate for hydro. I treated her on land – she
> had flat feet and postural problems."   (R14 2003)

Is this because of the societal phenomenon that the medical profession has gathered over the years? Alternatively, is this the sign of a young, developing, ambitious profession that is trying to take on the older, medical profession?

Female physiotherapists are at a further disadvantage, as the word 'dott' (Doctor) is a title colloquially used by the Maltese public as a sign of respect. If a patient is unsure of someone's profession, a male is often referred to as 'dott'. However, a female wearing a uniform is usually called by the generic term 'nurse'. This is not because the patient, especially the older patient, wants to demean this member of staff, but because either in the past doctors were mainly males, hence all females were considered to be nurses, or ignorance on the part of the patient, such as not recognising different uniforms, or not having any knowledge about the existence of other professions.

This new 'image' has brought about a change in values. Certain physiotherapists are now placing more importance on the superficial value of 'look at me I have now obtained my degree' rather than valuing their input to the well-being of their patients. Sadly, young physiotherapists appear to demean their own profession and work, not appreciating the significance of their professional contribution to the health of the public. A physiotherapist can influence the patient's occupation, role in society, and home environment, amongst other things. Unfortunately, this data regarding professional values were not the intended reason for carrying out this research and was only accidentally exposed. This change within the attitudes and values of younger physiotherapists is something that another research study should investigate.

7.16 Implications of this Research

Figure 7.4   Outcome of the Research
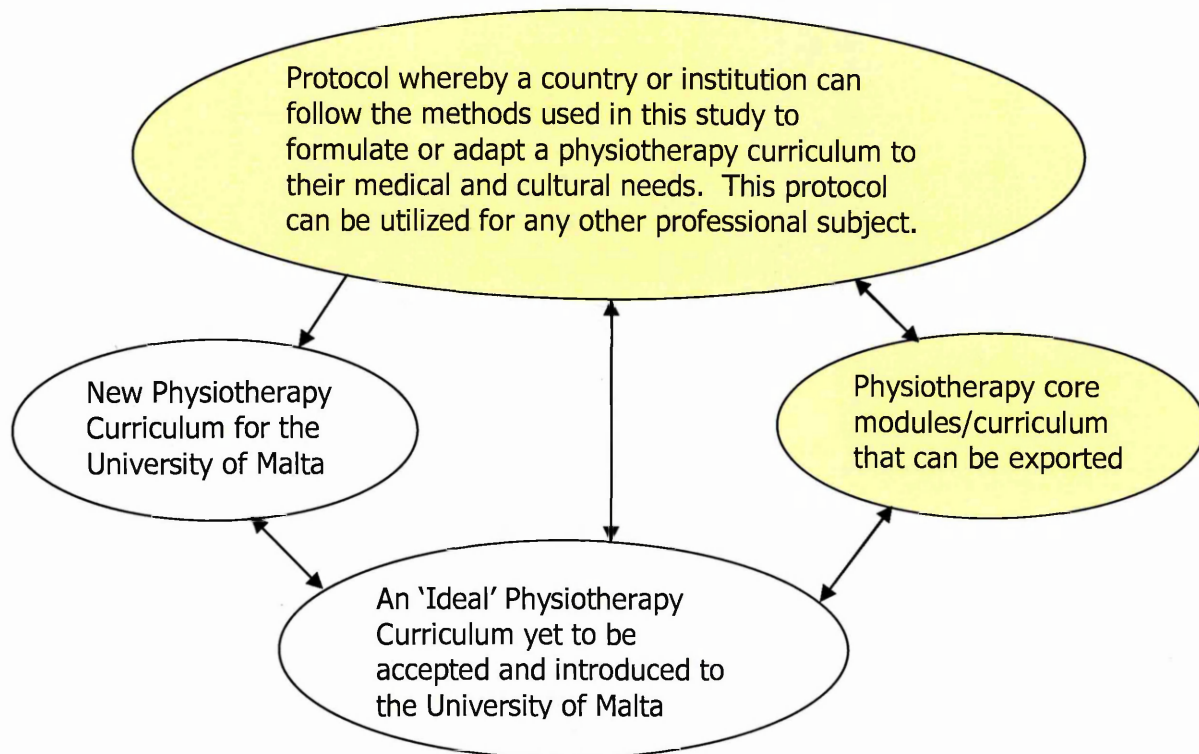
The outcome of this study is summarized graphically. The first thing to note about the graphics is that two are yellow and two are white. The shaded spheres indicate an outcome that has an international perspective, the clear ones relate to the educational environment in Malta: specifically the education of physiotherapy at the University of Malta. Another point to be noted is that the four spheres all have different dimensions. This is deliberate as the graphic is trying to signify the importance of each outcome diagrammatically.

The most important outcome of this study is that a methodology has been devised to design a professional curriculum. This study has provided the methodology to adapt an existing physiotherapy course in any institution, in any country, to one that meets their local medical, social, academic and professional needs. This situation would be ideal for small countries that already have physiotherapy education, but are following a curriculum imported directly from another more developed country. This methodology can also be used as a model to design a course from scratch, leading to a physiotherapy

education that will be particular to the health needs of that country, and acceptable for registration in most other countries, an example of which can be Cyprus, where the education of physiotherapy has not yet commenced.

The advantage of this new, 'ideal' curriculum, as opposed to the traditional curricula used in Malta and overseas, is that it has been designed and found to be acceptable by all the stakeholders involved. The utilization of user involvement means that all the stakeholders have been empowered to actively contribute to this new curriculum. The primary stakeholders were taken to be students and the academic staff and their concerns regarding the old previous curriculum were replaced. Their suggestions regarding the format of teaching and assessment and design of the course were discussed and included into the new curriculum. This has led to a course in which there is student clinical involvement early in the course, ending with the final year being totally dedicated to the writing of their thesis and to clinical involvement. The fact that this final year is clinically based has allowed the students to take advantage of the Socrates exchange programme allowing them to carry out a semester of clinical placement overseas should they wish to. This initiative is very much in line with the Bologna agreement signed by the 29 countries within the E.U. in 1999. The proposed structure of the course has also minimised any administrative problems as any students participating in these exchanges will not have to miss any lectures or any academic work related to their course. One has to take into consideration that traditional courses are typically of the 'sandwich type' that means they have periods of academic learning followed by the students being on clinical placements. The ideal situation would have been one in which students are taught a topic, for example neurology, that is then followed by a period of clinical placement in a neurological setting. Unfortunately, this is neither possible in Malta nor overseas as the number of students in an intake normally outnumbers the limited space the specialised clinical sites can offer.

The suggestions regarding course assessment proposed by the students and staff are that these should include more teamwork, more verbal discussion and

more assignment work. They suggest that less emphasis should be made on unseen written papers. All these suggestions were taken into account. The removal of final year exams and the introduction of the obtaining of credits by continuous assessment have also led to a deeper learning as indicated by Biggs (2001) and Oliver (2001).

The final year, being totally dedicated to clinical practice, has allowed students the opportunity to have longer clinical placements allowing them to have more patient continuation of treatment, sometimes offering students the opportunity to treat patients in the acute hospital setting and later as an outpatient. The increased time on the clinical setting has given the students a greater opportunity to become a member of the multidisciplinary team. It has given them more time to prepare for patient contact and research, allowing their treatments to be more evidence-based. The introduction of student diaries and case-studies has encouraged more clinical reflection 'on-action' and 'in-action' (Cross et al 2004). The feedback both from the students (Lungaro-Mifsud 2006) and the clinical staff (Aquilina 2006; Muscat 2007) regarding the new clinical placements is very positive and encouraging.

Another advantage to this new curriculum is that it has taken into consideration the input from the other stakeholders concerning the curriculum, especially that of other professions allied to health associated to the I.H.C., and the medical profession. It has encouraged and incorporated the use of 'multi-professional' and 'interdisciplinary' learning within the curriculum and has been the catalyst for the first Interdisciplinary Study-unit to be offered jointly between the I.H.C. and the medical school that is to be piloted in the 2008 academic year. Finally, the inclusion of the public's perspective into the course is also a new concept on the island and might be setting a trend for curriculum design at the I.H.C.

The manner in which this protocol for curriculum design has come about by the empowerment of all the stakeholders in the construction of the new curriculum has resulted in a curriculum that has met all the needs each stakeholder requires. The fact that all the stakeholders have been included in this

curriculum development makes this protocol for physiotherapy curriculum design unique. The design of the course and the flexibility of the fourth year allowing student exchange in particular have received positive feedback from various co-ordinators of universities in Europe: Ven (2006), Christensen (2006), Vassard (2006), and Lindquist (2007). The fact that this curriculum has been formulated by the inclusion of all the stakeholders, commencing from the core basic skills that are necessary for a physiotherapist to practise the profession to the learning of all the medical and pathology knowledge necessary, yet targeting the medical conditions that are specific to the local scene is also unique and not mentioned in the literature.

The final implication of this study is that the methodology used to design this new 'ideal' curriculum can be adapted to other professions. Any course that has imported its curriculum from another country or professional body, and would like to adapt it to suit its local needs can follow this protocol. It is hoped that the methodology used in this study will promote the development of curricula at both the University of Malta and those overseas.

As a result of this protocol a new curriculum has been designed to be fully implemented at the Institute of Health Care by 2006. The smaller white sphere relates to one of the original research questions: "How might the physiotherapy curriculum, at the University be modernised to equip the future workforce for Malta?" At a local level, this study has radically changed and hopefully improved the curriculum of physiotherapy that was taught at the University. The new curriculum has been designed utilizing the contributions of all the stakeholders who directly or indirectly influence the curriculum. This has meant a change to the structure, content, teaching methods, assessment and finally, the whole ethos of the course. This new curriculum meets all the academic, professional and political requirements that are expected of a course leading to a Bachelor's Degree with Honours in Physiotherapy. It also meets the requirements laid down by the European Union for professional courses in Higher Education and those of the Health Professions Council in the United Kingdom. However, it does not match the recommendations or the

expectations of either the contributing students or the clinical and academic staff.

Moving in an anti-clockwise direction the larger clear sphere is a consequence of the previous sphere. As a direct result of this study, an 'ideal curriculum' for the education of physiotherapy in Malta, was designed. This curriculum, when eventually accepted by the local University's administration department, will be regarded as the 'optimum' curriculum, as it will not only meet the academic, professional and political recommendations as the previous outcome, but also those of the 'primary stakeholders'. This 'ideal curriculum' will involve the total integration of study-units into modules, including the common-core subjects. Students will be in a better position to understand the professional, therapeutic and pathological needs of a patient. This new curriculum will replace the present system whereby common-core study-units are taught and assessed as individual subjects. As a result, assessment will take place at modular level and will encourage students to take on a deeper learning approach. This ought to lead to life-long learning. At this stage, one has to emphasize that an 'optimum' curriculum will always require change, as the profession and the health requirements of the country develop.

Finally, the smaller yellow sphere receives input from both the larger yellow shaded sphere and the large white sphere situated to the left. This research outcome relates to the possibility that this curriculum or any of its modules may be exported to any country which either intends to commence the education of Physiotherapy, or one that does not have the resources or expertise to create one. The education of physiotherapy in Sicily is a classic example. Sicily, with a population of over 5 million, only has two universities that offer Physiotherapy education. Each of these universities has a number clause allowing 15 students per intake. The Sicilian Health Authorities and the Sicilian Physiotherapy Association have come to an agreement and have asked the University of Malta to offer the education of physiotherapy to Sicilian nationals in Sicily itself. The curriculum, entry requirements and regulations will be those stipulated by the University of Malta. This could lead to the situation where the newly devised

curriculum could be transferred to and adopted by another country. This would be similar to the way physiotherapy was introduced to the island of Malta, when the curriculum of the Chartered Society of Physiotherapy was the one adopted by the School of Physiotherapy in 1976.

7.17 Recommendations

During the course of this study, new interesting findings were exposed and it is recommended that these should be researched further in another study.

These findings are:

1. The perception of junior physiotherapists regarding the medical profession's dominance over physiotherapy.

2. The perceptions of the public who do not use State Physiotherapy services but opt for private physiotherapy; this study has indicated that a disparity exists between the patient's perceptions regarding the State Health Service and reality.

3. The perceived attitudes and values of newly qualified physiotherapists.

CONCLUSION

The research began by questioning the appropriateness of the content of the physiotherapy curriculum offered at the I.H.C. Dramatic changes to Health care and its delivery have taken place in Europe and elsewhere in the recent past. Physiotherapy education is developing to meet the challenge of these changes, however, the content and structure of physiotherapy courses offered in Malta have not been evaluated in recent years. From experience, the main questions to be addressed were:

- Is the traditional physiotherapy curriculum on offer to Maltese students the most appropriate one?
- Is the curriculum relevant to the medical and cultural needs of the country?
- Does the curriculum provide the skills and knowledge newly qualified physiotherapists require to become competent, efficient practitioners?

These questions were modified as analysis of collected data confirmed the rationale for the study and the research broadened from fulfilling insular needs into the context of physiotherapy education within the E.U.

Although there is no harmonisation of curricula for physiotherapy education in the E.U. (Staes et al 1998) (Appendix 5), an in depth study confirmed that the Maltese curriculum was comparatively over-assessed and that the teaching style was not conducive to students becoming independent learners. These issues were considered imperative to the formation of a new 'ideal' curriculum and raised more questions.

The research 'modus operandi' also changed as the study developed. Coming from a background in survey research, both collection and analysis of data revealed the need to investigate other methodologies, in particular the constructivist paradigm of qualitative research, which concerns findings about people, substantial descriptions about how they think and allowing the researcher to use this information to develop new ideas. As the study developed another form of research was adopted, Participatory Action Research. This became the means to recognize the problem, evaluate options

and create change. Finally Q Methodology was utilized to triangulate the data obtained during the various cycles of the study.

The intuition that the content of the curriculum needed urgent change was confirmed very early on in the study. Not only was the content inadequate to the Islands' health requirements, but the emerging data revealed that the course assessment, the common core study-units, the clinical practice and the teaching method all required change. Changes were made possible by the commitment of the academic staff at the I.H.C. This study could not have reached its final goal without their help and co-operation.

The data obtained in the early stages resulted in a reduction of study-unit assessments. The inclusion of common core study-units into their related modules meant that students would concurrently be learning subjects relating to one another, a departure from the conventional medical model of education that was used on the Island, to a holistic model of patient care. The change and improvement in the design of the course resulted in the 'ideal' curriculum, but this challenged the administration office of the University. The amalgamation of study-units into modules and the assessment of these modules could not be handled by the Registrar's Office, as they did not conform to the software used to record results. As a consequence, this 'ideal' curriculum had to be altered in such a manner that made it acceptable.

This resulted in the development of two curricula. The first curriculum was the 'ideal curriculum' that met the requirements of the entire profession and primary stakeholders, but not those of the administrative staff. The second curriculum met all the professional, administrative and academic requirements laid down by the University, yet not those of the primary stakeholders. The 'ideal' curriculum was selected because the primary stakeholders are the more important factor in this equation. It was not implemented for administrative reasons.

This study confirmed that the problems the Physiotherapy Division were facing within the curriculum were also present in two other divisions with inherited

363

curricula, chosen randomly from all those that constitute the I.H.C. Most divisions follow professional curricula that have been imported from countries overseas, more often than not, the U.K. (Jaccarini 2004), (Bezzina 2003), (Mifsud 2003). To date, none has adapted their curriculum to the local needs as the Physiotherapy Division has. Whether or not this study will stimulate the need for change, or act, as a catalyst, in the other Divisions, is a question that only time will tell. An important outcome of this study is a protocol that will enable others to formulate an 'ideal' curriculum, utilizing the methodology used for this study.

The study has brought about change, not only within the physiotherapy division but also within some of the other divisions, which are starting to question their own professional curricula. The actual methodology and the development of the 'ideal' curriculum can be used as a protocol. Any other division within the I.H.C., as well as any other country where the teaching of physiotherapy has not yet commenced, such as Cyprus, Luxembourg or Liechtenstein, in Europe (WCPT 2003), or any country that has imported a physiotherapy curriculum from another country and wants to adopt a new curriculum particular to their own specific needs can use this protocol.

Finally, the most important outcome of this study is not an 'ideal' physiotherapy curriculum or the actual 'protocol' for curricular development, but is something deeper and intangible: something 'philosophical'. This study has become a 'force for change'. A single concept has the power to transform thinking, enrich the work environment and produce change as achieved by this research.

The new curriculum helped draw the clinical staff, students and academic staff together, forming a common circle of learners and implementers. This helped kindle a spirit of change that is being put into practice at various levels within the university and clinical setting. It was very important for all the contributors to realise and have a clear understanding of the new curriculum and the process of change that this generated. If this change were to be successful, then all concerned had to be involved, consulted and informed, as effective

change requires effective communication. The new curriculum was designed to give students the academic foundation and practical training to understand, predict and respond to clinical challenges. Students were involved in the initial curriculum development process as the primary stakeholders at the very heart of change. This curriculum not only incorporates the notions of evidence-based learning; it also encourages students to become life long learners and more importantly, having been taught how to think enables them to become 'agents for change'. If change to the educational system and health services on the Island is to take place, then the future workforce had to be involved and be given the necessary skills and opportunity to become part of this change.

The study had a domino effect that eventually challenged the university administration. Unfortunately, both the outcome of this research and the curriculum development team has 'responsibility without authority', and can influence 'change' but not dictate it.

The research into the curriculum is the force to implement change: a change that takes place on several fronts. Change can only come about if there is a willingness to accept it and this is necessary at both academic staff level and, more importantly, at top managerial level within the University structure. Change issues are not only human issues but also involve culture and subcultures of an organisation such as the University of Malta. Changes within the University or Institute can only come about if senior management have a 'high trust' factor. Convincing different Boards and members on those boards to support the proposed changes can only take place if there is quality evidence. This research study has produced the evidence necessary to support these changes.

The new curriculum can be the 'unfreezing factor' described by Lewin in 1947. Feedback from this study: that staff are de-motivated and morale is low, that students are upset and that work attitudes and performance are not what they ought to be, can be the motivating factor for the University to 'unfreeze', want and bring about change. The second stage is 'making the change' Lewin (1947). Should the University be willing to accept this change, then the

solution is on offer. This study has not only identified that change was required and necessary, at the I.H.C., but is also offering the solution. The outcome of the research, the solution, is a tool with which to design a new curriculum. In this situation, the tool itself developed into the 'ideal' curriculum and was the force for change. Lewin (1947) described a final stage as 'refreezing'. This stage is often missed. The important concept of this stage is that once change has been introduced to the organisation, then a means has to be provided so that change becomes permanent. Change must be embedded into the organisation's culture if it is to become permanent, and some means of feedback is necessary, to confirm that 'refreezing' has, and will continue to take place. As far as this study goes, this 'refreezing' stage could not take place, as the 'ideal' curriculum was not accepted.

The research has also disclosed a number of unanswered questions and the recommendations for further research are being proposed. The question regarding the perception of medical dominance over the physiotherapy profession still has to be investigated further. This perception is widespread amongst the junior staff and is one of the causes of job dissatisfaction within the State Health Service. The second is regarding the misperception the public have concerning St. Luke's Hospital. A recent survey has confirmed many of the same complaints regarding the local Health Services as those identified in this research (The Sunday Times February 12th 2006). However, the survey did not go so far as to confirm whether these complaints were justified or not, as has this study. The final recommendation is to investigate further the changing attitudes and values amongst the newly qualified staff. Senior management have noted these changed attitudes ever since the first graduates entered the service. What are these new attitudes and values? Is the present curriculum to blame for them? Are they one of the reasons for the excessive amount of staff resignations?

To conclude therefore, this study has achieved its major goals in that the physiotherapy course at the I.H.C. now has a curriculum that matches the professional, academic and political needs imposed upon it. More importantly,

the methodology to update this or any other professional curriculum has been formulated. This methodology empowers those who recognize a 'need for change'. This empowerment goes to those who are in a position to implement it, even though they may not have the authority to authorize it. This recognition is in itself the 'force for change', one of the findings this study has revealed, implemented and is hoping to export.

The genesis of this study

In the beginning there was.....*darkness*.

The previous physiotherapy curriculum was always looked upon as 'dogma', inherited from the Chartered Society of Physiotherapy. This was partially adapted as the maturity of the physiotherapy course took shape, but remained in principle an entity that nobody dared change. How to go about change was an unexplored unknown.

Then there was ......*light*.

Following a review of the literature regarding the curriculum and the different research methodologies available, a breakthrough came about. Action research provided the tools necessary to complete this study. Improving practice meant exposing inadequacies. Discussing, questioning, rehashing ideas, practices and changed practices, obtaining the thoughts and actions from all the stakeholders involved and finally collating the evidence, reflecting upon these data and sharing these outcomes, resulted in the formation of a new curriculum and the methodology to develop such a curriculum.

In the end ... ...

There is no end. The end of this research study actually means the beginning of another. Radical changes to the curriculum have been introduced, and so far, appear to have positive results, but many other questions have been generated throughout the course of this study. The research process has only just begun......

Abela, A. (1999) <u>VALUES 2000: European Values Studies (Malta 1984-1999)</u> Summary of preliminary report submitted to the Government of Malta.

Achanfuo-Yeboah, D. (1995) Problems in indigenous health research: issues for Australia. <u>Australian Journal of Social Research</u>, 1(1).

Achen, C. H., & Snidal, D. (1989) Rational deterrence theory and comparative case studies. <u>World Politics,</u> *41*(2), 143-169.

Adler-Kassner, L., Crooks, R., Watters, A. & Zlotkowski, E. (1997) <u>Writing the community: Concepts and models for service-learning in composition</u>. Washington, DC: American Association for Higher Education.

Adler, P.A., & Adler, P. (1987) The Demography of Ethnography. <u>Journal of Contemporary Ethnography</u>. 24: 3-29.

Agius, T. (2004) Lecturer, Physiotherapy Division. Personal communication.

Albanese, M.A. & Mitchell, S. (1993) Problem-based learning: a review of literature on its outcomes and implementation issues. <u>Academia Medica,</u> (68), 52-81.

Alsop, A. (2001) Perspectives on competence. <u>British Journal of Therapy and Rehabilitation,</u> (8), 7.

American Physical Therapy Association (2006) <u>Physical Therapy</u>, A.P.T.A., Alexandria, Washington D.C.

Angrosino, M.V. & Mays de Perez, K.A. (2000) Rethinking observation: From method to context. In N.K. Denzin & Y.S. Lincoln (Eds.), <u>Handbook of Qualitative Research</u> (2nd Ed.). Thousand Oaks, CA: Sage.

Apple, M.W. (1998) Work, power and curricular reform: a response to Theodore Lewis's "Vocational education as general education". Curriculum Inquiry. 28(3), 339-359.

Applebee, A.N. (1996) Curriculum as Conversation. The University of Chicago Press, Chicago.

Aquilina, V. (2003) Principal Physiotherapist. Personal communication.

Aquilina, V. (2006) Principal Physiotherapist. Personal communication.

Archer, J., Cantwell, R. & Bourke, S. (1999) Coping at University: an examination of achievement, motivation, self-regulation, confidence, and method of entry, Higher Education Research & Development. (18), 31-54.

Aroni, R., Goeman, D., Stewart, K., Sawyer, S., Abramson, M., Thien, F., et al (1999) Concepts of rigour: When methodological, clinical and ethical interests interact. Paper presented at the First AQR Conference, Melbourne, Australia.

Arskey, H., & Knight, P. (1999) Interviewing for social scientists. Sage: London.

Aspy, D.N., Aspy, C.B., & Quimby, P.M. (1993) What doctors can teach teachers about problem-based learning. Educational Leadership. 50(7), 22-24.

Attard Previ, R. (2003) Personal communication.

Australian Institute of Health and Welfare (2000) Physiotherapy Labour Force 1998. AIHW cat. no. HWL 22. Canberra: AIHW (National Health Labour Force Series No. 22).

Australian Physiotherapists Association (2001) http://apa.advsol.com.au/independent/documents. Accessed on 01/10/06.

Azzopardi, A. (2004) A European inventory on validation of non-formal and informal learning www.ecotec.com/europeaninventory/publications/inventory/chapters/euro_inv_malta. Accessed on 12/05/09.

Balogun, J.A., Pellegrini, E.A., Miller, T.M. & Katz, J.S. (1999) Pattern of physical therapist students' burnout within an academic semester. Journal of Physical Therapy Education. 13(1), 12-17.

Bandura, A. (1993) Perceceived self-efficacy in cognitive development and functioning. Educational Psychologist, (28), 117-148.

Barclay, J. (1994) In good hands: The history of The Chartered Society of Physiotherapy, Butterworth Heineman, Oxford.

Barell, J. (1995). Teaching for thoughtfulness: Classroom strategies to enhance intellectual development. White Plains, NY: Longman.

Barker, K.K., Bosco, C. & Oandasan, I.F. (2005) Factors in implementing interprofessional education and collaborative practice initiatives: Findings from key informant interviews. Journal of Interprofessional Care. (1), 166-176.

Barnett, W., Burchinal, M.R., Peisner-Feinberg, E., Pianta, R. & Howes, C. (2001) Development of academic skills. Journal of School Psychology. 40(5), 415-436.

Barr, J.S. (1977) Problem-solving Curriculum Design in Physical Therapy. Physical Therapy. (57), 526-529.

Barr, H. (2003) Unpacking Interprofessional Education in Interprofessional Collaboration Ed A. Leathard Brunner-Routledge.

Barry, J. & Proops, J. (1998) Local employment and trading systems: linking citizenship and sustainability. Global Environmental Change Programme Briefings. (18), 1-5.

Baskett, H.K. & Marsick, V.J. (1992) Professionals' ways of knowing: new findings on how to improve professional education. California, Jossey-Bass Inc Publishers.

Bauman, Z. (1987) Legislators and Interpreters: on modernity, post-modernity and intellectuals. Polity: Cambridge.

BBC (2001) http://news.bbc.co.uk/1/hi/education/1352206.stm Accessed on 08/01/04.

Beck, U. (1992) Risk society: Towards a new modernity. Sage: Beverly Hills, CA

Becker, H. (1996) The Epistemology of Qualitative Research. In Jessor, R., Colby, A. & Shweder, R. (Eds.), Ethnography and Human Development. Chicago: University of Chicago Press.

Beenhakker, J.C. (1999) Deficiencies in physiotherapy education. Physiotherapy. 42(2), 37-39.

Behringer, B.A., Bishop, W.S. & Edwards, J.B. (1999) A model for partnerships among communities, disciplines and institutions. In: Holmes, D.E., Osterweis, M., (Eds.), Catalysts in interdisciplinary education. Washington, DC: Association of Academic Health Centers.

Benner, P. (1985) Quality of life: A phenomenological perspective on explanation, prediction, and understanding in nursing science. Advances in Nursing Science, 8(1), 1-14.

372

Benner, P., Hooper-Kyriakidis, P. & Stannard, D. (1999) <u>Critical Wisdom and Interventions in Critical</u> Care. <u>A Thinking in Action</u> Approach, Philadelphia, W.B. Saunders Company

Bernard, J. M. & Goodyear, R. K. (1992). <u>Fundamentals of clinical Supervision</u>, Needham Heights, Allyn & Bacon.

Berrino, F., Capocaccia, R., Esteve, J., Gatta, G., Hakulinen, T., Micheli, A., Sant, M. & Verdecchia, A. (1995) Survival of Cancer Patients in Europe: the Eurocare-2 study. <u>IARC Scientific Publication</u> No. 151. IARC Press: France.

Berryman, S. & Bailey, T. (1992) <u>The double helix of education and the economy.</u> New York: Institute on Education and the Economy, Teachers College, Columbia University.

Bezzina, P. (2003) Course Coordinator, Radiography Division. Personal communication.

Bezzina, R. (2004) Principal Physiotherapist, St. Luke's Hospital. Personal Communication.

Biggs, J.B. (1987) <u>Student Approaches to Learning and Studying.</u> Victoria: Australian Council for Educational Research.

Biggs, J.B. (1992) The Psychology of Educational Assessment and Hong Kong scene. <u>Bulletin of the Hong Kong Psychological Society</u>, (28), 5-26.

Biggs, J.B. (1993) From Theory to Practice: A cognitive systems approach. <u>Higher Education Research and Development</u>, (12), 73-85.

Biggs, J.B. (1996) Enhancing Teaching through Constructive Alignment. <u>Higher Education</u>, (32), 347-364.

Biggs, J.B. (1999) What the student does: teaching for enhanced learning. Higher Education Research and Development, 18(1), 57-74.

Biggs, J.B. (2001) The reflective institution: assuring and enhancing the quality of teaching and learning. Higher Education, 41(3), 221-38.

Biggs, J.B. (2003) Teaching for Quality Learning at University, Maidenhead, McGraw-Hill Education.

Blenkin, G.M. (1992) Change and the Curriculum, London: Paul Chapman.

Blumer, H. (1969) Symbolic Interactionism: Perspective and Method. Englewood Cliff, NJ: Prentice-Hall.

Boaden, N. & Leaviss, J. (2000) Putting teamwork in context. Medical education. (34), 921–7.

Boekaerts, M. (1995) Self-regulation learning: Bridging the gap between metacognitive and metamotivation theories. Educational Psychologist. (30), 195-200.

Bogdan, R. & Biklen. S. (1992) Qualitative research for education: an introduction to theory and methods. Allyn and Bacon, Needham Heights, MA.

Botes, A. (2000) Critical thinking by nurses on ethical issues like termination of pregnancy. Curationis. 23(3), 26-31.

Boychuk, J.E. (1999) Catching the wave: understanding the concepts of critical thinking. Journal of Advanced Nursing. 29(3), 577-583.

Boyer, E.L. (1991) Ready to learn: A mandate for the nation. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

374

Boyer, E.L. (1995) <u>The basic school: A community for learning</u>. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Bradshaw, D. (1985) Transferable intellectual and personal skills, <u>Oxford Review of Education</u>, England.

Breitmayer, B.J. (1993). Triangulation in Qualitative Research: Evaluation of Completeness and Confirmation Purposes. <u>IMAGE: Journal of Nursing Scholarship</u> 25(3), 237.

Brenner, M., Brown, J., & Canter, D. (1985) <u>The research interview: Uses and approaches</u>. Academic Press: Orlando, FL.

British Medical Association (2005) <u>http://www.bma.org.uk/ap.nsf/Content/healthcarerural</u> Accessed on 19/07/07.

Broberg, C., Aars, M., Beckmann, K., Emaus, N., Lehto, P., Lahteenmaki, M.L., Thys, W. & Vandenberghe, R. (2003) A Conceptual Framework for Curriculum Design in Physiotherapy Education – an International Perspective. <u>Advances in Physiotherapy.</u> (5), 161-168.

Brockett, R.G. & Hiemstra, R. (1991) 'A conceptual framework for understanding self-direction in adult learning' in <u>Self-Direction in Adult Learning: Perspectives on Theory, Research, and Practice</u>, New York: Routledge.

Brophy, J. (1999) <u>Teaching Educational Practices</u> series-1: UNESCO, Lausanne. <u>http://www.ibe.unesco.org/Publications/Practice/pracOle.pdf</u> Accessed on 03.08.07

Brook, N. (1985) Letter re: External moderator to the Final Examinations. Sheffield City Polytechnic, Sheffield. Dated 27/09/1985.

Brook, N. (1998) External Examiner's Report. Sheffield Hallam University, Sheffield.

Brook, N. (2000) External Examiner's Report. Sheffield Hallam University, Sheffield.

Brook, N. & Parry, A. (1985) The Influence of Higher Education on the Assessment of Students of Physiotherapy, Assessment and Evaluation in Higher Education, 10(2), 131-45.

Brown, J.S., Collins, A. & Duguid, P. (1989) Situated Cognition and the culture of learning. Educational Researcher, (18), 32-42.

Brown, S. & Knight, P. (1994) Assessing Learners in Higher Education. London: Kogan Page.

Brown, S.R. (1980) Political subjectivity: Applications of Q Methodology in political science. New Haven, CT: Yale University Press.

Brown, S.R. (1995) Q Methodology as the foundation for a science of subjectivity, Operant Subjectivity (18), 1-16.

Brown, S.R. (1996) Q Methodology and qualitative research. Qualitative Health Research. (4), 561-567.

Brown, S.R. (1997) The History and Principles of Q Methodology in Psychology and the Social Sciences. Department of Political Science, Kent State University.

Brown, T. & Morrison, K. (1990) The curriculum handbook. England: Longman.

Bruner, J.S. (1973) Beyond the information given: Studies in the Psychology of Knowing. New York, Norton and Company Inc.

Buffalo University (2004) http://ub-counseling.buffalo.edu/probsolve.shtml
Accessed on 07/01/04.

Burgess, R.G. (1984) In the Field – An Introduction to Field Research. London:
George Allen and Unwin.

Burroughs-Lange, S.G. (1996) University lecturers' concept of their role. Higher
Education, Research and Development, 15(1), 29-49.

Bury, T. (1996) Evidence-based practice – Survival of the fittest. Physiotherapy
(82), 75-76.

Buttigieg, S. (2004) Director, Institute of Health Care. Personal communication.

Buttigieg, S. (2001) Teamwork in health care delivery – A case study of a
Maltese Geriatric Hospital. (Unpublished MBA Thesis).

Callus, A. (2004) International and E.U. Office, University of Malta. Personal
Communication.

Cameron, D., Frazer, E. & Harvey, P. (1992) Researching Language: Issues of
power and method, London and New York: Routledge.

Camilleri, J. (2000) Training people and establishing the needs of the country's
workforce. The Malta Business Weekly, Issue 305.

Campbell, C. & Rozsnyai, C. (2002) Quality Assurance and the Development of
Course Programmes. Papers on Higher Education Regional University Network
on Governance and Management of Higher Education in South East Europe
Bucharest, UNESCO.

Canadian Physiotherapy Association (2006) http://www.physiotherapy.ca/public
Accessed on 01/10/06.

377

Carney, T.F. (1990) Collaborative inquiry methodology, University of Windsor, Ontario, Canada.

Carr, W. & Kemmis, S. (1986) Becoming Critical: Education, Knowledge and Action Research. Basingstoke: Falmer Press.

Carter, Y. & Thomas, C. (1996) Research methods in Primary Care. Radcliffe Medical Press.

Central Office of Statistics (2003) Demographic Review of the Maltese Islands, Malta.

Centre for the Advancement of Interprofessional Education (1997) Interprofessional education – a definition. London: CAIPE.

Chall, J. S. (1994) Patterns of adult reading. Learning Disabilities, 5(1), 29-33.

Chambers, E. (1992) Workload and the quality of student learning. Studies in Higher Education. (17), 14-15.

Chartered Society of Physiotherapy (1974) Chartered Society of Physiotherapy Handbook, London.

Chartered Society of Physiotherapy (2003) Lifelong Learning. www.csp.dev.rroom.net/lifelonglearning/cpd.cfm Accessed on 12/12/03.

Christensen, L. (2006) Director, Skodsborg School of Physiotherapy. Personal communication.

Clark, C.M. (1995) Thoughtful teaching. London: Cassell.

Clarke, B., James, C. & Kelly, J. (1996) Reflective practice; reviewing the issues and refocusing the debate. <u>International Journal of Nursing Studies,</u> (33), 171-180.

Classen, C. (1998) Outcomes based education: Some insights from complexity theory. <u>South African Journal of Higher Education,</u> (12), 34-39.

Clouder, L. (2000) Reflective Practice: Realising its potential. <u>Physiotherapy,</u> 86(10), 517-522.

Clouder, L. & Dalley, J. (2002) Providing a 'safety net': fine-tuning preparation of undergraduate physiotherapists for contemporary professional practice. <u>Learning in Health and Social Care</u>. 1(4), 191–201.

Coate, K., Barnett, R., & Parry, G. (2001) 'Conceptualising Curriculum Change', <u>Teaching in Higher Education,</u> Vol. 6., No. 4, pp.435-449.

Coffey, P. Levin, C. & Kelly, K. (2004) Using Q Methodology to assess opinions of stakeholders about use of cervical barriers in low resource settings. Paper presented at <u>Microbicides</u> 2004, 28–31 March, London.

Cohen, L. & Manion, L. (1994) <u>Research Methods in Education,</u> London, Croom Helm.

Cohn, E.S. (1989) Fieldwork education: Shaping a foundation for clinical reasoning. <u>The American Journal of Occupational Therapy</u>. 43(4), 240-244.

Commission of the European Communities (2000) <u>Report from the Commission to the Council and the European Parliament on the Application of Directive 92/51/EEC in accordance with Article 18 of Directive 92/51/EEC</u>. Brussels

Commonwealth Department of Education, Training and Youth Affairs (1999) The quality of Australian Higher Education: An Overview. <u>AusInfo,</u> GPO Box 84, Canberra.

Conway, J. & MacMillan, M. (2003) Quality Health Care Delivery: Implications for Multiprofessional Learning. The Network International Conference. Towards Equity in Education, Training and Health Care Delivery. Newcastle, Australia.

Cook, D. (2004) <u>Models of Interdisciplinary Learning.</u> Ottawa: Health Canada.

Cormack, D.F.S. (1991) <u>The Research Process in Nursing</u>. Blackwell Scientific, Oxford.

Corrigan, D. (1995) Teacher education and interprofessional collaboration: Creation of family-centered, community-based integrated service systems. Paper presented at the National Congress on Teacher Education, December 10-12, 1995. Washington, D.C.

Council for Professions Complementary to Medicine (2003) Code of Ethics. <u>www.health.gov.mt</u> Accessed on 07/01/06.

Cox, K. (1998) <u>Doctor and Patient – Exploring Clinical Thinking</u>. Sydney: University of New South Wales Press, 114.

Crawford, H., Leybourne, K., Marnie L. & Arnott, A. (2000) How we ensured rigour in a multi-site, multi-discipline, multi-researcher study. [28 paragraphs]. <u>Forum Qualitative Sozialforschung / Forum: Qualitative Social Research</u>.

'Creating the future together' 2000 Policy Document p.14 <u>www.education.gov.mt/ministry/doc/pdf/Curriculum%20English.pdf</u> Accessed on 25/07/06.

Crosbie, J., Gass, E., Sullivan, J., Vujnovich, A., Webb, G., Wright, T. (2002) Sustainable undergraduate education and professional competency. Australian Journal of Physiotherapy. (48), 5-7.

Cross, V. (1997) The professional development diary: A case study of one cohort of physiotherapy students, Physiotherapy. 83(7), 375-383.

Cross, V. & Hicks, C. (1997) 'Comparing the importance of clinical competence criteria across specialities'; Physiotherapy. 87(7), 351-367.

Cross, V. (2001) Approaching consensus in clinical competence assessment. Third round of a Delphi study of academics and clinicians perceptions of physiotherapy undergraduates. Physiotherapy. 87(7), 341-350.

Cross, V., Hicks, C. & Barwell, F. (2001) Exploring the Gap between Evidence and Judgement: Using video vignettes for practice-based assessment of physiotherapy undergraduates. Assessment & Evaluation in Higher Education, (26)3, 200-208.

Cross, V., Liles, C., Conduit, J., & Price, J. (2004) Linking reflective practice to evidence of competence: a workshop for allied health professionals. Reflective Practice. 5(1), 3-31.

Crotty, M. (1996) Phenomenology for Nursing. Pearson Press: South Melbourne.

Crotty, M. (1999) The Foundations of Social Research, Sage Publications, London.

Cunliffe, A. & Easterby-Smith, M. (1998) 'Reflexive Learning: A Critique of Experienced Based Learning Theories in Management Education', paper presented at Lancaster-Leeds Collaborative Conference on Emergent Fields in Management: Connecting Learning and Critique, University of Leeds, 15-17 July.

Cupchik, G. (2001) Constructivist Realism: An Ontology That Encompasses Positivist and Constructivist Approaches to the Social Sciences. Forum: Qualitative Social Research (On-line Journal) 2 (1). Website: http://qualitative-research.net/fqs/fqs-eng.htm Accessed on 30/10/01.

Cutcliffe, J. & McKenna, H. (2002) When do we know that we know?: Considering the truth of research findings and the craft of qualitative research. International Journal of Nursing Studies, 39(6), 611-618.

D'Amato, R. (1998) Physiotherapist. Personal communication.

D'Amour, D., Beaulieu, M.D., San Martin-Rodriguez, L. & Ferrada-Videla, M. (2004) Conceptual basis for interprofessional practice. In D'Amour, D., Zwarenstein, M., Keegan, B., Purden, M., Beaulieu, M.D. & et al (Eds.), Interdisciplinary education for collaborative patient-centred practice. Toronto, ON: Health Canada.

D'Amour, D., & Oandasan, I. (2005) Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. Journal of Interprofessional Care. 1, 8-20.

Danson, M. (2003) WHO official hails Malta's 'high reputation'. The Times. November13th, 2003.

Davies, A. (1994) Evaluation a deep approach to assessment, in: G. Gibbs (Ed.) Improving Student Learning Through Assessment and Evaluation (The Oxford Centre for Staff Development).

Davies, F. (2004) Physiotherapist. Personal communication.

Davis-Floyd, R. & St. John, G. (1998) From doctor to healer: The transformative journey sited in Handbook of Qualitative Research, Denzin & Lincoln (2000) New Brunswick, NJ: Rutgers University Press.

Davis, B.G. (1993) Tools for Teaching. Jossey-Bass Publishers, San Francisco.

Dawson, L.D. (2004) Personal communication.

Dawson, L.D. (1997) Cultural implications for physiotherapy education: The experience. Unpublished PhD thesis, Loughborough University.

Dearing, R. (1997) http://www.leeds.ac.uk/educol/ncihe/. Accessed on 21/09/05.

Dearstyne, B.W. & Barlow, D. (1999) Archives, Records and Information Management: Creating a Dynamic Curriculum for the Next Century. Journal of Education for Library and Information Science. 40(3), 134-141.

Deguara, L. (2007) Official Opening Mater Dei Hospital Speech. http://www.maltamedia.com/artman2/publish/local/article_2485.shtml Accessed on 06/07/07.

Demographic Review (2001) www.gov.mt Accessed on 25/02/03.

Demographic Review (2002) www.gov.mt Accessed on 25/02/03.

Dennis, K.E. & Goldberg, A.P. (1996) Weight control self-efficacy types and transitions affect weight-loss outcomes in obese women. Addictive Behaviours, 21, 103–116.

Denzin, N.K. (1970) The Research Act in Sociology: A Theoretical Introduction to Sociological Methods. Butterworth, London.

Denzin, N.K. (1989) <u>Interpretative Interactionism</u>. Newbury Park, California.

Denzin, N.K. & Lincoln, Y.S. (Eds.) (1994) <u>Handbook of qualitative research</u>. Newbury Park, CA: Sage.

Denzin, N.K. & Lincoln, Y.S. (2000) Introduction: The discipline and practice of qualitative research. In: N.K. Denzin & Y.S. Lincoln (Eds.), <u>Handbook of Qualitative Research</u> (Second ed., pp.1-29). Thousand Oaks, CA: Sage Publications, Inc.

Depares, A. (1986) Principal Medical Officer. Personal communication.

Department of Health (1978) Letter re: Examining Board, Department of Health, Valletta. Dated 20/10/1978.

Department of Health (1986) Letter re: Physiotherapy Curriculum, Department of Health, Valletta. Dated 17/04/1986.

Department of Health (1987) Malta School of Physiotherapy: Curriculum, Department of Health, Valletta. Dated 27/09/1987.

Department of Health (1988) Letter re: Examining Board, Department of Health, Valletta. Dated 10/11/1988.

Department of Health (UK) (2000) NHS Plan - A plan for investment. A plan for reform. <u>www.nhs.uk/nhsplan</u> Accessed on 05/02/06.

Dick, B. (2000) <u>You want to do an action research thesis? - How to conduct and report action research.</u> Chapel Hill, Qld. <u>http://www.scu.edu.au/schools/gcm/ar/arthesis.html</u> Accessed on 19/04/2000.

Dick, B. & Swepson, P. (1994) *Appropriate validity and its attainment within action research: an illustration using soft systems methodology.*

http://www.scu.edu.au/schools/gcm/ar/arp/sofsys2.html Accessed on
12/12/06.

Dickinson, C. & Carpenter, J. (2005) Contact is not enough: An intergroup
perspective on stereotypes and stereotype change in Interprofessional
Education. The Theory-Practice Relationship in Interprofessional Education.
Occasional paper 7. The HE Academy Health Sciences and Practice subject
centre. Colyer, Helme and Jones.

DiGiacomo, M. & Adamson, B. (2001) Coping with stress in the workplace:
implications for new health professionals. Journal of Allied Health 30(2), 106-
111.

Dixon, D.A. (1996) Teaching democracy as a practical science: Reorganising the
curriculum at institutions of higher education for active citizenship. American
Educational Research Association, New York.

Doll, W.E. (1998) Curriculum and concepts of control cited in Curriculum:
towards new identities. Garland Publishing, New York.

Downie, P.A. (1984) Cash's Textbook of General Medical and Surgical
Conditions for Physiotherapists. Lippincott Williams & Wilkins. England.

Downie, R.S. & Charlton, B. (1992) The Making of a Doctor: Medical Education
in Theory and Practice. Oxford University Press, New York.

Drinan, J. (1991) Reflections on the first days proceedings: values and action
research. In Zuber-Skerritt, O, (Ed) Action Learning for Improved Performance:
Key contributions to the First World Conference on Action Research and Process
Management.

Du-Feu, M.P. (1980) Letter re: Physiotherapy Courses. Dated 05/02/1980.

Edwards, R. & Usher, R. (2001) Lifelong Learning: A Postmodern Condition of Education, Adult Education Quarterly. 51(4), 273-287.

Eisner, E.W. (1979) The Education Imagination: On the design and evaluation of school programmes. Macmillan, New York.

Eisner, E.W. (1991) The enlightened eye: Qualitative inquiry and the enhancement of educational practice. Macmillan Publishing Company, New York.

Eley, M. (1992) Differential adoption of study approaches within individual students, Higher Education. 23, 231-254.

Elliott, K. & Francis, M. (1998) A two year B.Sc. (Hons.) in Occupational Therapy; Preparing graduates for a demanding profession through an accelerated degree. British Journal of Occupational Therapy. 61(6), 253-256.

Ellul Micallef, R. (2006) Keynote Speaker. Conference: Malta Speech and Language Pathologists. University of Malta, Msida.

Emden, C. & Sandelowski, M. (1998) The good, the bad and the relative, part one: Conceptions of goodness in qualitative research. International Journal of Nursing Practice. 4, 206-212.

Emery, M.J. (1984) Effectiveness of the clinical instructor. Physical Therapy 64(7). 1079-1083.

Entwistle, N.J. (1991) Approaches to learning and perceptions of the learning environment. Higher Education. 22, 201-204.

Entwistle, N. (1998) Conceptions of Learning, Understanding and Teaching in Higher Education. http://www.scre.ac.uk/fellow/fellow98/entwistle. Accessed on 06/12/01.

Entwistle, N. (2001) Promoting Deep Learning through Teaching and Assessment, <u>American Association for Higher Education</u>, 9-20.

Entwistle, N. & Entwistle, A. (1997) Revision and the experience of understanding. In: Marton, N.F., Hounsell, D. & Entwistle, N. (Eds), <u>The experience of learning</u>. Edinburgh: Scottish University Press.

Entwistle, N. & Ramsden, P. (1983) <u>Understanding student learning</u>. London: Croom Helm.

Entwistle, N. & Tait, H. (1990) Approaches to learning, evaluations of teaching, and preferences for contrasting academic environment. <u>Higher Education</u>. 19, 169–194.

Enwistle, N.J. & Tait, H. (1994) <u>The Revised Approaches to Studying Inventory</u>. Edinburgh: Centre for Research into Learning and Instruction, University of Edinburgh.

Eraut, M. (1994) <u>Developing professional knowledge and competence.</u> London: The Falmer Press.

Errington, E. & Robertson, L. (1998) Promoting staff development in OT. <u>British Journal of Occupational Therapy</u> 61(11), 497-503.

Etzioni, A. (1969) <u>The Semi-Professions and Their Organization.</u> New York: Free Press.

European Network for Physiotherapy in Higher Education (2005) <u>http://www.enphe.org/emc.asp</u> Accessed on 20/09/05.

European Network for Physiotherapy in Higher Education (2006) <u>http://www.enphe.org/emc.asp</u> Accessed on 25/07/06.

Eurostat (2002) http://www.cdc.gov/nchs/data/hus/tables/2002/02hus027.pdf
Accessed on 27/02/03.

Evetts, J. (2003) The Sociological Analysis of Professionalism. International Sociology June Vol. 18(2), 395-415.

Fallsberg, M.B. & Wijma, K. (1999) Student attitudes towards the goals of an inter-professional training ward, Medical Teacher. 21(6), 576-81.

Fallsberg, M.B. & Hammar, M. (2000) Strategies and focus at an integrated, interprofessional training ward, Journal of Interprofessional Care. 14(4), 337-51.

Felton, A. & Stickley, T. (2004) 'Pedagogy, power and service user involvement' in Journal of Psychiatric and Mental Health Nursing. 11, 89–98.

Fenech Adami, E. (2000) www.magnet.mt (Official website of the Maltese Government). Accessed on 05/02/03.

Finkel, J.S. & Bollin, G.G. (1996) Linking racial identity theory to integrating the curriculum. College Teaching. 44(1), 34-36.

Fitzpatrick, R. & Boulton, M. (1994) Qualitative methods for assessing health care. Quality in Health Care. (3).

Flinders, D.J. & Thornton, S.J. (1997) The Curriculum Studies Reader. Routledge, London.

Folkard, B.U. (1987) Letter Council for Professions Supplementary to Medicine re: State Registration. Dated 28/10/1987.

Fontana, A. & Frey, J.H. (1994) Interviewing: The Art of science in <u>Handbook of Qualitative Research</u> by Denzin, N.K. & Lincoln, Y.S.; Sage Publications Ltd, London.

Frances, S. & Grant, J. (1999) Approaches to experiential learning, course delivery and validation in medicine. A background document <u>Medical Education.</u> 33(4), 282.

Frankfort-Nachmias, C. & Nachminas, D. (1997) <u>Research Methods in the Social Sciences</u>. London, Arnold Hodder Headline Group.

Freeth, D., Hammick, M., Koppel, I., Reeves.S & Barr, H. (2002) A critical Review of Evaluations of Interprofessional Education. UK Learning and Teaching Support Network (LTSN) Centre for Health Sciences and Practice Occasional paper 2.

Freeth, D., Reeves, S., Koppel. I., Hammick, M. & Barr, H. (2005) Evaluating Interprofessional Education: A Self-Help Guide, Higher Education Academy: Health Sciences and Practice Network.

French,S. (1992) <u>Physiotherapy: a psychosocial approach</u>, Butterworth-Heineman, Oxford.

Friedson, E. (1970) <u>Professional Dominance</u>. New York; Atherton Press.

Fulton, C. (1996) Queen Margaret College, Physiotherapy Research Course Handout. Edinburgh.

Gaff, J.G. & Ratcliff, J.L. (1996) <u>Handbook of Undergraduate Curriculum.</u> American Academy of Colleges and Universities, Jossey-Bass, San Francisco.

Galea, G. (1998) <u>A Strategy for the Second Decade</u>, University of Malta, Msida.

Galea, N. (2003) Lecturer/Clinical Supervisor, Physiotherapy Division. Personal communication.

Gangaway, J. & Stancanelli, J. (2008) Early Clinical Reasoning Skills in Physical Therapy Students, Journal of the American Physical therapy Association. PI-RR-134-TH- PT-2005.

Gard, G., Thrane, F. & Sunden, B. (2003) Changes in life-views and ethical viewpoints during physiotherapy education. Physiotherapy Theory and Practice. 19(2), 63-76.

Gaudy, J. & Jensen, G. (1992) Group work and reflective practicums in physical therapy education: models for professional behaviour development. Journal of Physical Therapy Education. 6, 6-10.

Geddes, B. (2003). How the cases you choose affect the answers you get: Selection bias in comparative politics. Political Analysis, 2, 131-150.

General Medical Council (2003) http://www.gmc-uk.org/education/undergraduate/tomorrows_doctors.asp. Accessed on 19/07/07.

Gericke, D. (2002) Consequences of outcomes based education for higher education. Edutech, Newsletter of Technikon Pretoria, 13, 1-2.

Gibbs, G. (1994) Institutional Support for Resource Based Learning. Oxford: Oxford Centre for Staff Development.

Gibbs, G. (1995) Improving Student Learning: Theory and Practice. Oxford: Oxford Centre for Staff Development.

Gibbs, G. (1996) Improving Student Learning through Assessment and Evaluation. Oxford: Oxford Centre for Staff Development.

Gil, G. (1992) UK gets grant to overhaul its training of doctors. <u>Louisville Courier Journal</u> February 27, 1992, B1.

Gilbert, J. (2004) <u>Interdisciplinary Learning and Higher Education Structural Barriers</u>. Ottawa: Health Canada.

Ginsburg, L. & Tregunno, D. (2005) New approaches to interprofessional education and collaborative practice: Lessons from the organizational change literature. <u>Journal of Interprofessional Care</u>. 1, 177-187.

Glahe, F.R. (1978) <u>Adam Smith and the Wealth of Nations, 1776-1976: Bicentennial Essays</u>. Colorado: Colorado Associated University Press.

Glasby, J. & Lester, H. (2004) Cases for Change in mental health: partnershio working in mental health services. <u>Journal of Interprofessional Care</u> 18(1), 7-16.

Glaser, B.G. & Strauss, A.L. (1967) <u>The Discovery of Grounded Theory: Strategies for Qualitative Research</u>. New York: Aldine de Gruyter.

Glen, S. (1995) Developing critical thinking in higher education. <u>Nurse Education Today</u>, 15, 170-176.

Glesne, C. & Peshkin, A. (1992) <u>Becoming Qualitative Researchers: An Introduction</u>. New York: Longman.

Glover, H., Watson, H. & Rainer, R. (1992) "20 ways to waste an EIS investment, information strategy", <u>The Executive's Journal</u>, 11-17.

Gonzi, L. (2004) <u>http://www.businesstoday.com.mt/2006/11/15/opinion.html</u> Accessed on 15/11/06.

Gonzi, L. (2007) Opening: Mater Dei, Official Speech.
http://www.maltamedia.com/artman2/publish/local/article_2485.shtml.
Accessed on 06/07/07.

Goodson, I.F. (1998) The making of a curriculum: collected essays. London:
Falmer Press.

Gough, N. (1999) Globalization and school curriculum change: locating a trans-
national imaginary. Journal of Education Policy. 14(1), 73-84.

Graham C, (1991) Comparison of 1 day-per-week, 1-week, and 5-week clinical
education experiences. Journal of Physical Therapy Education. 5, 18-23.

Graham, C.L. (1996) Conceptual Learning Process in Physical Therapy Students.
Physical Therapy, 76(8), 856-865.

Graham, J. & Wealthall, S. (1999) Interdisciplinary education for the health
professions: taking the risk for community gain. Focus on Health Professional
Education. 1, 49-68.

Grech, A. (1973) Employment of Physiotherapists, Letter to Minister of Health.
Dated 15/11/1973.

Grech, A. (1974) Memo-Training of Physiotherapists, Department of Health.
Dated 1973.

Greer, L. (2001) Does Changing the Method of Assessment of a Module
Improve the Performance of a Student? Assessment & Evaluation in Higher
Education. 26(2), 127-138.

Gribch, C. (1999) Qualitative research in Health. Sage Publications Ltd, London.

Grisbrooke, J. & Pearce, J. (1999) Moving and handling education for student occupational therapists and physiotherapists. British Journal of Therapy and Rehabilitation. 6(5), 233-238.

Grundy, S. (1982) Three Modes of Action Research. In Kemmis, S. & McTaggart, R. (Eds). (1988) The Action Research Reader (3rd Ed.). Geelong: Deakin University Press.

Grundy, S. (1987) Curriculum: product or praxis? Lewes: Falmer Press.

Guba, E.G. & Lincoln, Y.S. (1989) Fourth generation evaluation. Newbury Park, CA: Sage.

Guba, E.G. & Lincoln, Y.S. (1990) Judging the quality of case study reports. Qualitative Studies in Education, 3(1), 53-59.

Guba, E.G. & Lincoln, Y.S. (1994) Competing Paradigms in Qualitative Research. In Denzin, N.K. & Lincoln, Y.S. (Eds.). Handbook of Qualitative Research. Thousand Oaks, CA: Sage.

Guerts, M. & Whitlark, D. (1994) A little inducement goes a long way. Marketing Research. 6, 12-15.

Guilliland, K. (2001) Interdisciplinary undergraduate education: the tyranny of the majority over the minority? Wellington, New Zealand: Australian and New Zealand Association for Medical Education.

Gustafson, D., Sainfort, F., Eichler, M., Adams, L., Bisognano, M. & Steudel, H. (2003) Developing and testing a model to predict outcomes of organizational change. Health Services Research. 38, 751-776.

Gutek, G.L. (1997) Education, history of. Microsoft Encarta 98 Encyclopaedia USA: Microsoft corporation.

Halsey, J.F. & Leslie, B.W. (2003) Britain's White Paper turns higher education away from the EU. <u>Higher Education Digest</u>. 47, 1-3.

Hall, P. (2005) Interprofessional teamwork: Professional cultures as barriers. <u>Journal of Interprofessional Care, Suppl</u>. 1, 188-196.

Hammel, J., Brasic Royeen, C., Bagatell, N., Chandler, B., Jensen, G., Loveland, J. & Stone, G. (1999) Student perspectives on problem-based learning in an occupational therapy curriculum: a multiyear qualitative evaluation. <u>The American Journal of Occupational Therapy</u>. 53(2), 199-206.

Hammick, M. (2000) Interprofessional education: evidence from the past to guide the future. <u>Medical Teacher</u>. 22, 461–7.

Harris, L.M. & Viney, R.C. (2003) Health science curriculum reform: a framework for evaluation. <u>Assessment & Evaluation in Higher Education</u>. 28(4), 411-422.

Harrison, M.A. (1987) Founders Lecture-Conspectives, <u>Physiotherapy</u>, 73(12), 640-647.

Hart, E. & Bond, M. (1995) <u>Action Research for Health and Social Care: a guide to practice</u>. Buckingham: Open University Press.

Harvard University (2004) <u>http://www.hup.harvard.edu/catalog/ELSMED.html</u> Accessed on 07/01/04.

Harvey, L. (1990) <u>Critical Social Research</u>. London: Unwin Hyman.

Harvey, L. & Green, D. (1993) 'Defining quality', <u>Assessment and Evaluation in Higher Education</u>. 18(1), 9–34.

Headrick, LA. (2000) Learning to improve complex systems of care. Collaborative education to ensure patient safety. Report to US Department of Health and Human Services and Congress. Washington, DC: Health Resources and Services Administration, 77–88.

Health Care Professions Act (2002) www.gov.mt Accessed on 27/03/2003.

Health in Malta (2003) www.gov.mt Accessed on 27/03/2003.

Heathcote, G., Kempa, R. and Roberts, I. (1996) Further Education Curriculum Review and Development. Department of Education - University of Keele, Keele.

Helsby, G. & McCulloch, G. (1997) Teachers and the National Curriculum. London: Cassell.

Henry, N.J. (1985) Using feedback and evaluation effectively in clinical supervision. Physical Therapy. 85(3): 354-357.

Herbert, C.P. (2005) Changing the culture: interprofessional education for collaborative patient-centred practice in Canada. Journal for Interprofessional Care. 1, 1-4.

Herron-Marx, S., Williams, A. & Hicks, C. (2006) A Q Methodology Study of women's experience of enduring postnatal perineal and pelvic floor morbidity. Midwifery, November 22:17126457.

Hertz, R. & Imber, J.B. (1995) Studying elites using qualitative methods. Beverly Hills: Sage Publications.

Hewitt, P. (2002) UK Labour Market: The Work Foundation. http://www.dti.gov.uk/ministers/archived/hewitt290502.html Accessed on 15/12/03.

Higgs, J. (2001) Charting stand-points in qualitative research. In Byrne-Armstrong, H., Higgs, J. & Horsfall, D. (Eds.). Critical moments in qualitative research. Oxford, UK: Butterworth Heinemann.

Higgs, J., Hunt A., Higgs, C. & Neubauer, D. (1999) Physiotherapy education in the changing international healthcare and educational contexts. Advances in Physiotherapy Education. 1(1), 17-26.

Hiemstra, R. & Sisco, B. (1990) Individualizing instruction: Making learning personal, empowering, and successful. Jossey-Bass: San Francisco

Hilton, R.W., Morris, D.J., & Wright, A.M. (1995) Learning to work in the health care team, Journal of Interprofessional Care. 9(3), 267-274.

Hind, M., Norman, I., Cooper, S., Gill, E., Hilton, R., Judd, P. & Jones, S.C. (2003) Interprofessional perceptions of health care students. Journal of Interprofessional Care. 17(1), 21-34.

Holter, I.M. & Schwartz-Barcott, D. (1993) Action Research: what is it? How has it been used and how can it be used in nursing? Journal of Advanced Nursing. 128, 298-304.

Horsfall, D., Byrne-Armstrong, H. & Higgs, J. (2001) Researching critical moments in Byrne-Armstrong, H. Higgs, J. & Horsfall, D. (Eds.). Critical moments in qualitative research. Oxford, UK: Butterworth Heinemann.

Hough, M. (1997) Paradox: A way of explaining in a post-industrial society. Hot Topics, 1 (March).

Hudson, B. (2005) Information sharing and children's services reform in England: Can legislation change practice? Journal of Inter-professional Care 19(6), 537-546.

Hunt, A., Adamson, B., Higgs, J. & Harris, L. (1998) University Education and the Physiotherapy Professional, <u>Physiotherapy</u>, 84(6), 264-273.

Imperial College Health Centre (2005) <u>www.ic.ac.uk/healthcentre/exam.htm</u> Accessed on 21/02/05.

Institute of Health Care (1993) Letter re: Examining Board. Institute of Health Care, University of Malta, Msida. Dated 05/01/1993.

Institute of Health Care (1995) Education Act, University of Malta, Msida.

Institute of Health Care (1996) Minute 18/6-96. Meeting of the Institute of Health Care Board, Institute of Health Care,, Msida.

Institute of Health Care (1997) Minute 7/01-97. Meeting of the Institute of Health Care Board, Institute of Health Care, University of Malta, Msida.

Institute of Health Care (2002) Minute 7/03-02. Meeting of the Institute of Health Care Board, Institute of Health Care, University of Malta, Msida.

Institute of Health Care (2006) Minute 57/05-06. Meeting of the Institute of Health Care Board, Institute of Health Care, University of Malta, Msida.

Interdisciplinary Professional Education Collaborative (1999) <u>Guidelines to accelerate teaching and learning about the improvement of health care. Results from community-based quality improvement education for the health professions, a project of the health resources and services administration/bureau of health professions.</u> Report to Health Resources and Services Administration.

Irzik, G. (2001) Back to Basics: A Philosophical Critique of Constructivism, <u>Studies in Philosophy and Education</u>, 20(2), 157-175.

Izzo, J. (1975) Letter DA 247/74/PO re: Director of Information. Dated 17/10/1975.

Jaccarini, G. (2003) Course Co-ordinator, Nursing/Midwifery Division. Personal Communication.

Jacobs, H.H. (1989) Interdisciplinary Curriculum: Design and Implementation. Alexandria, VA: Association for Supervision and Curriculum Development.

Jarvis, P. (1987) 'Malcolm Knowles' in Jarvis, P. (Ed.). Twentieth Century Thinkers in Adult Education, London: Croom Helm.

Jarvis, P. (1987) Adult Learning in the Social Conrext. Croom Helm, Beckenham.

Jarvis, P. (2002) The Theory and Practice of Teaching, London: Kogan Page.

Johns C. (1995) Framing learning through reflection within Carper's fundamental ways of knowing in nursing. Journal of Advanced Nursing. 22, 226-234.

Kelle, U. & Erzberger, C. (1999) Integration qualitativer und quantitativer Methoden: methodologische Modelle und ihre Bedeutung fur die Forschungspraxis. Koelner Zeitschrift fur Soziologie und Sozialpsychologie. 51, 509-531.

Kember, D. & Wong, A. (2000) Implications for evaluation from a study of students' perceptions of good and poor teaching. Higher Education. 40, 69-97.

Kemmis, S. (2001) "Educational research and evaluation: opening communicative space", Australian Educational Researcher. 28(1), 1-30.

Kemmis, S. & McTaggert, R. (1990) The Action Research Planner. Geelong: Deakin University Press.

Kenny, D. & Adamson, B. (1992) Medicine and the health professions: issues of dominance, autonomy and authority. <u>Australian Health Review</u>. 15(3), 319-334.

Kerr, J.F. (1968) <u>The problem of curriculum reform</u>, University of London Press, London.

Kezar, A.J. (2000) Higher Education Trends (1997-1999) Education Resources Information Centre, US Department of Education.

Kezar, A. & Eckel, P. (2000) <u>Moving Beyond the Gap Between Research and Practice in Higher Education</u>. New York: Jossey-Bass.

Kidd, E. (2003) Letter dated 7th April 2003: International Recruitment Section, Department of Health, UK.

King, N. (2004) "Template analysis", in Cassell, C.M., Symon, G. (Eds),<u>Essential Guide to Qualitative Methods in Organizational Research</u>, Sage Publications, London.

King, G., Keohane, R. O., Verba, S. (1994). <u>Designing social inquiry: Scientific inference in qualitative research</u>. Princeton, NJ: Princeton University Press.

Kingston University & St. George's Hospital Medical School (2004) <u>http://www.kingston.ac.uk/search/a-z.htm</u> Accessed on 10/11/04.

Kirk, J. & Miller, M.L. (1986) Reliability and validity in qualitative research. Sage Publications: Beverly Hills, CA.

Kitzinger, C. (1987) <u>The Social Construction of Lesbianism</u>. Sage, Bristol.

Klassen, L.E., Grzybowski, W.E. & Rosser, B.W.C. (2001) Trends in Physical Therapy Research and Scholarly Activity. <u>Physiotherapy Canada</u>, 40-47.

Knowles, M. (1975) Self-Directed Learning. Chicago: Follet.

Knowles, M. (1987) in Jarvis, P. (Ed.). Twentieth Century Thinkers in Adult Education, London: Croom Helm.

Koch, T. (1994) Establishing rigour in qualitative research: The decision trail. Journal of Advanced Nursing. 19, 976-986.

Kolb, D. (1984) Experiential Learning. Experience as the Source of Learning and Development. Englewood Cliffs, New Jersey: Prentice-Hall.

Kreuger R.A. (1994) Focus groups: a practical guide for applied research. Sage: London.

Kvale, S. (1996) Inter Views: An introduction to qualitative research interviewing. Thousand Oaks, CA: Sage.

Lahey, W. & Currie, R. (2004) Regulatory and Medico-Legal Barriers to Interdisciplinary Practice. Ottawa: Health Canada.

Larin, H., Wessel, J. & Al-Shamlan, A. (2005) Reflections of physiotherapy students in the United Arab Emirates during their clinical placements: A qualitative study. http://www.biomedcentral.com/1472-6920/5/3/prepub Accessed 12/05/08.

Larkin, G.V. (1983) Occupational Monopoly and Modern Medicine, London: Tavistock.

Larson, E.L. (1985) New rules for the game: Interdisciplinary education for health professionals, Nursing Outlook. 43(4), 181-185.

Lather, P. (1986) Research as Praxis. Harvard Educational Review. 56(3), 257-277.

Lauri, J. (2000) EU entry could trigger rise in foreign-student numbers. Times of Malta. Dated 20/10/2000.

Leathard, A. (2003) Interprofessional collaboration: From policy to practice in health and social care. New York, NY: Brunner-Routledge.

Leathwood, C. & Phillips, D. (2000) Developing curriculum evaluation research in higher education: Process, politics and practicalities. Higher Education. 40, 313-330.

Le Deist, F.D. & Winterton, J. (2005) What is competence? Human Resource Development International. 8(1), 27-46.

Leder, D. & McGuinness, I. (1996) Making the paradigm shift: Service Learning in higher education. Metropolitan Universities: An International Forum. 7(1), 47-56.

Leininger, M. (1985) Ethnography and ethnonursing: Models and modes of qualitative data analysis. In Leininger, M. (Ed.). Qualitative research methods in nursing. Grune & Stratton: Orlando, FL

Leighton, R.D. & Sheldon, M.R. (1997) Model for teaching clinical decision making in a physical therapy professional curriculum. Journal of Physical Therapy Education. 11(2), 23-30.

Leininger, M. (1985) Ethnography and ethnonursing: Models and modes of qualitative data analysis. In Leininger, M. (Ed.). Qualitative research methods in nursing. Orlando, FL.

Leininger, M. (1994) Evaluation criteria and critique of qualitative research studies. In Morse, J. (Ed.). Critical issues in qualitative research methods. Thousand Oaks, CA: Sage.

Lewin, K. (1946) Action Research and Minority Problems. <u>Journal of Social Issues</u> (2).

Lewy, A. (1997) <u>Handbook of curriculum evaluation</u>. UNESCO, Paris.

Lieb, S. (1991) Principles of adult learning. <u>http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adults-2.htm</u>. Accessed on 27/02/06.

Lieb, S. (1999) <u>Principles of Adult Learning</u>, Honololu, Community College.

Lincoln, Y.S. & Guba, E.G. (1985) <u>Naturalistic Inquiry</u>. Beverly hills, CA: Sage.

Lincoln, Y.S. & Guba, E.G. (1986) But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. <u>New Directions for Programme Evaluation</u>. 30, 73-84.

Lindsey, L. (2000) Information access for the new millennium: publishers and portals. <u>J.R.Coll.Surg.Edinb</u>. 60-61.

Lindquist. S, Duncan, A., Shepstone, L., Watts. F. & Pearce. S. (2005) Case-based learning in cross-professional groups: the design, implementation and evaluation of a pre-registration interprofessional learning programme. <u>Journal of Interprofessional Care</u> 19(5), 509-520.

Lindquist, I. (2007) Karolinska Institute, Sweden. External examiners report, IHC, Malta.

Lindquist, I., Margareta, M., & Richardson, B. (2004) Learning in Health and Social Care, 3 (1), 17-25.

Liston, C. & Docking, R. (1985) Some strategies for conflict resolution physiotherapy/occupational therapy liaison. <u>Physiotherapy Practice</u>, 1(2), 93-98.

Lloyd, M. A., Kennedy, J. H., & Dewey, R.A. (1997) Suggested courses to develop skills that prospective employers want. http://www.psywww.com/careers/suggest.htm Accessed on 17/01/06.

Lockwood, R. (1996) Giving students a choice: learning through preferred instructional methods www.csd.uwa.edu.au/excellence/lockwood.htm. Accessed on 17/12/03.

Lofthouse, M. (1995) Managing the curriculum. Pitman Publishing, UK.

Lorenzo De, R.A. & Abbott, C. (2004) Academic Emergency Medicine (11)1, 33-37.

Lungaro-Mifsud, S. (2003) Lecturer, Physiotherapy Division. Personal Communication.

Lungaro-Mifsud, S. (2006) Lecturer, Physiotherapy Division. Personal Communication.

Lyotard, J.F. (1984) The post-modern condition: A report on knowledge. Manchester: Manchester University Press, UK.

Maasen, S. and Weingart, P. (2005) Democratization of expertise? Exploring novel forms of scientific advice in political decision-making, Sociology of the sciences 24, Springer, Dordrecht.

Macdonald, R. (2001) Problem-based Learning: Implications for Educational Developers, Educational Developments (SEDA), Birmingham, UK.

Macdonald, R. (2001) Personal communication

Maclellan, E. (2004) How convincing is alternative assessment for use in higher education? Assessment & Evaluation in Higher Education, (29)3, 312-319.

MacLeod, D. (2002) Higher education crucial to UK economy. www.EducationGuardian.co.uk/higher/columnist/story/0,9826,739619,00.html Accessed on 08/12/03.

Magnet (2001) Report: Malta's Application for Membership, www.magnet.mt/home/mfa/eufold/euro2.htm (Official website of the Maltese Government). Accessed on 08/12/03.

Mahrer, A.R. (1988) Discovery-oriented psychotherapy research. American Psychologist. 43(9), 694-702.

Malta Government Gazette (1975) Applications for Admission to the course of Training in Physiotherapy, Malta Government Gazette. Dated 21/10/1975.

Malta Government Gazette (1985) Applications for Admission to the Course of Training in Physiotherapy, Malta Government Gazette. Dated 17/09/1985.

Malta Government Gazette (1989) Applications for Admission to the Course of Training in Physiotherapy, Malta Government Gazette. Dated 21/07/1989.

Mangena, A. & Chabeli, M. (2005) Strategies to overcome obstacles in the facilitation of critical thinking in nursing education, Nurse Education Today (25), 291 – 298.

Manstead, A.S.R. and Semin, G.R. (2001) Methodology in social psychology: tools to test theories. In Hewstone, M. and Stroebe, W. (eds), Introduction to Social Psychology, 3rd edn. Blackwell, Oxford, pp. 81–122.

Marcoux, K. & Pinkston, D. (1984) Clinical experience and cognition of a Physical Therapy Procedure. Physical Therapy. 54(10), 1545-1548.

Marcus, G. (1994) What comes just after 'post'? The case of ethnography, in Denzin and Lincoln (eds), <u>Handbook of Qualitative Research</u>. California: Sage.

Maron, F. & Saljo, R. (1976) On qualitative differences in learning: Outcome and process. <u>British Journal of Educational Psychology</u>, (46), 4-11.

Marshall, J & Reason, P. (1994) Adult Learning in Collaborative Action Research: reflections on the supervision process, Studies in Continuing Education: Research and Scholarship, <u>Adult Education</u> 15(2), 117-132.

Marshall, C. & Gretchen, B. (1995) <u>Designing Qualitative Research</u>, Rossman Sage Publications, London.

Martin, E. (1997) <u>The Effectiveness of Different Models of Work-based University Education</u>: Australian Government Publishing Service.

Marton, F. (1981) Phenomenography-Describing conceptions of the world around us. <u>Instructional Science</u>. (10), 177-200.

Marton, F. & Säljö, R. (1976) On qualitative differences in learning. I-Outcome and process. <u>British Journal of Educational Psychology</u>, (46), 4-11.

Masters, J. (1995) <u>The History of Action Research</u>. Action Research Electronic Reader. Paper posted on AROW @cchs.usyd.edu.au

Maykut, P. and Morehouse, R. (1994) <u>Beginning qualitative research: A philosophic and practical guide</u>. London: The Falmer Press.

Mays, N. and Pope, N. (1995) Rigour and qualitative research. <u>British Medical Journal</u>. 311, 109–112.

Mayring, P. (2001) Combination and Integration of Qualitative and Quantitative Analysis. Forum: Quantitative Social Research. 2(1).

McCoy, P. (1990) Challenges facing physiotherapy educators, Physiotherapy. 77(3), 181-182.

McCready, K.F. (2000) The Medical Metaphor: A Better Model? Health Education Alliance for Life and Longevity. San Joaquin, USA.

McCutcheon, G. & Jung, B. (1990) Alternative Perspectives on Action Reseach. Theory into Practice. (24).

McDowell, L. & Mowl, G. (1996) Innovative assessment - its impact on students, in Gibbs, G. (Ed.). Improving student learning through assessment and evaluation, Oxford: The Oxford Centre for Staff Development.

McIver, J.P. and Carmines, E.G. (1981) Uni-dimensional Scaling. Sage, Newbury Park, CA.

McKenzie, T. & Higgs, J. (2005) Learning meaning making in occupation-based university education. In Dean's Research Seminars: Delivering Better Health Care, May 11, Faculty of Health Sciences, The University of Sydney.

McKernan, J. (1991) Curriculum Action Research. London: Kogan Page.

McLaren, P. (2003) Life In Schools. New York, NY: Allyn and Bacon

McTaggart, R. (1994) Participatory action research: Issues in theory and practice. Educational Action Research. 2(3), 313-337.

Meloche, J.A. (1999) Q Methodology as a Research Methodology for Human Computer Interaction. School of Information Studies; Charles Sturt University,

Mercer, S.R., Galvin, K.A. & Jones, D.G. (2002) Academic Freedom in Physiotherapy Teaching. Physiotherapy. 88(5), 303-7.

Meyer, J.H.F. (2000) The modelling of dissonant study orchestrations in higher education. European Journal of Psychology of Education. (15), 5-18.

Meyer, J.H.F. & Muller, M.W. (1990) Evaluating the quality of student learning - An unfolding analysis of the association between perceptions of learning context and approaches to studying at an individual level. Studies in Higher Education. 15, 131-154.

Mezirow, J. (1991) Transformative Dimensions of Adult Learning. San Francisco: Jossey Bass.

Micallef, J. & Restall, B. (2002) The Innovation Scoreboard for Malta. Malta Council for Science and Technology.

Mifsud, R. (2003) Course Coordinator, Occupational Therapy. Personal communication.

Miles, M.B. & Huberman, A.M. (1994) Qualitative Data Analysis: An Expanded Sourcebook. Thousand Oaks, CA: Sage.
Miller, G. & Miller, G. (2004) Learning the Language of Addiction Counseling, J. Wiley and Sons,
Ministry of Education (1999) Creating the Future Together, National Minimum Curriculum. Ministry of Education, Malta.

Ministry of Education (2000) Recognising the Challenges, Ministry of Education, Malta.

Ministry of Education (2000) 'Creating the future together' Policy Document p.14 www.education.gov.mt/ministry/doc/pdf/Curriculum%20English.pdf Accessed on 23/05/04.

M.N.C.R. (2003) Malta National Cancer Registry. Official website Malta Health Division. www.gov.mt Accessed on 27/02/03.

Moffat, M. (1994) Will the legacy of our past provide us with a legacy for the future? Physical Therapy. (74), 1063-1070.

Montgomery, D. (1994) Critical theory and practice in evaluation and assessment: enhancing quality while using evaluation and assessment to improve thinking and learning skills in higher education, in Gibbs, G. (Ed.) Improving Student Learning through Assessment and Evaluation. (The Oxford Centre for Staff Development).

Moore, M.G. (1973) Toward a Theory of Independent Learning and Teaching; The Journal of Higher Education. 44(9), 661-679.

Moore, R. & Ozga, J. (1991) Curriculum Policy: Pergamo Press, Oxford.

Morley, D. (1991) Resource Analysis as Action Research. Resource Analysis Research in Developing Countries. Toronto: York University.

Morris, L.V. & Parker, S. (1996) Multiculturalism in academe: a source book. Source Books on Education. (47).

Morris, J. (2003) How strong is the case for the adoption of Problem-Based Learning in physiotherapy education in the United Kingdom? Med-Teach. 2003 January. (1), 24-31.

Morris, J. (1993) An overview of and comparison among three current approaches to medical and physiotherapy undergraduate education. Physiotherapy. (79), 91-94.

Morrison, K. (1996) Developing reflective practice in higher degree students through a learning journal. Studies in Higher education. 21(3), 317-332.

Morse, J. (1991). Approaches to Qualitative-Quantitative Methodological Triangulation. Nursing Research, 40(1), 120.

Mowthorpe, D.J. (1999) The Development of Autonomous Learners. Learning and Teaching Institute, Sheffield Hallam University, UK.

Murray, L.A. (1998) Health Expenditure for Medicare Beneficiaries. Health Care Financing Review, (21), 2.

Muscat, M. (2003) Manager, Physiotherapy Services. Personal communication.

Muscat, M. (2004) Manager, Physiotherapy Services. Personal communication.

Muscat, M. (2007) Manager, Physiotherapy Services. Personal communication.

Neuman, L. (2003) Social Research Methods. Boston: Pearson Education, Inc.

Newman, J. M. (2000) Action research: A brief overview [14 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research [On-line Journal], 1(1). Available at: http://www.qualitative-research.net/fqs-texte/1-00/1-00newman-e.htm Accessed on 28/06/07.

Norman, J. & Wheeler, B. (1996) Gender-sensitive social work practice: a model for education. Journal of Social Work Education. (32)2, 203-213.

Norris, B.D. (2001) Transformation, diversity and organisational change within institutions of higher education. South African Journal of Education. (21), 219-222.

NSO (2002) National Statistics Office. www.gov.mt Accessed on 25/02/03.

Oandasan, I., D'Amour, D., Zwarenstein, M., Barker, K., Purden, M., Beaulieu, M., Reeves, S., Nasmith, L., Bosco, C., Ginsburg, L. & Tregunno, D. (2004) Interdisciplinary Education for Collaborative, Patient-Centred Practice. Ottawa: Health Canada.

Oandasan, I. & Reeves, S. (2005) Key elements for interprofessional education. Part 1: The learner, the educator and the learning context. Journal of Interprofessional Care. Suppl 1, 21-38.

O'Brien, R. (2001). Um exame da abordagem metodológica da pesquisa ação [An Overview of the Methodological Approach of Action Research]. In Roberto Richardson (Ed.), Teoria e Prática da Pesquisa Ação [Theory and Practice of Action Research].

Organisation for Economic Co-operation and Development (1995) Education at a Glance. OECD Indicators.

Office of the Prime Minister (1973) O.P.M./747/73. Project Mat/73/014. Dated 11/10/1973.

Oliver, R. (2001) Assuring the Quality of Learning in Australian Higher Education. In Wallace, M., Ellis, A. & Newton, D. (Eds.). Proceedings of Moving Online II Conference. Lismore: Southern Cross University.

Oppenheim, A.N. (1992) Questionnaire Design, Interviewing and Attitude Measurement. Continuum, London.

Oxford Interactive Encyclopaedia (2000) Mindscape (The Learning Company), England.

Oxford University (2004) http://www.admissions.ox.ac.uk/courses/maco.shtml. Accessed on 07/01/04.

Page, R.N. (1997) <u>International Journal of Qualitative Studies in Education</u>. <u>10(2)</u>, 171-174.

Palmquist, M., Carley, K.M. & Dale, T.A. (1997) Applications of Computer-Aided Text Analysis: Analyzing Literary and Nonliterary Texts. in <u>Text Analysis for the Social Sciences</u>, Lawrence Erlbaum, Mahwah: NJ.

Papo, W.D. (2002) Higher Education: leading edge efforts to improve teaching and learning? <u>Edutech, Newsletter of Technikon Pretoria</u>, (13), 1-3.

Parry, A. (2000) Thesis Supervisor. Personal communication.

Parry, A. (2001) <u>A new profession?</u> Professorial lecture, Sheffield Hallam University.

Parsell, G. & Bligh, J. (1998) Interprofessional Learning. <u>Postgraduate Medical Journal</u>. 74, 89-95.

Parsell, G. & Bligh, J. (1999) The development of a questionnaire to assess the readiness of health care learners for interprofessional learning (RIPLS). <u>Medical Education</u>. 33, 95-100.

Patton, M.Q. (1990) <u>Qualitative Evaluation and Research Methods</u> (2nd Ed.). Sage Publications, Newbury Park, CA.

Patton, M. (2002) <u>Qualitative research & evaluation methods</u> (3rd Ed.). Thousand Oaks, CA: Sage.

Payton, O.D. (1994) <u>Research: The Validation of Clinical Experience</u>. Philadelphia, FA Davis.

Pelletier, D., Donoghue, J., Duffield, C., Adarns, A. & Brown, D. (1998) Why undertake higher degrees in nursing? <u>Journal of Nursing Education</u>. 37(9), 422-424.

Peritore, P.N. (1989) Brazilian party left opinion: a Q-methodology profile. <u>Political Psychology</u>. 10, 675–702.

Peters, O. (2002) <u>Distance education in transition: New trends and challenges</u>. Oldenburg, Germany

Peterson, R.A. (2000) Constructing Effective Questionnaires. Sage Publications, Thousand Oaks: CA.

Phillips, D.C. (1990) Subjectivity and objectivity: An objective inquiry. In Eisner and Peshkin (Eds.). <u>Qualitative inquiry in education: The continuing debate</u>. Teachers College Press: New York.

Philips, B.U. (1986) The academic co-ordinator of clinical education in physical therapy education: A survey. <u>Physical Therapy</u>. 66(6), 981-985.

Physiotherapy Board of Studies (2002) Report by Principal Physiotherapists Re: IVth Year Students and Junior members of Staff. Meeting of the Physiotherapy Board of Studies, Institute of Health Care, Msida.

Physiotherapy Board of Studies (2003) Minute 23-03. Meeting of the Physiotherapy Board of Studies, Institute of Health Care, Msida.

Physiotherapy Board of Studies (2003) Minute 45-03. Meeting of the Physiotherapy Board of Studies, (Student feedback forms), Institute of Health Care, Msida.

Physiotherapy Board of Studies (2004) Minute 11-04. Meeting of the Physiotherapy Board of Studies, Institute of Health Care, Msida.

Pinkston, D. (1989) Evolution of the Practice of Physical Therapy in the United States. In Scully, R.M. & Barnes, M.R. Physical Therapy, Philadelphia: J.B. Lippincott.

Pinto, J.K. (1993) The politics of GIS implementation. Paper presented at 31st Annual Conference or Urban and Regional Information Systems Association July, 25-29. Atlanta, Georgia.

Pong, W.W. (1998) History of Singapore Physiotherapy Association, Singapore.

Ponzer, S., Hylin, U., Kusoffsky, A., Lauffs, M., Lonka, K. & Mattiasson, A. C. (2004) Inter-professional training in the context of clinical practice: goals and students' perceptions on clinical education wards. Medical Education. 38(7), 727-736.

Pope, C. & Mays, N. (1995) Qualitative research: reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. British Medical Journal. 311, 42–45.

Popkewitz, T. (1990) Whose future? Whose past? In Guba, E.G. (Ed.). The Paradigm Dialogue. Newbury Park: Sage.

Poplin, M.S. (1988) Holistic/constructivist principles of the teaching/learning process: implications for the field of learning disabilities. Journal of Learning Disabilities. 93-106.

Porter, T.M. (1994) Information, Power and the View From Nowhere in: Information Acumen: The Understanding and Use of Knowledge in Modern Business ed: L. Bud-Frierman.

Prasad, R.S. (2001) Development of the HIV/AIDS Q-sort instrument to measure physician attitudes [Clinical Research Methods]. <u>Family Medicine</u>, November/December, 772–778.

Pringle, D.L., Evitt, C., Orsburg, M., Ilson, R. & Whittaker, M. (2000) Interdisciplinary collaboration and primary health care reform. <u>Canadian Family Physician</u>. 46, 763–765.

Proctor, M. (2001) Measuring attitudes. In Gilbert, N. (ed.), <u>Researching Social Life</u>, 2nd edn. Sage, London, 105–122.

Prosser, M. & Trigwell, K. (1998) <u>Teaching for learning in higher education</u>. Buckingham: Open University Press.

Prosser, M. & Trigwell, K. (1999) <u>Understanding Learning and Teaching: The experience in Higher Education</u>. Buckingham: Open University Press.

Racine, W.I. (1993) Wingspread Group on Higher Education. <u>An American Imperative: Higher Expectations for Higher Education</u>, p.1.

Radloff, A & de la Harpe, B. (1999) Characteristics of self directed learners in the context of the Self Directed Learning Project. Self Directed Learning Workshop, Curtin University of Technology.

Ragan, L.C. (1999) <u>Distance Education Online Symposium</u>, Pennsylvania State University.

Ralph-Smith, M.P. (1978) Letter to Principal Medical Officer, Department of Health. Dated 21/02/1978.

Ramsden, P. (1992) <u>Learning to Teach in Higher Education</u>. London: Routledge.

Reason, P. (1988) <u>Human inquiry in action: Developments in new paradigm research</u>. Newbury Park: Sage.

Reason, P. (2001) Learning and Change through action research. In J. Henry (Ed.). <u>Creative Management</u>. London: Sage.

Rettinger, L.A. (1995) Desktop Videoconferencing: Technology and Use for Remote Seminar Delivery.
<u>www.ncsu.edu/eos/service/ece/project/succeed_info/larettin/thesis/abs.htm</u>
Accessed 17/12/03.

Richardson, B. (1999) Professional Development: Professional knowledge and situated learning in the workplace. <u>Physiotherapy</u>. (85)9, 467-474.

Richardson, J.T.E., & King, E. (1991) Gender differences in the experience of higher education: Quantitative and qualitative approaches. <u>Educational Psychology</u>. 11, 363-382.

Rice, P. & Ezzy, D. (1999) <u>Qualitative research methods: A health focus</u>. Melbourne, Australia: Oxford University Press.

Risdon, A., Eccleston, C., Crombez, G., & McCracken, G. (2003) How can we learn to live with pain? A Q-methodological analysis of the diverse understandings of acceptance of chronic pain. Social Science and Medicine. 56: 375-386.

Rizzo Naudi, J. (2003) Chancellor, University of Malta. Personal communication.

Rizzo Naudi, J. (2005) Chancellor, University of Malta. Personal communication.

Robinson, P. (1997) Information for the professions allied to medicine. The Nursing Specialist Group, <u>The Informed Touch Series</u>, Volume 1, ISSN.

Rogers, A. (2003) What is the difference? A new critique of adult learning and teaching, Leicester: NIACE.

Rotheray, M. (1993) The Positivistic Research Approach. In Grinnell, R. (Ed.). Social Work Research and Evaluation, New York: F.E. Peacock.

Rothstein, J.M. (1998) Education at the Crossroads: For Today's Practice, the DPT. Physical Therapy. (78)4, 358-360.

Rothstein, J.M. (1998) Education at the Crossroads: Which Paths for the DPT? Physical Therapy. (78)5, 454-457.

Royal College of Physicians (2005) www.rcplondon.ac.uk/pubs/books/docinsoc/docinsoc.pdf+Doctors+in+Society. Accessed on 22/07/07.

Rubin, A. & Babbie, E. (1997) Research Methods for Social Work. Wadsworth Press. Belmont, California.

Rugg, G. & McGeorge, P. (1997) The sorting technique: a tutorial paper on card sorts, picture sorts, and item sorts. Expert Systems, 14, 80-93.

Russell, I.J., Hendricson, W.D. & Herbert, R.J. (1984) Effects of lecture information density on medical student achievement. Journal of Medical Education. 59, 881-889.

Rust, C. & Gibbs, G. (1997) Improving Student Learning through Course Design. Oxford: Oxford Centre for Staff Development.

Rust, C. (1998) Improving Student Learning - Improving Students as Learners. Oxford: The Oxford Centre for Staff and Learning Development.

Rust, C. (1999) Improving Student Learning: Improving Student Learning Outcomes. Oxford: Oxford Centre for Staff Development

Rust, C. (2002) The Impact of Assessment on Student Learning. <u>Active Learning in Higher Education</u>. (3), 145-158.

Ryan, G., Toohey, S. & Hughes, C. (1996) The purpose, value and structure of the practicum in higher education: a literature review. <u>Higher Education</u> 31, 355-377.

Saarinen-Rahiikda, H. & Binkley, J.M. (1998) Problem-based Learning in Physical Therapy: A Review of the Literature and Overview of the McMaster University Experience, <u>Physical Therapy</u>. (78)2, 195-206.

Sacco, M. (1985) <u>Malta School of Physiotherapy: Syllabus</u>. Department of Health, Malta.

Sacco, M. (1999) Unpublished thesis. <u>The History of Physiotherapy Education in Malta: An Empirical Study</u>. Loughborough University, England.

Sacco, M. (2004) Unpublished PhD data. <u>Modernising the Maltese Physiotherapy Curriculum: An Empirical Study</u>. Sheffield Hallam University, England.

Sant, A. (2000) <u>Times of Malta</u> 20th October, Malta.

Sarros, J.C. & Densten, I.L. (1989) Undergraduate student stress and coping strategies. <u>Higher Education Research and Development</u>. 8, 47-57.

Saunders, M. & Machell, J. (2000) Understanding emerging trends in higher education curricula and work connections. <u>Higher Education Policy</u>. New York: Pergamon Press. (13), 287-302.

Schenk, M. (1996) Environmental medicine content in medical school curricula. Academic Medicine. (71)5, 499-501.

Schön, D.A. (1991) The Reflective Turn: Case Studies In and On Educational Practice, New York: Teachers Press, Columbia University

Schmeck, R.R. (Ed.). (1988) Learning strategies and learning styles. New York: Plenum Press.

Schmidt, H.G. (1983) Problem-based learning: rationale and description. Medical Education. (17), 11-16.

Schmoll, B.J. & Darrell, R.E. (1990) Incorporating contemporary clinical practice into education: a curriculum model. Physiotherapy Theory and Practice. 6,193-201.

Schmolck, P. (2002) PQMethod Manual. http://www.rz.unibwmuenchen.de/p41bsmk/qmethod/pqmanual.htm Accessed on 11/01/08.

Schreier, M. & Fielding, N. (2001) Qualitative and Quantitative Research: Conjunctions and Divergences. Forum: Qualitative Social Research. 2(1). http://www.qualitative-research.net/fqs/fqs-e/inhalt1-01-e.htm Accessed on 15/10/01.

Schubert, W.H. & Schubert, A.L. (1990) Alternative paradigms in curriculum inquiry in Walberg, H.J. & Haertel, G.D. The international encyclopaedia of educational evaluation. New York: Pergamon Press.

Science, Engineering and Manufacturing Technologies Alliance (2003) Training Publications Ltd, PO Box 75, Stockport, Cheshire.

Scribner, S. & Sachs, P. (1990) A study of on-the-job training. New York: Institute on Education and the Economy, Teachers College, Columbia University.

Selander, M. (1990) Communication in Care: A Structural Framework Råstam et al. Eur J Public Health.1992; 2: 123-127.

Selfe, J. (2004) External Examiner, University of Central Lancashire. Personal communication.

Selfe, J. (2005) External examiners report, IHC, Malta.

Selfe, J. (2006) External examiners report, IHC, Malta.

Sell, D.K. & Brown, S.R. (1984) Q Methodology as a bridge between qualitative and quantitative research: application to the analysis of attitude change in foreign study program participants. In Vacca, J.L. and Johnson, H.A. (Eds.). Qualitative Research in Education (Graduate School of Education Monograph Series). Kent University, Kent, OH, 79–87.

Selltiz, C., Wrightsman, L.S. & Cook, S.W. (1976) Research Methods in Social Relations. Holt, Rinehart & Winston, New York.

Service User Involvement Strategy (2006) http://www.ycn.nhs.uk/ Accessed on 09/07/07.

Shank, G. (2001) It's Logical Practice, My Dear Watson: An Imaginary Memoir from Beyond the Grave. Forum: Qualitative Social Research (On-line Journal) 2(1). http://qualitative-research.net/fqs/fqs-eng.htm Accessed on 30/10/01.

Shaw, M. & Malik, A. & Cronshaw, S. (2000) Key Skills in Higher Education. The Central Lancashire Key Skills Contract. Department of Education and Employment.

Shepard, K.F. (1993) Questionnaire Design and Use in Research in Physical Therapy. J.B. Lippincott Company.

Shepard, K.F. & Jensen, G.M. (1990) Physical therapist curricula for the 1990s: Educating the reflective practitioner, Physical Therapy. 70(9), 566-577.

Shepard, K.F. & Jensen, G.M. (1997) Handbook of Teaching for Physical Therapists. Butterworth-Heinemann, USA.

Sheppard L. (1994) Public perception of physiotherapy: implications for marketing. Physiotherapy. 40(4), 265-271.

Shin, K.R. (1998) Critical thinking ability and clinical decision-making skills among senior nursing students in associate and baccalaureate programmes in Korea, Journal of Advanced Nursing. 27, 414-8.

Shkedi, A. (1998) Teacher's attitudes towards research: a challenge for qualitative researchers. International Journal of Qualitative Studies in Education II. 4, 559-577.

Silverman, D. (2000) Doing Qualitative Research. Sage Publications Ltd, London.

Simpson, R.L. & Simpson, I.H. (1969) "Women and Bureaucracy in the Semi-Professions," in Etzioni, A. (Ed.). The Semi-Professions and Their Organization. New York: Free Press.

Skilbeck, M. (1982) 'Three educational Ideologies' in Horton, T. and Raggat, P. (Eds.). Challenge and change in the curriculum. Hodder and Stoughton, Educational, Kent.

Slattery, P. (1995) Curriculum development in the postmodern era. New York: Garland Publishing.

Slavin, R.E. (1990) Cooperative Learning. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Smith, A. (1976) An Inquiry into the Nature and Causes of the Wealth of the Nations. Chicago: University of Chicago Press. (Original work published 1776).

Smith, N.W. (2001) Current systems in psychology: history, theory, research and applications. Belmont, California.

Smith, J. & Heshusius, L. (1986) Closing down the conversation: The end of the quantitative-qualitative debate among educational inquirers. Educational Researcher. 15, 4-12.

Snoek, M. & Swennen, A. (1999) Curriculum Innovation between Care and Courage. Paper presented at the 1998 ATEE (Association of Teacher Educators in Europe) Conference in Limerick. Ireland.

Solomon, P. (1994) Problem-based learning: a direction for physical therapy education? Physiotherapy Theory and Practice, (10), 45-52.

South Africa (Republic) (1997) White paper on transforming public service delivery (Batho Pele principles). Government Printers, Pretoria.

South African Qualification Authority (SAQA) (1997) Bulletin, The office of the executive officer, Pretoria.

Stabile, I. (2005) Dean of Faculty (Anatomy) Personal communication.

Staes, F.G.M., Stappaerts, K.H. & Myles, S. (2001) Physiotherapy programmes in Europe: a preliminary report. Advances in Physiotherapy. 3, 39-43.

Stainton Rogers, R. (1991) Explaining Health and Illness: An Exploration of Diversity. Harvester/Wheatsheaf, London.

Stainton Rogers, R. (1995) Q Methodology. In Smith, J.A., Harre, R. and Van Longenhove, I. (eds), Rethinking Methods in Psychology. Sage, London, 178-193.

Stainton Rogers, R., Stenner, P., Gleesen, K. & Stainton Rogers, W. (1995) Social Psychology: A critical Agenda. Polity Press, Cambridge.

Stake, R.E. (1978) The case study method in social inquiry. Educational Researcher. 7(2), 5-8.

Steelman, A. & Maguire, L.A. (1999) "Understanding Participant Perspective: Q-Methodology in National Forest Management," Journal of Policy Analysis and Management, 18 (1999): 361-388.

Steffe, L. & Gale, J. (1995) Constructivism in education. Hillsdale, NJ: Erlbaum.

Steinert, Y. (2004) Learning Together to Teach Together: Interdisciplinary learning and faculty development. Ottawa: Health Canada.

Stephenson,W. (1935) Correlating persons instead of tests. Character and Personality. 4:17-24.

Stewart, D.W. & Shamdasani, P.N. (1990) Focus Groups: Theory and practice. Newbury Park, CA: Sage.

Stewart, M.A.F. (1985) A question of education: Education for what? Physiotherapy. 71(2), 34-39.

Stivala, J.A. (2004) Registrar's Representative, I.H.C. Personal communication.

Stivala, J.A. (2005) Registrar's Representative, I.H.C. Personal communication.

Storey, L., Howard, J. & Gillies, A. (2002) Competency in Healthcare; a practical guide to competency frameworks. Radcliffe Medical Press.

Strachan, K. & Clarke, E. (2000) The Nursing Curriculum – How is it developed? Nurse Training Update. Issue 54. South Africa.

Stainton Rogers, R. (1995) Q Methodology. In Smith, J.A., Harre, R. and Van Longenhove, I. Rethinking Methods in Psychology. Sage, London, 178-193.

Strauss, A. & Corbin, J. (1998) Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (2nd Ed.). Thousand Oaks, CA: Sage.

Stringer, E. (1996) Action Research: a handbook for practitioners. Thousand Oaks: Sage publications.

Strommen, E. & Lincoln, B. (1992) Constructivism, technology, and the future of classroom learning. Education and Urban Society. 24(4), 468-469.

Strengthening Accountability Involving Patients and the Public (2003) Department of Health (U.K.) www.doh.gov.uk/involvingpatients/index.htm. Accessed on 10/07/07.

Struber, J.C. (2003) Physiotherapy in Australia - Where to Now? The Internet Journal of Allied Health Sciences and Practice. (1)2.

Sullivan, K.P. (2002) Credit and Grade Transfer within the European Union's Socrates Programme: Unity in diversity or head in the sand? Assessment & Evaluation in Higher Education. (27)1, 65-74.

Sultana, R. (1997) <u>Inside/Outside Schools</u>. PEG Publishers, Malta.

Sundberg, M.D. & Dini, M.L. (1993) Science majors vs. non-majors: Is there a difference? <u>Journal of College Science Teaching</u>. 299-304.

Taylor, I. & Le Riche, P. (2006) 'What do we know about partnership with service users and carers in social work education and how robust is the evidence base?' in <u>Health & Social Care in the Community</u>. 14(5), 418–425.

Taylor, S.J. & Bogdan, R. (1989) <u>Introduction to qualitative research methods: The search for meanings</u>. New York: John Wiley & Sons.

Teichler, U. (1999), 'Research on the relationships between higher education and the world of work: Past achievements, problems and new challenges', <u>Higher Education</u>, Vol 38, 169–190.

Terrenzini, E.T. & Pascarella, P.T. (1994) Living with myths: Undergraduate education in America. <u>Change</u> January/February 1994, 28-32.

The Malta Independent (2006) <u>http://www.independent.com.mt/mainpage.asp</u>. Accessed on 22/12/06.

The Sunday Times (2006) <u>http://www.timesofmalta.com/core/index.php</u>. Accessed on 12/02/2006.

Thomas, J.R. & Nelson, J.K. (1996) <u>Research Methods in Physical Activity</u>, Human Kinetics, U.S.A.

Thompson, C., Cullum, N., McCaughan, D., Sheldon, T., Thompson, D., Mulhall, A. (2001) "Nurses' use of research information in clinical decision making: a descriptive and analytical study", report presented to the NHS R&D Programme in Evaluating Methods to Promote the Implementation of R&D.

424

Thornton, E. (1994) 100 Years of Physiotherapy Education. Physiotherapy. 80(A), 11A-19A.

Thyer, B. (1989) First Principles of Practice Research. British Journal of Social Work 19(4).

Tight, M. (1996) Key Concepts in Adult Education and Training, London: Routledge.

Titchen, A.C. & Coles, C.R. (1991) Comparative study of physiotherapy students approaches to their study in subject-centred and problem based curricula. Physiotherapy Theory and Practice. 7, 127-133.

Torbert, R. W. (1981) 'Why is educational research so uneducational: the case for a new model of social science based on collaborative inquiry.' In: Human Inquiry: A sourcebook of new paradigm research, Reason P. & Rowan J. (Ed.). John Wiley & Sons Ltd.

Tough, A. (1993) Self-planned learning and major personal change, in Adult Learners, Education and Training: A Reader. Routledge and Open University Press, London.

Trento University (2004) http://eprints.biblio.unitn.it/view/subjects/QA063.html Accessed on 07/01/04.

Trigwell, K. & Prosser, M. (1991) Improving the quality of student learning: the influence of learning context and student approaches to learning on learning outcomes, Higher Education. (22), 251-266.

Trigwell, K., Prosser, M. & Waterhouse, F. (1999) Relations between teachers' approaches to teaching and students' approaches to learning. Higher Education. (37), 57-70.

Trigwell, K., Martin, E., Benjamin, J. & Prosser, M. (1999) <u>Scholarship of teaching: A model</u>, London: The Society for Research into Higher Education & Open University Press.

Tripp, D. (1995) Action Inquiry. <u>PARtoolbox@cornell.edu</u> Accessed on 25/10/06.

Trnobranski, P. (1997) Power and vested interests – tacit influences on the construction of nursing curricula. <u>Journal of Advanced Nursing</u>. (25), 1084-8.

Trochim, W.M.K. (2001) <u>http://trochim.cornell.edu/kb/interview.html Accessed on 29/10/01</u>.

Trochim, William M. K. (2001) <u>The Research Methods Knowledge Base</u>, Cincinnati: OH.

Tryssenaar, J. & Brett, L. (1996) Undergraduate interdisciplinary education: Are we educating for future practice? <u>Canadian Journal of Occupational Therapy</u>. 63(4), 245-251.

Turnbull, G. (1994) Educating tomorrow's colleagues: The physiotherapist in the university system. <u>Physiotherapy Canada</u>. 46, 9-14.

Turner, P. (2001) Evidence-based practice and physiotherapy in the 1990s. <u>Physiotherapy Theory and Practice</u>. 17, 107-121.

Twomey, L. (1990) A growing commitment to research and evaluation. <u>Australian Journal of Physiotherapy</u>. 36:83.

Tyler, R.W. (1949) <u>Basic principles of curriculum and Instruction</u>, Chicago: University of Chicago Press.

University of Birmingham (2000)
http://www.qaa.ac.uk/reviews/reports/subjectlevel/q241_00.pdf Accessed on 23/09/06.

University of Malta (1992) Admission Regulations 1992. University of Malta, Msida.

University of Malta (1996) University of Malta Academic Calendar 1995/1996. University of Malta, Msida.

University of Malta (1998) University of Malta Academic Calendar 1997/1998. University of Malta, Msida.

University of Malta (2000) Quality assurance Committee Report. University of Malta, Msida.

University of Malta (2002) Handbook: Regulations, Guidelines, Education Act. (4th Ed.). University of Malta, Msida.

University of Malta (2004) University of Malta Academic Calendar 2003-2004. University of Malta, Msida.

University of Malta (2006) University of Malta Academic Calendar 2005-2006. University of Malta, Msida.

University of Melbourne (2004)
http://www.artsit.unimelb.edu.au/itmm/meetings04/ITMM_4_04_Item_4_5.doc Accessed on 08/09/04.

University of South Australia (2004) http://www.cs.unisa.edu.au Accessed on 08/09/04.

Van der Horst, H. & McDonald, R. (1997) Outcomes Based Education: A Teacher's Manual. Kagiso, Pretoria.

Van Excel, N. & de Graaf, G. (2005) Q Methodology: A sneak preview. www.jobvanexel.nl Accessed on 04/06/08.

Vassard, B. (2006) Programme Coordinator, Naestved University. Personal communication.

Ven, A. (2006) University of Gent. Personal communication.

Ven, A. (2007) Thirteen in a dozen, Antwerp, Garant Publishers.

Ven,A. & Vyt, A. (2007) The Competence Chart of the European Network of Physiotherapy in Hugher Education, Apeldoorn, Garant.

Vermetten, Y., Lodewijks, H. & Vermunt, J. (1999) Consistency and variability of learning strategies in different university courses, Higher Education. (37), 1-21.

Vienna European Council (1993) http://www.magnet.mt/home/mfa/eufold/euro2.htm Accessed on 18/01/01.

Wagstaff, P.S. (1989) The further off from England, the nearer is to France. Physiotherapy 75(11), 671-677.

Walker, J.M. (1997) Graduate Education for Physical Therapists: Today's Foundations built by Yesterday's Pioneers. Physiotherapy Canada. 92-96.

Walsh, J. (1986) Neural Tissue Pain – Nomenclature, Assessment and Management among Irish Physiotherapists, Physiotherapy Ireland.

Webb, R. & Vulliamy, G. (1999) Managing curriculum policy change: a comparative analysis of primary schools in England and Finland. London: Routledge.

Webster-Merriam Online Dictionary (2005) http://www.m-w.com/dictionary/ Accessed on 18/06/05.

Whiddett, S. & Hollyforde, S. (2003) A practical guide to competencies: how to enhance individual and organisational performance. London: Chartered Institute of Personnel and Development.

Wilkerson, L. & Irby, D.M. (1998) Strategies for improving teaching practices: A comprehensive approach to faculty development. Academic Medicine. 73, 387-396.

Williams, G. (1999) Hayek's Critique's of Constructivism: A Libertarian Appraisal. Libertarian Alliance, London.

Winne, P.H. (1995) Inherent details in self-regulated learning. Educational Psychologist. 30, 173-188.

Winter, R. (1989) Action Research and the Nature of Social Inquiry: Professional Innovation and Educational Work. Gower, Aldershot.

Witt, H. (2001) Strategies in Qualitative and Quantitative Research. Forum: Qualitative Social Research (On-line Journal) 2(1). Website: http://qualitative-research.net/fqs/fqs-eng.htm Accessed on 15/10/01.

Witz, A. (1992) Professions and Patriarchy. London and New York: Routledge.

Wong, W., Eiser, A.R., Mrtek, R.G., & Heckerling, P. (2004) By-Person Factor Analysis in Clinical Ethical Decision Making: Q Methodology in End-of-Life Care Decisions. The American Journal of Bioethics, (4) 8-22.

World Confederation of Physical Therapy (1999) Description of Physical Therapy. 14th General Meeting of World Confederation of Physical Therapy.

World Confederation of Physical Therapy (2003) Summary of Physiotherapy Education within the National Education System.

World Confederation of Physical Therapy (2003) European Physiotherapy Benchmark Statement.

World Health Organisation (1988) Learning together to work together for health: report of a WHO Study Group on Multiprofessional Education of Health Personnel: the Team Approach. Geneva.

World Health Organisation (2001) http://www.who.int/whr2001/2001/archives/2000/en/press_release.htm Accessed on 14/01/04.

World Health Organisation (2006) http://www.euro.who.int/eprise/main/WHO/Progs/CHHMAT/life/20050131_3 Accessed on 17/10/06.

World Health Organisation (2006) http://www.euro.who.int/Document/E82865MT.pdf Accessed on 20/06/07.

Yan, F. (2003) 'China's new private education law' Graduate School of Education, Peking University, Beijing, China.

Yarborough, P. (1984) Physical therapy education and societal needs: Guidelines for physical therapy education, APTA, Alexandria, Washington D.C.

Zraick, R.I. & Boone, D. (1991) Spouse attitudes towards the person with aphasia. Journal of Speech and Hearing Research. 34, 123–128.

Zuber-Skerrit, O. (1992) Improving Learning and Teaching Through Action Learning and Action Research Draft paper for the HERDSA Conference 1992 University of Queensland.

1. Setting the Scene

Health Care in Malta

The Government's Health Centre system works side by side with a thriving private system. Many residents opt for the services of private medical treatment be it general practitioner, specialist or physiotherapist who work within these settings. The principal hospital is St. Luke's Hospital that has around 900 beds and provides a full range of secondary and tertiary medical services including transplant surgery and open-heart surgery. 58 beds are available at Sir Paul Boffa Hospital that has an oncology and dermatological unit, 260 beds at Gozo General Hospital, 563 psychiatric beds at Mount Carmel Hospital, and 60 acute geriatric beds at Zammit Clapp Hospital supplement these figures. A new 850-bed teaching hospital, 'Mater Dei' is to supplement and in certain instances, replace St. Luke's Hospital by 2007. There are three private hospitals in Malta which together offer 170 beds, St. James hospital, St. Philip's Hospital and Capua Palace Hospital, each of these hospitals employ a small amount of physiotherapists. The Department for the Care of the Elderly caters for the ever-increasing elderly population. This department runs a number of residential homes, the largest of which is St. Vincent de Paule that is a 1,000-bedded residency home. The government, on one hand, is trying to encourage the elderly to remain in their homes for as long as possible, yet at present, does not offer domiciliary physiotherapy. The new curriculum will have to take this policy into consideration.

To run the above-described hospitals, clinics and institutions, the country has at its disposal 1,144 physicians of whom 578 are in government employment. There are 158 registered dentists, out of which 47 are employed by the state. 1,327 nurses, 90 midwives, 750 pharmacists, 93 pharmacy technicians, 42 occupational therapists, 50 speech and language pathologists, 58 radiographers, 24 dental hygienists and technologists, 148 medical laboratory scientific officers and 175 physiotherapists, are all employed by the State. The Health Department has now fulfilled its estimated manpower quota for physiotherapists (Muscat 2006). Hence, if the D.H. is not going to employ any

new physiotherapists, most new graduates will have to find employment overseas.

Education in Malta

This study is concerned with the physiotherapy curriculum and this section will introduce the reader to the structure of education in the Maltese islands. The 'Education Act', states:

> "*It is the right of every citizen of the Republic of Malta to receive education and instruction without any distinction of age, sex, belief or economic means.*"
> (Ministry of Education/Government of Malta 1991 Cap. 327)

This law defines the rights and obligations of students, the state and non-governmental organisations regarding education in Malta.

Primary and Secondary Education

Malta's state educational system is similar to the British. Primary schooling extends from the age of five, which marks the beginning of compulsory attendance, up to the age of eleven. Students sit for their national examinations at the end of Year 6 and the State Secondary School system is streamed into lyceums, Area Secondary Schools or 'opportunity schools' depending on their performance at this eleven-plus hurdle. Students will continue their studies towards the Secondary Education Certificates. These examinations are a local version of the English G.C.S.E. and are taken at the end of their fifth year of secondary schooling. On completion of the compulsory school scheme, students are encouraged to further their education. Students in the post-secondary sector, besides being given free tuition, are also given financial stipends during their course of study. Fifty-four percent of all students continue with their education after the age of 16.

University of Malta

The University of Malta, which has a four hundred year old history, has a long tradition of scholarship and research in most disciplines. There are ten

434

Faculties: Architecture and Civil Engineering, Arts, Dental Surgery, Economics, Management and Accountancy, Education, Engineering, Law, Medicine and Surgery, and Science and Theology. The University also has a number of Centres and Institutes associated to it including the Institute of Health Care. There are some 9,000 students including 400 foreign students, following full or part-time degree and diploma courses, many of which run on the modular or credit system.

The Influence of Local Politics and the European Union on Physiotherapy Education

At this stage, the author would like to introduce the reader to the political arena of the Maltese islands, the anticipated influence and repercussions that politics in Malta will have on the curriculum and the physiotherapy profession, now that Malta joined the European Union.

The French occupation of Malta, following the expulsion of the Military Order of the Knights of St. John of Jerusalem by Napoleon Bonaparte, was of a relatively short duration (1798 – 1800). Following a revolt, the British forces under the leadership of Sir Alexander Ball were asked by the Maltese to help expel the French. It remained a colony for approximately two hundred years and is still part of the British Commonwealth. On the 21st of September 1964, Malta obtained its independence from the British Government and the 1964 Constitution guaranteed the protection of human rights and established a parliamentary democracy. In 1974, Malta became a Republic, however close ties between the two countries are still very dominant. This is pertinent to this study as: the English language is the official language used within the university, most postgraduate education is carried out in the United Kingdom or other commonwealth countries, and the U.K. is the preferred country for physiotherapists seeking employment overseas.

There are two political parties represented in the 65 seat House of Representatives, the Nationalist Party, which has 35 seats, and the Malta

Labour Party, which has 30 seats. It was under the Nationalist Party government that Malta submitted its application for membership to the European Union in 1990. Following the general elections in October 1996, the new Labour government decided to freeze Malta's application for membership. Malta was therefore not included in the enlargement process launched by the Luxembourg European council in December 1997 and accession negotiations that were re-opened on 31st March 1998.

On finalising negotiations with the E.U. Commission, a referendum was held on 8th March 2003, to determine the will of the Maltese population. The result was a 53% majority "yes" vote to join the E.U. This might not sound like a large victory but, by local standards, a 19,000-vote majority is considered a landslide victory. The Labour Party, on the day of the referendum, refused to recognise the result and insisted that there had to be a general election to confirm the referendum result, and stated that if the Labour Party won the election then it would withdraw Malta's application to join the E.U. On 12th April 2003, the general elections took place and the pro-E.U. Nationalist Party won. Two days later, Malta together with ten other countries signed an accession agreement in Greece. This section has been included in this chapter as the author wanted to inform the reader that if the Nationalist party had not been elected, then E.U. membership would not have happened. This would have meant that the new curriculum would not have to meet any regulations laid down by the E.U.

The Physiotherapy Profession in Malta and the European Union

Malta joined the European Union in May 2004 and this political enlargement has influenced the physiotherapy profession, like all other professions. This was particularly relevant to this study as: any changes to the curriculum had to be within the framework for recognition for professional qualifications laid down by the E.U. under Directives 89/48/EEC and 92/51/EEC.

The Treaty of Rome guarantees the freedom of every citizen of member states of the European Union to work, to seek work, to set up business or to provide services in any other E.U. member state without discrimination or grounds of

nationality. The philosophy of the E.U. is based on the four freedoms: the free trade of goods, free movement of persons, free trade of services and the free movement of capital. The four 'freedoms' form a single market but the most common problem experienced by intending migrant workers is that of recognition of professional or vocational qualifications. In accordance to the Single European Act, each member state retains its particular system of education and training, which lead to its own particular professional qualifications. In many member states laws requiring the possession of a national qualification in the area of work concerned control access to professional activities.

Presently, there are three different ways to enable people to transfer their qualifications and skills between member states and these are:

i.   *Transitional Measures Directives*

The Transitional Measures Directives requires the authorities of the country in which the person would like to commence work to accept proof of a prescribed period of experience by the migrant in his/her member state as a substitute for the relevant national qualification.

ii.   *The Sectoral Directives*

These directives were introduced in an attempt to harmonise professional training in all the member states, but the time and effort required to harmonise all the professions was not feasible. As a result only seven professions fell under these directives, six are related to health: Dentistry, Medicine, Midwifery, Nursing, Pharmacy and Veterinology, the seventh is Architecture. Qualifications obtained in a member state and listed in the Sectoral Directives are eligible for automatic recognition. These Sectoral Directives were slow in formulation, to the extent that the Architect's Directive was so complex that it took 17 years to finalise. As a result, this led to the development of the General Systems Directives, to which the Physiotherapy profession belongs.

iii.   The General Systems Directives

The General Systems Directives are founded on the assumption that an individual qualified in one member state to practise a profession or occupation, should be treated in principle as qualified to exercise that same profession in another member state, without having to re-qualify from the beginning. These General Systems Directives differ from the Sectoral Directives in that they reject the principle of relying on harmonised training across all member states, but require mutual trust in the validity of professional or vocational training anywhere in the E.U. or E.E.A., which includes Norway, Iceland and Liechtenstein. As a result, any migrant should have his or her qualifications recognised in any member state, with the proviso that, should there be substantial differences in the education and training between the two member states, then the migrant may be asked to compensate for these differences in accordance with mechanisms, which are already specified in the directives.

Physiotherapy, on the other hand, is described and perceived differently in the various countries forming the new enlarged E.U. With respect to the General Systems Directives, it is not enough for the name of the profession to be the same, for recognition to take place automatically throughout the Union. More important than the nomenclature, is the profile and philosophy of the profession that has to be recognised. In Malta, as in the United Kingdom, physiotherapists are trained as independent practitioners, to whom patients may refer directly, which means the physiotherapist can diagnose, plan and carry out the appropriate treatment. This is not the norm amongst most of the member states of the Union, where patients are referred by a medical practitioner, who supplies the diagnosis and sometimes dictates the treatment to be carried out under his/her supervision. This situation presents a professional profile that, in Malta, is equivalent to an assistant physiotherapist, or physiotherapy aide, rather than a fully qualified practitioner.

The regulations regarding the recognition of professional qualifications within the E.U. have now made this process more transparent and easier to work with. Two European Directives regulate the General System for Mutual Recognition of Professional Qualifications:

    i.   Directive 89/48/EEC (the first Diploma directive), and

    ii.   Directive 92/51/EEC.

These two directives now cover, between them, all the professions and occupations not covered by the Transitional Measures Directives or the Sectoral Directives. These General System Directives apply to regulated professions. In Malta, the physiotherapy profession and the term 'physiotherapist' are regulated directly by law via the Council for Professions Complementary to Medicine (Health Care Professions Act 2000).

To be eligible for recognition under Directive 89/48/EEC, the candidate must have completed a post-secondary course of at least three years duration at a university or an institution of higher education. Additionally, the candidate must have successfully completed any professional training required to practise the profession. The second Directive 92/51/EEC complements the First Directive by covering those professions regulated below degree level. These have been described as: Diploma, Certificate or Attestation of Competence.

In practice, what these two Directives imply is that if you hold a qualification entitling you to practise a regulated profession in your country, you may do so in any other member state. For example, if a student of Physiotherapy from the University of Malta graduates and applies for state registration locally, then under Directive 89/48/EEC he/she is allowed to practise as a physiotherapist in any other member state. These Directives also permit applicants to apply for recognition of qualifications, even if their profession is not regulated in their own member state. In this case, the applicant must provide evidence of the relevant education and post-qualification practice in a member state to the appropriate authorities.

Physiotherapy Consideration

This research study proposes that these E.U. Directives are observed by the new curriculum and will provide any future graduates from the Institute of Health Care with qualifications that will not only be suitable for local

registration, but also acceptable to the other countries forming the E.U. with the least possible complications.

Accession to the E.U. has presented problems to the University of Malta and to any prospective students wishing to join the physiotherapy course. According to Lauri (2005) following Malta's accession to the E.U. the University has become attractive to increasing numbers of European students for the following reasons:

i. Many University of Malta degree courses enjoy a good reputation and prestige;

ii. The University of Malta offers its courses in English and in certain countries, degrees taught in English are considered a premium;

iii. The climate and the sea are other attractive incentives for many young students;

iv. The cost of living is still relatively low and more important is the fact that university education in Malta is free. Under present E.U. regulations it will be considered discriminatory to charge fees to other E.U. nationals and not Maltese students;

Even though the university is bursting at the seams with local students and its resources are limited, it is keen to try and attract more overseas students (Lauri 2005). A problem may arise when overseas students apply to join the physiotherapy course considering that this is one of the only courses with a 'numerus clausus' of 15 students per intake. What would happen if some overseas applicants have better academic entry qualifications than local ones? Is the course to be run for overseas students? Is this ethical to the Maltese population? Is this fair to the Maltese tax payer?

Physiotherapy Education and the Institute of Health Care

Worldwide the physiotherapy curriculum has been taught in various environments: ranging from academic health centres, hospitals, universities and medical schools, all of which provide the environment for professional development (Yarborough 1984). In Malta, physiotherapy education

commenced in 1976, and was run by the Department of Health and housed within the Nursing School situated on hospital grounds. This meant that patient access was easy. By 1992, the physiotherapy course was incorporated into the University of Malta, as a member of the newly created Institute of Health Care. The I.H.C. is now made up of eleven divisions and is the largest institute within the University (Stivala 2004). The I.H.C. is a building belonging to the University, situated on hospital grounds and by 2007 it is proposed that the I.H.C. and the Medical School merge and be relocated in the new teaching hospital that is currently being built (Buttigieg 2003).

EDUCATION ACT
(CAP. 327)

Regulations for the Selection of Applicants for Admission to the Bachelor of Science (Honours) (Physiotherapy) Degree Course, 2001

IN exercise of the powers conferred upon him by sections 30 (5) and 31 (6) of the Education Act (Cap. 327), the Chancellor of the University of Malta has promulgated the following regulations made by the Senate of the University of Malta by virtue of the powers conferred upon it by sections 31 and 35 of the said Act:

Applicability

1.   These regulations shall apply to the Physiotherapy option in the course leading to the degree of Bachelor of Science (Honours) at the Institute of Health Care commencing in October 2001 or later.

Selection of Applicants

2.   The number of students that may be admitted to the Physiotherapy option shall be limited as provided in terms of the provisions of these regulations.

3.   The number of students shall be limited to fifteen students, provided that if the number of applicants falling in the last category of applicants eligible to be admitted in terms of the provisions of paragraph (5) of regulation 6 is such that the total number of applicants to be admitted exceeds fifteen, consideration shall first be given to:

(a)   the overall grade obtained in the Matriculation Certificate by the applicants in that category; and

(b)   if this is not sufficient, the remaining applicants in that category shall be interviewed by an *ad hoc* Admissions Board appointed by Senate in order to fill the remaining place/s.

4.   In order to be admitted into the course applicants must satisfy the requirements for registration as regular students of the University as specified in the Admission Regulations and any other requirements for admission to the course as specified in the regulations for the course.

5.   If there are more than fifteen eligible applicants, the best fifteen applicants shall be selected by the University Admissions Board, after seeking the advice of the Admissions Committee of the Institute of Health Care, in accordance with the criteria for selection as specified in paragraph (5) of regulation 6.

Criteria for Selection

6. (1) Applicants for the Physiotherapy option are required to have:

(a) for the course commencing in October 2001: a pass at Advanced Level in Biology at Grade C or better; and

(b) for courses commencing in October 2002 or later: a pass at Advanced Level in Biology at Grade C or better, and a pass at Intermediate Level in Physics.

(2) Applicants in possession of the General Entry Requirements, may offer the pass in Biology and the pass in Physics either as part of the General Entry Requirements or in addition to the General Entry Requirements.

(3) When applicants present more than one pass in Biology or Physics, the best grade shall be taken into consideration.

(4) For the purpose of selection, only qualifications obtained by 31st August of the year of commencement of the course will be taken into consideration.

(5) The fifteen applicants shall be selected from amongst all eligible applicants according to the following categories, listed in order of preference:

B 1620

(a) for the course commencing in October 2001:

1st Category:	those with a grade 'A' in Biology and an overall grade 'A' in the Matriculation Certificate
2nd Category:	those with a grade 'A' in Biology and an overall grade 'B' in the Matriculation Certificate
3rd Category:	those with a grade 'A' in Biology and an overall grade 'C' in the Matriculation Certificate
4th Category:	those with a grade 'B' in Biology and an overall grade 'A' in the Matriculation Certificate
5th Category:	those with a grade 'B' in Biology and an overall grade 'B' in the Matriculation Certificate
6th Category:	those with a grade 'B' in Biology and an overall grade 'C' in the Matriculation Certificate
7th Category:	those with a grade 'C' in Biology and an overall grade 'A' in the Matriculation Certificate
8th Category:	those with a grade 'C' in Biology and an overall grade 'B' in the Matriculation Certificate
9th Category:	those with a grade 'C' in Biology and an overall grade 'C' in the Matriculation Certificate

(b) for courses commencing in October 2002 or later:

1st Category:	those with a grade 'A' in Biology and a grade 'A' in Physics
2nd Category:	those with a grade 'A' in Biology and a grade 'B' in Physics

3rd Category: those with a grade 'A' in Biology and a grade 'C' in Physics

4th Category: those with a grade 'A' in Biology and a grade 'D' in Physics

those with a grade 'B' in Biology and a grade 'A' in Physics

5th Category: those with a grade 'A' in Biology and a grade 'E' in Physics

those with a grade 'B' in Biology and a grade 'B' in Physics

6th Category: those with a grade 'B' in Biology and a grade 'C' in Physics

7th Category: those with a grade 'B' in Biology and a grade 'D' in Physics

those with a grade 'C' in Biology and a grade 'A' in Physics

8th Category: those with a grade 'B' in Biology and a grade 'E' in Physics

those with a grade 'C' in Biology and a grade 'B' in Physics

9th Category: those with a grade 'C' in Biology and a grade 'C' in Physics

10th Category: those with a grade 'C' in Biology and a grade 'D' in Physics

11th Category: those with a grade 'C' in Biology and a grade 'E' in Physics

Diploma in Physiotherapy 1976
Course Syllabus

Anatomy

1. Living Anatomy
To identify by inspection and palpation bony features, tendons, ligaments, joint lines, muscles and nerves, pulsation of arteries.
To indicate on the surface, structures which will include the course of nerves, chief blood vessels, and lymphatics.

To identify the position of:
    a) the heart, including the apex beat;
    b) the lungs, including lobes, fissures, and broncho-pulmonary segments;
    c) general position only of abdominal viscera;
    d) main lymph nodes.

To apply knowledge, in order to understand:
    a) the range of movement normally present in all joints, including any accessory movements;
    b) muscle actions individually or in groups, and their functional use;
    c) the distribution of nerves – including dermatomes and myotomes.

2. Histology
The cell:
    a) its structure and principal constituents;
    b) main properties and functions including cell division.

The structure and functions of epithelia

Structure and functions of connective tissues, including ligaments, tendons aponeurones, fascia and cartilage

In outline only:
Normal physical development:
    a) the main events occurring during the gestation period;
    b) growth from birth to maturity (especially of nervous and locomotor systems).

3. Osteology
The gross and minute structure of bone
The growth and development of bone, excluding exact dates of ossification
The structure, classification, and function of bones

Chief muscle and ligamentous attachments (hand, foot, and skull articulated only).

4. Arthrology
Classification of joints
Gross structure of all joints, including attachments of main ligaments

5. Myology
Gross and electron microscopical structure of all types of muscle
The form of skeletal muscles, tendons, aponeuroses, and fascia

The main attachments of skeletal muscles should be stressed with sufficient detail to indicate direction of fibres and resulting actions. (The muscles of facial expression and small neck muscles – direction of fibres only.)

Actions applied to functional use in everyday activities (L.A.)

6. Neurology
The structure of:
   a) neurone;
   b) synapse, motor end-plate;
   c) sensory nerve endings – cutaneous and prioprioceptive.

Position and structure of brain to include lobes and principal fissures, chief masses of internal grey matter, principal tracts, and meninges
Position and communication of ventricles
Position and structure of spinal cord to include internal grey matter and chief tracts, cauda equina
Formation of a spinal nerve
Functions and connection of grey masses and tracts as described above
Formation and distribution of cervical, brachial, and lumbo-sacral plexuses
Segmental distribution of spinal nerves – myotomes and dermatomes
The formation, course, and distribution of spinal nerves and 7th cranial (facial) nerve and their principal relations

(Small branches of the cervical and lumbo-sacral plexuses not required.)

In outline only:
Autonomic nervous system:
   a) Sympathetic system
      Position and connections of the ganglia
      General distribution of the post-ganglionic fibres
   b) Parasympathetic system
      General distribution of the parasympathetic fibres of the cranial and sacral nerves

7. Cardiovascular System
Structure and arrangement of the pericardium, myocardium, and endocardium
Internal and external features of the heart, including position of conducting system
Position of lymph nodes in axilla, femoral triangle, and popliteal fossa and their areas of drainage

In outline only:
Those of the head and neck, thorax, abdomen, pelvis: details of thoracic duct not required.

8. Respiratory System
Gross and minute structure of respiratory tract from nose to respiratory bronchioles and of lungs, to include the serous and sub-serous coats and pulmonary substance
The position of lobes and broncho-pulmonary segments. (L.A.)
Division of bronchial tree, positions as related to surface of thorax and the application to postural drainage. (L.A.)

9. The Digestive System
In outline only:
The general arrangement of the alimentary canal from mouth to anal canal
The arrangement of the involuntary muscles including the sphincters

Physiology

1. Myology
Physiological properties of muscle
The physical thermal, electrical, and chief chemical changes of muscle contraction, excluding details of glucose metabolism
Aerobic and anaerobic changes in muscle contraction
Effects of training, fatigue

2. Neurology
Conduction in fibres, at synapses and motor end-plates, but details of chemical changes not required

In outline only:
Position, formation, circulation, absorption, and functions of cerebro-spinal fluid
Names and functions of cranial nerves except for the 7th cranial nerve
Types of reflexes – importance of reflex action
The structure of cranial and spinal reflex pathways, polysynaptic and monosynaptic
The properties of reflexes
Chief visceral reflexes, e.g. cardio-accelerator, cardio-inhibitory, and cough reflexes
Functions of autonomic nervous system
Muscle tone and its maintenance and modifications
The control of voluntary movement and posture including the correlation between al the components of the neuromuscular system involved

3. Cardiovascular System
Composition and general functions of blood
Functions of plasma
Structure, formation, and function of red and white cells – including number and approximate length of life
Anti-bodies – immunity, haemoglobin, E.S.R.
Position, structure, and functions of cells of reticulo-endothelial system
Blood clotting, including bleeding and clotting time, factors accelerating or slowing the process
Events of cardiac cycle, effects of change in rate of heartbeat
Pulse – changes in the pulse and their significance
Cardiac output – minute and stroke volume – Starling's Law – effect of venous return
Peripheral resistance – factors on which this depends – control
Structure and function of arteries, arterioles, capillaries, and veins
Position and course of the superficial veins, including their areas of drainage

In outline only:
Position and general distribution of the main arteries and deep veins (excluding the diploic veins and dural venous sinuses)
Points where pulse can be palpated; relationship of arteries and deep veins within main spaces

Blood pressure:
  a) control to maintain it within normal limits;
  b) variations throughout circulation; normal variations due to activity, age, gravity, and other factors
Formation of tissue fluid and lymph to include maintenance of the internal environment by changes in hydrostatic and osmotic pressures
Factors responsible for maintaining venous and lymphatic flow

In outline only:
Structure and functions of the spleen

4. Respiratory System
Mechanism of respiration, quiet or forced – changes in diameters of the thorax, intra-pleural and intra-pulmonary pressures, and the subsequent movement of air into and out of the lungs.
Quantities of such volumes as tidal and residual air – vital capacity
Gaseous interchanges in lung and tissues
Control of respiration – nervous and chemical significance of changes in rate and depth
Transport of oxygen and carbon dioxide – details of oxygen dissociation curves and carbon dioxide exchanges as required only to explain the exchange and transportation of these gases
The maintenance of the pH value of the blood-buffer substances

5. The Digestive System
Functions of each viscus; chief reflexes
The position, structure, and functions of the liver and pancreas
The essential ingredients in a normal diet and the value of proteins, carbo-hydrates, fats, inorganic salts, and vitamins, and their chief sources
Modifications of diet required:
  a) in childhood and old age, and
  b) by occupation
Digestion, absorption, and metabolism of each foodstuff

6. Genito-urinary System
Position, gross and minute structure and functions of the kidneys, ureters and bladder
Mechanism of renal secretion – Micturition
Position, structure, and functions of male and female organs of reproduction

Endocrine System
Position, structure, and functions of pituitary, thyroid, parathyroid, adrenal, and thymus glands, ovaries, testes, pancreas
Abnormalities associated with dysfunction

7. The Skin
The structure and functions, to include the adaptation of the body to its external environment; the appendages
The triple response; axon reflex

8. Control of the internal Environment
    a)   regulation of body temperature
    b)   regulation of water balance
    c)   acid/base balance
    d)   basal metabolism

9. Exercise
The physiological effects on:
    a) the muscular, respiratory, and cardiovascular system;
    b) body temperature;
    c) metabolism;
    d) water balance.

General Pathology

A general understanding of the pathology of disease is necessary to be able to study in more detail the clinical conditions commonly treated by physiotherapists and with this aim, general pathology is included in the curriculum.

1.   Inflammation
Definition – causes
Acute, chronic
Changes, signs, and symptoms
Termination
Resolution, suppuration, etc
Tissue repair
Factors influencing

2.   Circulatory disturbances
Causes, types, signs and symptoms, consequential effects and treatment of:
Thrombosis;
Embolism;
Infarction;
Oedema, local and general

3.   Degenerations
Understanding of the terms 'atrophy', 'fatty degeneration', 'necrosis', and 'gangrene'
Causes
Consequential effects

4.   Neoplasia
Understanding of the terms, causes and types
Consequential effects

5.   Infection
Understanding of the terms 'commensal' and 'pathogenic'
Causes of infection – cross-infection
Production of toxins
Body's defence mechanism against infections, and factors affecting this
Outline of immune reaction
Immunity – natural and acquired
Principles of asepsis – Sterile techniques
Principles of treatment should be included where applicable

Conditions treated by Physiotherapy

Instruction should include an outline of the aetiology and morbid anatomy of each condition. Emphasis should be on:

i) the assessment of the disability as shown by the signs and symptoms;

ii) the selection of treatment appropriate to these findings.

Physiotherapy can be used in a wide variety of conditions in the initial, intermediate, and final stages of rehabilitation.

1. Trauma and Orthopaedics
- Fractures
Classification
Types of displacement
Immediate and later signs and symptoms
Changes at fracture site, and in surrounding tissues
Methods of reduction and fixation
Healing of fractures and factors influencing
Complications
Common sites of fracture
Physiotherapy for each fracture:

a) during immobilisation period;
b) during mobilisation period.

Dislocation, sprains and strains

- Soft-tissue Injuries
Traumatic synovitis (acute and chronic)
Skin wounds, contusions, haematoma
Muscle rapture and tendon injury, partial and complete

- Crush Injuries

- Congenital Absence of Limb
Amputation:
Traumatic
Elective

Deformities:
Congenital and acquired
Postural abnormalities
Structural deformity – common deformities only
- Bone Conditions
Osteoporosis
Osteomalacia
Paget's Disease

- Corrective Surgery
Arthroplasty; arthredesis; osteotomy
Tendon transplant and grafting
Soft tissue release

Prolapsed intervertebral disc:
Laminectomy
Spinal fusion

2.   Rheumatology
Inflammatory arthropathies (arthritis)
Degenerative arthropathies (arthrosis)
Soft tissue conditions

3.   Cardiovascular and Respiratory Conditions
Hypertension; heart failure; cor pulmonale

In outline only:
Endocarditis;
Myocarditis;
Pericarditis

Valcular incompetence and stenosis
Congenital heart defects
Inflammatory and obliterative disorders of blood vessels
Venous leg ulcer; varicose veins; Ischaemic ulcers
Surgical procedures related to peripheral vascular diseases
Asthma; acute and chronic bronchitis; emphysema
Pleurisy and pneumonia; bronchiectasis; lung abscess; emphysema
Carcinoma of respiratory tract
Cystic fibrosis (mucoviscidosis)

In outline only:
Pulmonary tuberculosis

Pre- and post-operative relating to cardio-thoracic surgery
Complications, e.g. artelectasis; pneumothorax; broncho-pulmonary fistula

4.   Neurology and Neuro-Surgery

- Neurology
Hemiplegic, paraplegic, and tetraplegic syndromes
Head injuries
Multiple sclerosis
Parkinson's disease
Polyneuritis, peripheral neuropathy
Peripheral nerve injury

In outline only:
Syringomyelia
Spinal bifida and its complications
Muscular dystrophy
Cerebral palsy
Motor neurone disease
Polyomyelitis
Tabes dorsalis
Myasthenia gravis

- Neurosurgery
Pre- and post-operative treatment as applicable, in outline only

5.   Obstetrics/Gynaecology
Ante-natal and post-natal training
Complications of pregnancy
Weak abdominal and pelvic floor muscles
Stress incontinence
Prolapse
Breast abscess
Special points relative to pelvic surgery
Pelvic inflammatory conditions

6.   Dermatology
Skin infections: acne, boils, and carbuncles
Burns: degrees of burns
Pre- and post-operative physiotherapy relating to plastic surgery
Alopaecia
Psoriasis

7.   General Surgery
Types of incision
Abdominal surgery
Mastectomy; Thyroidectomy
Complications relative to the above
Pre- and post-operative physiotherapy

8.   Eye, Ear, Nose and Throat Conditions
Meniere's Disease, middle ear infections
Sinusitis
Carcinoma of larynx and oesophagus
Pre- and post-operative treatment as possible

9.   Paediatrics and Geriatrics

The special problems of the elderly and very young

The particular conditions to which they are prone

The modifications of the treatment programme relative to the particular needs of each age group

Development sequence of movement from baby to adult

Practical experience, and observation, of normal movement

Techniques

1.   Movement
The experience and understanding of natural activities related to all stages of development should provide a foundation for the recognition and analysis of abnormal activities and a basis for planning rehabilitation

Principles of Mechanics – relation to static and dynamic activity of the human body

Nature and Properties of Water

Relation of above to:
Internal forces of body – Components of muscle forces, angle of pull, leverage, etc.

External forces applied to body

Analysis of Joint Movement and Muscle Action

Methods of Teaching
        i)   An individual;
        ii)   A group.

Therapeutic Pool
        Maintenance,
        Selection and care of patients,
        Treatment techniques.

Sport

Prevention of postural strain and occupational hazard
Application of techniques to the treatment of patients
Relaxation – local and general
Maintenance and restoration of range of movement and joint stability
Initiation and stimulation of muscle contraction
Strengthening muscle and increasing endurance
Strengthening – demanding maximal effort from patient through all stages of recovery
Endurance – High repetition, low resistance exercises
Reduction of hypertonicity
Rigidity – Methods of facilitating movement
Re-education of posture, balance, and co-ordination
Re-education of gait
Re-education and improvement of respiratory movements
Re-education of function relative to work of patient

2. Manipulative Procedures

The student must be able to demonstrate:

The use of manipulative procedures for the assessment and appreciation of abnormalities of joint movement; for their specific effects

Massage techniques

Application of spinal traction

Postural drainage

3. Thermal and Electrical Procedures

The physiotherapist should have knowledge of the therapeutic use, and skill in the application of the following:

Heat

Cold

Ultraviolet irradiation

Ultrasonics

Muscle-stimulating currents to normal and denervated muscle

Principles of electrodiagnosis

Application of procedures

Physical Principles

1.   Electrical Energy
Thermal energy
Radiant energy
Sonic and ultrasonic energy

2.   Physical and Physiological effects
A rise in temperature (local and general) in response to the application of infra-red irradiation, short-wave diathermy, wax, hot packs, and hot water
A fall in temperature related to ice and cold water
Alternate heat and cold
Ultraviolet irradiation – local and general
Ultrasonic waves
Muscle-stimulating currents

Care and Resettlement

1.   General Care
Intensive care
Emergency care

2.   Measuring Devices
Goniometer, dynamometer, spirometer, peak flow meter, vitalograph, and sphygmomanometer
Methods of recording, use and interpretation of charts, records, and X-ray reports

3.   Aids and Appliances
Principles of prescription and function of aids and appliances
Assessment of patient: choice of application, type of material best suited to particular disability, hazards of choosing wrong appliance

Technique and manufacture of splints
Bandaging
Management of amputees
Walking aids
Wheelchairs
Aids to daily diving

4.   Resettlement
The role of the physiotherapist in the assessment of physical capability in relation to individual home environment, specific occupation, or available institutional care; kinesiology of different occupations
Management and advice to patients and relatives with the adjustment to disability in the home

Organisation and Administration

A knowledge of the structure and function of the Department is essential if the physiotherapist is to work effectively. An appreciation of the principles of management is necessary to understand the planning and organisation of departmental services.

i)   Organisation of the hospital services with special reference to the organisation of the Physiotherapy Department

ii)   Organisation of the Community Services

iii)   Communications

iv)   Safety Precautions

v)   Professional Responsibilities

vi)   Guidelines for Research

INSTITUTE OF HEALTH CARE
University of Malta
B.Sc. (Hons) PHYSIOTHERAPY COURSE – OCTOBER 1992
COURSE SCHEMA YEAR I

ANATOMY

CODE	CREDIT TITLE	T/P
PA01	Upper Limb I	T
PA02	Upper Limb II	T
PA03	Upper Limb – Spotting	P(s)
PA04	Lower Limb	T
PA05	Thorax	T
PA06	Back and Neck	T
PA07	Head and Neck	T
PA08	Head and Neck – Oral	Oral
PA09	General Spotting	P(s)
PA10	Living Anatomy – Upper Limb	P
PA11	Histology	T

No. of Credits: 12

ELECTROTHERAPY

CODE	CREDIT TITLE	T/P
PE01	Low Frequency Currents	T
PE02	Faradism	P

No. of Credits: 03

PHYSIOLOGY

CODE	CREDIT TITLE	T/P
PP01	Cardiovascular System	T
PP02	Respiratory System	T
PP03	Renal System	T
PP04	Haematology	T

No. of Credits: 04

MOVEMENT AND KINESIOLOGY

CODE	CREDIT TITLE	T/P
PMK01	Movement and Kinesiology I	T
PMK02	Movement and Kinesiology II	T
PMK03	Movement and Kinesiology III	T
PMK04	Proprioceptive Neuromuscular Facilitation Techniques I	P
PMK06	Introduction to Splinting	P
PMK07	Soft Tissue Manipulations	P
PMK08	Mobilisations - Shoulder	P
PMK17	Gait/Weights/Circuits	P

No. of Credits: 08

APPLIED SCIENCES

CODE	CREDIT TITLE	T/P
PPS01	Introduction to Psychology	T
PPH05	Medical Physics (Principles of)	T
PPA06	Pathology I	T
PPA07	Pathology II	T

No. of Credits: 04

Total No. of Credits: 31

N.B. Each credit is equivalent to 14 contact/lecturing hours
        E.g. Module 'Anatomy' is equivalent to 12 credits: Total number of contact/lecturing hours 168
        Clinical Modules i.e. P_PRAC1-5: each credit is equivalent to 50 hours of supervised clinical practice

462

INSTITUTE OF HEALTH CARE
University of Malta
B.Sc. (Hons) PHYSIOTHERAPY COURSE – OCTOBER 1992
COURSE SCHEMA YEAR II

APPLIED SCIENCES

CODE	CREDIT TITLE	T/P
PA12	Embryology	T
PA13	Central Nervous System	T
PA14	Abdomen and Pelvic Floor	T
PA15	Living Anatomy – Lower Limb	P
PP05	Neurology	T
PP06	Nutrition and Metabolism	T
PDI02	Disability Issues	T
PS04	Sociology of Health I	T
PS05	Sociology of Health II	T
PSP01	Social Policy	T

No. of Credits: 10

CLINICAL SCIENCES

CODE	CREDIT TITLE	T/P
PFA01	First Aid	T
PS12	Surgery (Introduction)	T
PMK16	Patient Assessment	P
P_PRAC1	Clinical Modules	P
P_PRAC2	Clinical Modules	P
P_PRAC3	Clinical Modules	P

No. of Credits: 14

PHYSIOTHERAPY SKILLS

CODE	CREDIT TITLE	T/P
PE03	Interrupted Direct Current – Strength Duration Curves – Direct Current	P
PE04	Infrared Radiation	P
PE05	Peripheral Heating	P
PMK05	Proprioceptive Neuromuscular Facilitation Techniques II	P
PMK09	Mobilisations – Upper Limb	P
PMK10	Mobilisations – Lower Limb	P

No. of Credits: 06

PHYSIOTHERAPY THEORY

CODE	CREDIT TITLE	T/P
PMK14	Hydrotherapy	T
PMK15	Breathing Exercises and Postural Drainage	P
PN04	Peripheral Nerve Injuries	T
PR01	Rheumatology A	T
PR02	Rheumatology B	T
PR03	Orthopaedics A	T
PR04	Orthopaedics B	T
PR16	Respiratory Conditions A	T
PR17	Respiratory Conditions B	T

No. of Credits: 09

Total No. of Credits: 39

APPLIED SCIENCES

CODE	CREDIT TITLE	T/P
PR10	Respiratory/Cardiac Rehabilitation	T
PD02	Dermatology/Burns and Plastic Surgery	T
PN05	Neurology A	T
PN06	Neurology B	T
PN07	Neurology C	T
PPD08	Paediatrics A	T
POG10	Obstetrics and Gynaecology	T
PVA11	Amputations	T
PG13	Health Care for the Elderly	T
PR05	Orthopaedics C	T
PO06	Sports Injuries	T
PPS02	Psychology of Health	T
PR08	Research Methods	T
PS03	Introduction to Sociology	T

No. of Credits: 14

PHYSIOTHERAPY SKILLS

CODE	CREDIT TITLE	T/P
PMK12	Mobilisations – Back and Neck	P
PE06	Ultrasound	P
PE07	Shortwave Diathermy and Inductothermy and Pulsed Electromagnetic Energy	P
PE09	Interferential – Transcutaneous Nerve Stimulation – Diadynamic Currents	P
PE10	Ultraviolet Therapy	P
PE11	Pain – Use of Electrotherapy in the Management of Pain	P

No. of Credits: 06

CLINICAL SCIENCES

CODE	CREDIT TITLE	
P_PRAC4	Clinical Modules	No. of Credits: 13

Total No. of Credits: 33

APPLIED SCIENCES

CODE	CREDIT TITLE	T/P
PMK11	Mobilisations – General	P
PPD09	Paediatrics B	T
PMH15	Mental Health	T
PPH01	Introduction to Pharmacology	T
PE12	Laser Therapy	P

No. of Credits: 05

SPECIAL PROJECTS

CODE	CREDIT TITLE
PSP01	Project Work Study

* Equivalent to 6 credits
No. of Credits: 06

CLINICAL SCIENCES

CODE	CREDIT TITLE
P_PRAC5	Clinical Modules

No. of Credits: 11

Total No. of Credits: 22

EUROPEAN REGION OF THE
WORLD CONFEDERATION
FOR PHYSICAL THERAPY

Summary of Physiotherapy Education within the National Educational System

Country	Basic / Initial Physiotherapy Education — Giving Access to the practice of Physiotherapy / use of title of Physiotherapist, accordingly with the legislation of the country							Academic Post Graduate Education — Basic / Initial PT education gives direct access to the following Higher Academic Degrees (2)
	Number of Years of school needed for Access to PT Education	Number of years of PT Education	Status of PT education Within the national Educational System (1)	Academic degree awarded	Number of Physiotherapy schools officially recognised	Approximate Number of New students Entering PT schools education (each year)	Approximate Number of Students qualifying for practice as physiotherapists (each year)	
Austria	12	3	Hig. Educ.	Dipl. PT	1	400	350	MSc and PhD
Belgium	12	4-5	Hig. Educ.	Licencier	NA	NA	NA	MSc and PhD
Bulgaria	12	4	Hig. Educ.	BSc	3	140	120	MSc and PhD
	12	3	Hig. Educ. No university level	Diploma	6	180	150	Bridge System
Croatia	8	4	Sec. Educ.	No	NA	NA	NA	No
	12	3	Parallel	No	3	180	180	No
Cyprus	No Physiotherapy Education in Cyprus							
Czech Republic	12	3	Hig. Educ.	Diploma	10-13	300	250	No
Denmark	12	3 / 5	Hig. Educ.	BA / MA	8	200	180	MSc and PhD
Denmark	12	3½	Hig. Educ.	BSc	8	640	630	MSc and PhD
Estonia	12	3 + 2	Hig. Educ.	BA + MA	1	15+20	20	MSc
	12	3	Parallel	Diploma	0	15	NA	No
Finland	12	4	Hig. Educ.	NA	17	380	360	MSc and PhD
France	12	3-4	Parallel	NA	NA	1.540	1.500	Bridge System

Physiotherapy Education
Information provided by the Member Organisations, September 2003

466

EUROPEAN REGION OF THE
WORLD CONFEDERATION
FOR PHYSICAL THERAPY

Country	Basic / Initial Physiotherapy Education — Giving Access to the practice of Physiotherapy / use of title of Physiotherapist, accordingly with the legislation of the country							Academic Post Graduate Education
	Number of Years of school needed for Access to PT Education	Number of years of PT Education	Status of PT education Within the national Educational System (1)	Academic degree awarded	Number of Physiotherapy schools officially recognised	Approximate Number of New students Entering PT schools education (each year)	Approximate Number of Students qualifying for practice as physiotherapists (each year)	Basic / Initial PT education gives direct access to the following Higher Academic Degrees (2)
Germany	10	3	Sec. Educ.	Diploma	241	8.000	7.500	Bridge System
Greece	12	3 or 4	Hig. Educ.	BA, MA	9	240	200	MSc
Hungary	12	4	NA	Diploma	NA	500	NA	MSc and PhD
Iceland	14	4	Hig. Educ.	BSc	5	20	17	Bridge System
Ireland	13	4	Hig. Educ.	BSc	3 schools accredited	150	150	MSc and PhD
Italy	13	3	Hig. Educ.	Laurea	39	2.500	1.500	MSc / Bridge System
Latvia	12	4	Hig. Educ.	BA	3	100	NA	MSc and PhD
Lebanon	13	4	Hig. Educ.	B.S (licence)	1	75	50	MSc
Liechtenstein	No Physiotherapy Education in Liechtenstein							
Luxembourg	No Physiotherapy Education in Luxembourg							
Netherlands	13	4	Hig. Educ.	BPt	11	1.500	950	MSc
Norway	13	3+1	Hig. Educ.	Bachelor	5	320	290	MSc and PhD
Poland	12	3	Parallel	Batcheler	NA	NA	NA	Bridge System
	12	5	Hig. Educ.	Master	NA	NA	NA	MSc and PhD
Portugal	12	3+1	Hig. Educ.	Licenciatura	14	600	200	MSc and PhD
Romania	12	4	Hig. Educ	Licence	1	800	800	MSc and PhD

Physiotherapy Education
Information provided by the Member Organisations, September 2003

EUROPEAN REGION OF THE
WORLD CONFEDERATION
FOR PHYSICAL THERAPY

Country	Basic / Initial Physiotherapy Education — Giving Access to the practice of Physiotherapy / use of title of Physiotherapist, accordingly with the legislation of the country							Academic Post Graduate Education
	Number of Years of school needed for Access to PT Education	Number of years of PT Education	Status of PT education Within the national Educational System (1)	Academic degree awarded	Number of Physiotherapy Programmes officially recognised	Approximate Number of New students Entering PT Programmes (each year)	Approximate Number of Students qualifying for practice as physiotherapists (each year)	Basic / Initial PT education gives direct access to the following Higher Academic Degrees (2)
Serbia and Montenegro	12	3	Hig. Educ.	Diploma	2	NA	NA	No
	8	4	Sec. Educ.	PT tehnician	12	NA	NA	No
Spain	12	3	Hig. Educ.	Diploma	1	2.000	1.500	MSc
Sweden	13	3	Hig. Educ.	BSc	7	700	650	MSc and PhD
Switzerland	12	4	Parallel	Diploma	13	300	300	Postgraduate studies
Turkey	11	4	Hig. Educ.	NA	8	300	250	MSc and PhD
United Kingdom	13	3	Hig. Educ.	BSc	37	2.285	1.614	MSc and PhD
	13	(3-4)+2*	Hig. Educ.	MSc	8	175	130	PhD

Source: European Region of WCPT - Information provided the Member Organisations by June 2003

* Graduates will have completed a 3/4 year first degree in a science related subjects plus two years full time MSc programme in physiotherapy.

Physiotherapy Education
Information provided by the Member Organisations, September 2003

468

EUROPEAN REGION OF THE
WORLD CONFEDERATION
FOR PHYSICAL THERAPY

Abbreviations used

PT – Physiotherapy / Physical Therapy
BA – Bachelor
MA – Master
BSc – Bachelor of Science
BPt – Bachelor of Physiotherapy
MSc - Master of Science
PhD – Doctor of Philosophy

NA – information Not Available

(1) Status of PT education Within the national Educational System

Sec. Educ.   Secondary / professional education - If the entry level is lower than the normal entry level for Higher Education, in the country.

Parallel   Post Secondary / Parallel to Higher education – If the entry level is the same as for Higher Education, but the PT education is not officially considered as part of Higher Education

Hig. Educ.   Higher Education - If PT Education is officially considered as part of Higher Education (University or other kind of Higher Education, for example Polytechnic)

(2) – Bridge System – When there is no direct access to higher academic degrees, but there is a bridge system that allows that possibility

Physiotherapy Education
Information provided by the Member Organisations, September 2003

469

EDUCATION ACT
(CAP. 327)

Bachelor of Science (Honours) – B.Sc.(Hons) – Degree
Course Regulations, 1996

IN exercise of the powers conferred upon him by sections 30(5) and 31(6) of the Education Act (Cap. 327), the Chancellor of the University of Malta has promulgated the following regulations made by the Senate of the University of Malta by virtue of the powers conferred upon it by sections 31 and 35 of the said Act:

Citation and interpretation

1. (1) These regulations may be cited as the Bachelor of Science (Honours) - B.Sc.(Hons.) – Degree Course Regulations, 1996.

    (2) In these regulations, unless the context otherwise requires –

    "the Board" means the Board of the Institute of Health Care;

    "the Course" means the Course leading to the Degree;

    "the Degree" means the Degree of Bachelor of Science (Honours) – B.Sc.(Hons.).

Applicability

2. These regulations shall apply to courses starting in 1991 or later.

Eligibility for Degree

3. To be eligible for the award of the Degree candidates must:

    (a) be registered as regular students in terms of the Admission Regulations of the University;
    (b) satisfy the requirements of regulation 4 below;
    (c) complete the course of studies, qualify in the examinations and comply with the other requirements prescribed in these regulations; and
    (d) comply with any other requirements prescribed in any other relevant statutes and regulations of the University.

Registration

4. (1) In order to be able to register for the Course, candidates must, in addition to complying with the conditions for admission in terms of the Admission

470

Regulations of the University, satisfy the Board that they have the aptitudes required for the exercise of the duties related to the proposed studies. For this purpose they may be required to attend an interview and be certified physically fit for the aforesaid duties.

(2) Overseas candidates shall also be required to demonstrate proficiency in both written and oral English.

(3) At the discretion of the Board, applicants in possession of a Diploma in Health Science with Radiography as the area of study may be allowed to join the third year of the Course with the same area of study.

(4) Senate, on the advice of the Board, may limit the number of students that may be admitted to the Course. Senate shall make regulations for the selection of applicants for admission.

Special Course Requirements

5. In addition to the requirements indicated in regulation 4 candidates must also satisfy the following Special Course Requirements if opting to take one of the following areas of study:

(a) Environmental Health:
passes at Advanced Level at Grade C or better in Biology and Chemistry; and
a pass at Intermediate Level in Physics;

(b) Medical Laboratory Science:
passes at Advanced Level at Grade C or better in Biology and Chemistry; and
a pass at Intermediate Level in Physics;

(c) Physiotherapy:
a pass at Advanced Level at Grade C or better in Biology;

and
a pass at Intermediate Level in Physics;

(d) Communication Therapy:
two passes at Grade C or better in Biology and in either English or Maltese, at least one of which must be at Advanced Level and one at Intermediate Level;

(e) Occupational Therapy:
a pass at Advanced Level at Grade C or better in Biology.

Course of Studies

6. (1) The Course shall extend over a period of four years. Candidates may not take the Final Comprehensive Examination later than five years from first admission to the Course except with the permission of Senate.

(2) The Course shall consist of a number of study-units to each of which a specified number of credits shall be assigned.

(3) The Course shall have two distinct, although interdependent components, one theoretical, the other practical.

(4) Candidates shall opt to take one of the following areas of study:

(a) Communication Therapy
(b) Environmental Health
(c) Medical Laboratory Science

L.N. 187 of 1999
October 1999
onwards

(d) Physiotherapy
(e) Radiography
(f) Occupational Therapy

(5) To complete the Course candidates must obtain the following number of credits:

(a) Communication Therapy Option

(i) 84 credits in Communication Therapy Theory and subjects supportive to Communication Therapy Science; and

(ii) 12 credits in Clinical Communication Therapy Practice.

(b) Environmental Health Option

(i) 87 credits in Environmental Health Theory and subjects supportive to Environmental Health Science; and

(ii) 20 credits in Environmental Health Practice.

L.N. 38 of 1999
October 1997
onwards

(c) Medical Laboratory Science Option

(i) 58 credits in Medical Laboratory Science Theory and subjects supportive to Medical Laboratory Science; and

(ii) 45 credits in Medical Laboratory Practice.

(d) Physiotherapy Option

(i) 85 credits in Physiotherapy and subjects supportive to Physiotherapy; and

      (ii)   35 credits in Clinical Physiotherapy Practice.

  (e) Radiography Option

      (i)   80 credits in Theoretical Radiography and subjects supportive to Radiography; and

      (ii)   40 credits in Clinical Radiography Practice,
provided that students admitted in terms of paragraph (3) of regulation 4 must obtain the following number of credits:

            (i)   30 credits in Theoretical Radiography and subjects supportive to Radiography; and

            (ii)   11 credits in Clinical Radiography Practice.

  (f) Occupational Therapy Option

      (i)   87 credits in Occupational Therapy Theory and subjects supportive to Occupational Therapy Science; and

      (ii)   24 credits in Clinical Occupational Therapy Practice.

(6) The Board may exempt candidates from the requirement of obtaining a credit certificate for a particular study-unit if they have obtained from the University, or an institution recognised by Senate for the purpose, a qualification of study which, in the opinion of the Board, is equivalent in content and standard to that required for the credit certificate concerned.

(7) Registered practitioners with three years practical experience may be exempted by the Board from up to:

  (a) one-third of the theoretical modules; and

  (b) three-quarters of the credits related to practical experience for admission to the Final Comprehensive Examination.

Theoretical component

7. (1) The theoretical component of the Course shall consist of study-units for which not less than the following credits are assigned:

      (a) Communication Therapy   84 credits
      (b) Environmental Health   87 credits
      (c) Medical Laboratory Science   58 credits
      (d) Physiotherapy   85 credits
      (e) Radiography   80 credits,

provided that for students admitted in terms of paragraph (3) of regulation 4 the theoretical component shall consist of study-units for which not less than 30 credits are assigned.

(f) Occupational Therapy   87 credits

(2) A credit certificate shall be issued to candidates on the successful completion of a study-unit. This certificate shall show a grade indicating the standard attained by the candidates in the work undertaken throughout the study-unit and in a test held at the end of it. The grades shall be as follows:

A   Excellent
B   Very Good
C   Good
D   Pass
F   Fail

No credit shall be given for an uncompleted study-unit.

(3) Candidates shall be allowed one resit if they fail a credit. If successful in the resit, the grade to be given shall be D. If unsuccessful, candidates shall be required to repeat the study-unit and be eligible, on successful completion, only to a Grade D.

(4) Candidates who in any one academic year fail to obtain 80% of the total number of credits assigned to the study-units prescribed for that year shall not be allowed to continue the Course or to take the Final Comprehensive Examination except in special circumstances and with the permission of Senate, provided that:

(i) In the Physiotherapy option, the same will apply if candidates fail to obtain at least 80% of credits in:

Physiotherapy Theory
Physiotherapy Skills
Applied Sciences
Clinical Sciences;

(ii) In the Radiography option, the same will apply if candidates fail to obtain at least 80% of credits in:

Radiographic Technology
Biomedical Sciences
Behavioural Sciences
Physical and Computing Sciences.

(iii) In the Occupational Therapy option, the same will apply if candidates fail to obtain at 80% of credits in:

General Studies
Applied Sciences
Occupational Therapy Skills
Fieldwork.

(5) The Board shall specify which study-units candidates may take, and in what order, so as to complete the Course.

(6) A catalogue of study-units, with the credits assigned to each, shall be published before the start of each academic year.

Practical component

8. (1) The practical component of the Course shall consist of study-units in the form of placements or guided fieldwork or any other analogous exercise, for which credits shall be assigned as follows:

   (a) Communication Therapy   12 credits
   (b) Environmental Health   20 credits
   (c) Medical Laboratory Science   45 credits
   (d) Physiotherapy   35 credits
   (e) Radiography   40 credits,
   provided that for students admitted in terms of paragraph (3) of regulation 4 the practical component shall consist of study-units for which 11 credits shall be assigned.
   (f) Occupational Therapy   24 credits

(2) Candidates shall be required to undergo practical placements in areas specified by the Board in the sequence established by it.

(3) A list of practical placements with the credits assigned to each shall be published before the start of each academic year.

(4) Candidates shall not be allowed to sit for the Final Comprehensive Examination unless they have obtained at least the following practical credits:

   (a) Communication Therapy   12 credits
   (b) Environmental Health   20 credits
   (c) Medical Laboratory Science   45 credits
   (d) Physiotherapy   35 credits
   (e) Radiography   40 credits,
   provided that students admitted in terms of paragraph (3) of regulation 4 shall be required to obtain 11 credits.
   (f) Occupational Therapy   24 credits

(5) Candidates shall be assessed during placements. An overall grade shall be awarded at the end of each practical year. Candidates who are unsuccessful may be reassessed during the period of allocation, provided that at least one week has passed since the first assessment.

(6) A credit certificate shall be issued to candidates on the successful completion of a practical placement. The certificate shall state the number of credits awarded.

(7) Candidates who fail to achieve a pass grade in any one year shall not be allowed to continue the Course or to take the Final Comprehensive Examination, except in special circumstances and with the permission of Senate.

Final Comprehensive Examination

9. (1) At the end of the Course candidates shall be required to take a Final Comprehensive Examination as follows:

(a) Communication Therapy

Paper I	Language Pathology and Communication Therapy I
Paper II	Language Pathology and Communication Therapy II
Paper III	Clinical Linguistics
Paper IV	Applied Neurology
Paper V	Applied Psychology
Special Project	A dissertation of not less than 10,000 words on an approved subject (6 credits)

Practical Examination

(b) Environmental Health

Paper I	Occupational Health
Paper II	Public Health
Paper III	Food Science, Technology and Hygiene
Special Project	A dissertation of not less than 10,000 words on an approved subject,

provided that for students in possession of a Diploma in Environmental Health registered as Health Inspectors with a minimum of three years' experience admitted under regulation 8.1 of the Admission Regulations, the Final Comprehensive Examination shall be as follows:

Paper I	Environmental Health I
Paper II	Environmental Health II
Paper III	Food Science, Technology and Hygiene
Special Project	A dissertation of not less than 10,000 words on an approved subject

(c) Medical Laboratory Science

Paper I	Theory of Medical Laboratory Science I
Paper II	Theory of Medical Laboratory Science II
Paper III	Theory of Medical Laboratory Science III
Paper IV	Theory of Medical Laboratory Science IV
Project	A dissertation of not less than 10,000 words on an approved subject

(d) Physiotherapy

Paper I	Theory of Physiotherapy
Paper II	Patient Management and Total Care
Practical Examinations	Patient Assessment, Treatment and *viva voce* examination
Special Project	A dissertation of not less than 10,000 words on an approved subject

(e) Radiography

Paper I	Principles and Practice of Radiography I - Applied Imaging
Paper II	Principles and Practice of Radiography II – Imaging Physics
Paper III	Radiography Professional Development I – Research Methods and Quality Assurance
Paper IV	Radiography Professional Development II – Developments in Imaging
Special Project	A dissertation of not less than 10,000 words on an approved subject
Clinical examination,	

provided that students admitted in terms of paragraph (3) of regulation 4 may be exempted from sitting for Paper II and for the clinical examination.

(f) Occupational Therapy

Paper I	Theory and Practice of Occupational Therapy in Physical Dysfunction
Paper II	Theory and Practice of Occupational Therapy in Psychosocial Dysfunction
Paper III	Professional Issues
Special Project	A dissertation of not less than 10,000 words on an approved subject.

(2) Candidates may also be required to take a *viva voce* examination.

(3) In each year there shall be one session of the Final Comprehensive Examination normally held in June and a supplementary session normally held in September.

(4) The overall evaluation of candidates for the Degree shall take into account their performance at the Final Comprehensive Examination as well as the credit certificates and grades obtained during the Course.

(5) Candidates who fail in only one paper shall be allowed a resit in that paper. Candidates who fail in more than one paper shall be required to resit the whole examination on only one other occasion normally in September of the same year. Candidates may be allowed to repeat the final year before resitting the Final Comprehensive Examination in its entirety, in special circumstances and with the permission of Senate.

Results

10. (1) The result shall show the names of successful candidates in alphabetical order under the following categories: First Class Honours, Second Class Honours (Upper Division), Second Class Honours (Lower Division), Third Class Honours and Pass.

(2) A Pass degree shall be awarded to such candidates who, though not judged as being worthy of Honours, are considered by the Degree Classification Board, acting on the advice of the examiners, to be of sufficient merit to be awarded the degree of Bachelor of Science – B.Sc.

| Legal Notice 127 of 2004 – Malta Government Gazette No. 17,552 – 16 March 2004 |
| Amended by: |
| Legal Notice 204 of 2005 – Malta Government Gazette No. 17,779 – 14 June 2005 |

EDUCATION ACT
(CAP. 327)

General Regulations for University Undergraduate Awards

IN exercise of the powers conferred upon him by sections 30 (5) and 31 (6) of the Education Act (Cap. 327), the Chancellor of the University of Malta has promulgated the following regulations made by the Senate of the University of Malta by virtue of the powers conferred upon it by sections 31 and 35 of the said Act:

Citation and Interpretation

1. In these regulations, unless the context otherwise requires, the terms used shall be taken to mean as indicated in the Glossary of Terms listed hereunder:

Glossary of Terms

Term	Explanation
Academic year	An academic year consists of two semesters, each incorporating 14 weeks of teaching, two weeks of recess, and examination periods of three weeks and of four weeks at the end of the first and the second semester respectively.
Add/drop period	A pre-announced period of time at the commencement of a semester during which students may withdraw without penalty from a unit previously registered for, or register for a new unit given in that semester. "Adding" or "Dropping" study-units may be subject to restrictions.
Area of Study	A subject, or a group of related subjects taken together in an approved Programme of Study.
Award Classification Board	The Board appointed in terms of the University Examinations Regulations, 1997.
Board	The Board of a Faculty or Institute or Centre responsible for a particular course or Programme of Study.
Board of Studies	The Board appointed to administer a course in terms of the Boards of Studies General Regulations, 1996.
Bye-Laws	means the Bye-Laws approved by Senate for each course.

Term	Explanation
Catalogue of study-units	A catalogue of study-units shall be drawn up by the relevant Board for each Area of Study. It shall indicate the level, code, title, description and type of each study-unit, the credits assigned to each study-unit, which study-units are compulsory, elective, concurrent or pre-requisites for other study-units, and the methods of teaching and assessment. The catalogue for each year of the course shall be published by the Board prior to the commencement of each course, following the approval of Senate.
Course / Course Programme	A course of studies leading to a University Undergraduate award. A course may be one Programme of Study or may include a number of Programmes of Study in particular Areas of Study.
Credit	A number of credits are awarded for successful completion of each study-unit. A total of 60 credits are assigned to the study-units that students are expected to complete over one full-time academic year.
Method of Assessment	Assessment of study-units may be through coursework, assignments, written or oral examinations, or combinations of these, to each of which a percentage of the final mark and grade shall be assigned. The method of assessment for each study-unit shall be indicated in the catalogue of study-units.
Professional course	A course that imparts specific professional competencies and leads to an award that gives access to a regulated profession.
Programme of Study	Comprises a group of study-units in an Area of Study offered as a main or subsidiary Area of Study in a course.
Referral / Referred Study-Unit / Referred Assessment	A failed study-unit which a student is allowed to refer to the following year. Students are required to register for referred study-units and be assessed, but attendance for lectures is not obligatory.
Study-Unit/ Unit	A part of a course or Programme of Study carried out upon a syllabus approved by Senate, on the recommendation of the Board, to which a specified number of credits at an indicated level is assigned, and which is capable of separate assessment. A study-unit may take the form of a series of lectures, seminars, tutorials, practical or clinical sessions, field placements, projects, research work, dissertation, private study or a combination of such work, or any other method of teaching.
Compensatable/ Non-compensatable study-unit	Unless declared to be non-compensatable in a Programme of Study, all study-units, whether compulsory, elective or optional, are deemed to be compensatable, i.e. may be passed by compensation provided all conditions in terms of these regulations are satisfied.
Compulsory study-unit	A study-unit which must be followed and passed for the purpose of progression or successful completion of the course.

Term	Explanation
Concurrent study-units	Two or more study-units which must be followed together during the same semester.
Elective study-unit	A study-unit in a particular Programme of Study which must be chosen from a designated list of study-units.
Optional study-unit	A study-unit which may be chosen from a wide range of study-units offered in other Programmes of Study within the University and designated as such.
Pre-requisite study-unit	A study-unit for which credit must normally be obtained in order for a student to be able to register for a subsequent study-unit.
Synoptic study-units	Study-units, the syllabus for which involves the requirement that students integrate knowledge acquired in previous study-units pursued during the course. Whenever such study-units are included in a course or a Programme of Study, these study-units are scheduled for the last year of the Programme of Study and are always compulsory for successful completion of the course or Programme of Study.
Study-unit/credit system	The allocation of credit to study-units forming part of a course or Programme of Study follows closely the European Credit Transfer System (ECTS) proposed by the European Commission, relevant extract from which is attached as Schedule 2 – ECTS Credits - which shall form part of these regulations for the purpose of interpretation and guidance.
University Undergraduate Award	A University Certificate, a University Diploma, an ordinary Bachelor degree, an Honours Bachelor degree or the degree of doctor of Medicine and Surgery.

Applicability

2. These regulations shall be applicable as from October 2003 for all courses leading to a University Undergraduate Award based on the study-unit/credit system and brought into force as bye-laws of these regulations.

Eligibility for a University Undergraduate Award

3. To be eligible for any University Undergraduate Award, students must:

(1) be registered as regular students in a Course in terms of the Admission Regulations of the University;

(2) complete the Course, and satisfy any other requirements prescribed in these regulations and in the bye-laws for the Course;

(3) satisfy any other requirements prescribed in any other relevant statutes, regulations and bye-laws of the University; and

(4) obtain not less than the number of credits at not below the level as indicated hereunder, including all credits for compulsory and elective study-units as specified in the programme/s of studies and/or bye-laws relevant to the Course on which the student is registered and subject to regulations 20, 21 and 22 below:

University Undergraduate Award	Requirements
University Certificate	30 credits of which not less than 26 credits not below Level 1.
University Diploma	Between 60 and 120 credits, as specified in the bye-laws for the Course, of which not less than 56 Level 1 credits and not more than 10 Level 0 credits.
Bachelor (ordinary)	180 credits of which not more than 4 Level 0, not less than 56 Level 1, 56 Level 2 and 56 Level 3 credits.
Bachelor (Honours in one Area of Study) **(three year full-time course)**	180 credits of which not more than 4 Level 0, not less than 56 Level 1, 56 Level 2 and 56 Level 3 credits, the latter all in the area taken at honours.
Bachelor (Honours in two Areas of Study) **(4 year full-time course)**	240 credits of which not more than 4 Level 0, not less than 56 Level 1, 56 Level 2 and 112 Level 3 credits, the latter units divided equally between the two areas taken at honours.
Bachelor (Honours) **(4 year full-time professional course)**	240 credits of which not more than 4 Level 0, not less than 56 Level 1, 56 Level 2 and 112 Level 3 and Level 4 credits.
Bachelor (Honours) and any other undergraduate award following a 5 year professional course)	300 credits of which not more than 4 Level 0, not less than 56 Level 1, 56 Level 2 and a further 168 at Level 3 and 4.

Provided that:

(i) students may be allowed to offer higher level credits in substitution of the required credits at a specific level;

(ii) an unclassified ordinary pass degree may, at the discretion of the Award Classification Board, be awarded to a student registered in a degree Course, who at the end of the Course lacks not more than 10 credits to complete the credit requirement for the award of the degree. The student shall however have the option to refuse the award and opt to refer the missing units to the following year or repeat the year if so eligible in terms of these regulations.

Registration and Special Course Requirements

4. (1) Applicants shall apply to register for the Course on the prescribed form and within the time specified by the Office of the Registrar.

(2) To be registered as regular students in any undergraduate Course, applicants must satisfy the requirements for registration as regular students in terms of the Admission Regulations of the University and any Special Course Requirements laid down in the bye-laws for the Course.

5. In any academic year, full-time students must register for study-units to which a total of not less than 60 credits and not more than 70 credits are assigned, (including any credits for referred study-units) and not less than 24 and not more than 36 credits in any one semester,
Provided that
(1) the choice of study-units is consistent with their Programme of Study;
(2) study-units taught and assessed over two consecutive semesters shall be deemed to be divided equally between the two semesters for the purpose of establishing the number of credits that a student may register (for) in a semester.

6. In any academic year, a part-time student must, unless in special circumstances given special permission by the Board, register for study-units to which a total of not less than 30 credits and not more than 40 credits are assigned, and not less than 12 and not more than 22 credits in any one semester unless specifically allowed otherwise in the bye-laws and provided that the choice of study-units is consistent with the Programme of Study.

7. (1) Students shall select and register for the study-units as prescribed in their Course Programme on the official form within the time specified by the Office of the Registrar and shall not be considered students on a unit unless they have so registered.

(2) Students shall not be permitted to follow a study-unit and/or be assessed for the award of credit unless they are registered as students on that unit.

(3) Where a particular first semester study-unit is specified as a prerequisite for a study-unit to be taken in the following semester, then the prerequisite will be deemed to have been satisfied if the student has been registered for the former unit, has maintained satisfactory attendance and completed all requirements associated with the unit.

(4) Where a particular study-unit is specified as concurrent with another, the student must maintain satisfactory attendance at both units.

(5) (a) Students may, subject to timetable and other published restrictions, and subject to any other condition that the University may from time to

time impose, change a choice of units during the "add/drop period" that shall be published by the Registrar with the approval of Senate.

(b)   The Registrar, acting on the advice of the Dean/Director of the Faculty/Institute concerned may, subject to the same conditions and restrictions as in paragraph (5)(a) of this regulation, allow a student to change a choice of units, or withdraw from or register for a unit after the "add/drop period" has passed provided that no withdrawal from a unit may be permitted after any of the assessment components of that unit has been completed.

(6) Students are responsible for complying with the procedures at the time in force as published on the "add/drop" form.

Duration of Course

8. The duration of a Course shall be specified in the bye-laws for each Course but shall be not less and not more than the following periods of full-time study:

(1) one semester for courses leading to a University Certificate;

(2) two semesters and not more than four semesters for courses leading to a University Diploma; and

(3) six semesters and not more than ten semesters for courses leading to Bachelors and Bachelors Honours degrees,

Provided that students may be allowed to follow a Course on a part-time basis, in which case the time spent in part-time study shall, unless otherwise stated in the bye-laws for the Course or unless in special circumstances specific arrangements are agreed in writing by the Board with the student, count as half that required in the case of full-time studies.

9. The Board may allow students to extend their studies by up to twelve months of study, irrespective of whether the student is registered on a full-time or part-time basis.

10. In special circumstances and on the recommendation of the Board, Senate may allow a further extension of up to two years of study, irrespective of whether the student is registered on a full-time or part-time basis.

11. The Board may allow students, for a good and sufficient reason, to suspend their studies for a maximum period of twelve months, irrespective of whether the student is registered on a full-time or part-time basis. In such cases the period of suspension of studies shall not be taken into consideration for calculating the period of registration in the Course in terms of the duration requirement.

Academic calendar

12. (1) The academic calendar of the University extends from 1st October to 30th September. The academic year consists of two semesters, each of fourteen weeks of teaching, two weeks of recess and three to four weeks of examinations, followed by the summer recess.

(2) Supplementary examinations are held in September during the summer recess.

(3) Programmes of Study may, with the approval of Senate, include summer sessions of varying lengths as indicated in the Programme of Study and/or the bye-laws for the Course.

13. The calendar for each academic year, indicating the date of the commencement of each semester, the dates reserved for examinations, and the dates of the Christmas, Easter and Summer recesses, shall be approved by Senate before the commencement of each academic year, normally a year in advance.

Courses and Course Programmes

14. Any Course shall be proposed by a Board duly authorised to offer undergraduate Courses and approved by Senate through bye-laws for the purpose.

15. Course Programmes that shall be approved by Senate may consist of one or more Programmes of Study in particular Areas of Study in which on successful completion of the Course an award may be given.

16. The Areas of Study and the combinations of areas that may be taken in a Course shall be indicated in the bye-laws for the Course.

17. A Course of studies leading to an award in more than one Area of Study may include areas that fall under the academic responsibility of different Faculties or Institutes. Senate shall approve such courses provided there is the concurrence of each of the Faculties/Institutes concerned.

18. Each academic year of full-time study of any Course shall include study-units to which sixty credits shall be assigned. Additional credits shall be assigned when a Course includes summer sessions.

Programmes of Study

19. There shall be a Programme of Study for each area of study in which a University undergraduate award may be given; whether the area is designated as a main or as a subsidiary area; in an Honours or an Ordinary degree.

20. An Area of Study can be designated as a main area in an ordinary degree Course Programme if at least 70 credits at the appropriate level are assigned to it.

21. An Area of Study can be designated as a main area in an honours degree Course Programme if at least 110 credits at the appropriate level are assigned to it.

22. An Area of Study can be designated as a subsidiary area in a degree Course Programme if at least 35 credits at the appropriate level are assigned to it.

23. All Course Programmes of Study shall allow students to register for optional study-units outside their area/s chosen as main or subsidiary, including units offered by other Faculties/Institutes, to the value of at least 2 credits for each year of the Course, although not necessarily 2 credits in each year.

24. Each Programme of Study shall be proposed by the department or division responsible for the teaching of the Area of Study and approved by Senate on the recommendation of the Board.

25. Programmes of Study shall be published before the commencement of each Course, normally by February of the preceding year, and shall include all the study-units in the area, indicating which of the units are compulsory, or electives, and the order in which the units shall be followed.

Study-units

26. Study-units shall be proposed by the department or division responsible for the teaching of the Area of Study and approved by Senate on the recommendation of the Board.

27. Each study-unit shall be assigned a code by the Office of the Registrar in accordance with the principles listed in Schedule 1 - System of Assigning Codes for Study-Units attached to these regulations.

28. Study-units shall be offered at levels as follows:

Level 0   Pre-tertiary or foundation or proficiency study-units.

Level 1   Study-units normally offered in Year 1 of an undergraduate Course where it is assumed that the students have a general level of education at least meriting the award of the Matriculation Certificate. In Courses where admission is dependant on students being in possession of special course requirements, such as a pass in a subject taken at Advanced Level, lecturers can assume that students possess the pre-required knowledge.

Levels 2 & 3 Study-units offered in Years 2 and 3 of an undergraduate Course. Level 3 credits are also offered in Year 4 of an undergraduate non-professional course.

Level 4 Study-units offered in Years 4 and 5 of a professional Course. Such study-units normally imparting specific professional competencies, although given at a level higher than Level 3, are still considered as being at undergraduate level.

Credits

29. A credit value is assigned to each study-unit indicating the total learning time, including time devoted to tuition, private study and assessment, which an average student might be expected to spend in achieving the learning outcomes associated with the unit; one credit nominally representing 25 hours of learning of which 5 to 7 hours are normally direct teaching when a study-unit is imparted in the standard lecturing mode.

30. Study-units taught and assessed within a single semester shall normally be assigned not less than 4 credits (except for study-units designated as optional, which may be assigned 2 credits) and not more than 30 credits.

31. Credits shall be awarded to students who pass the assessment for that unit. The grade and credits for a particular unit cannot be awarded to a student more than once.

32. Study-units credited to a student may not normally be used towards an award after 7 years have elapsed from the award of the credit to the student.

33. The same credits cannot be counted towards two separate qualifications unless one qualification is considered by Senate to be an interim qualification in the normal progression to the other, higher level qualification.
Provided that a Board of Studies may exempt a student from the attendance requirement of a compulsory study-unit credit for which was obtained towards another award, although such a student shall still be required to be assessed in the unit.

34. (1) Subject to regulations 32 and 33 above, credits awarded by other recognised Institutions of Higher Education may be accepted by the Board of Studies for transfer towards a specific Programme of Study except to a programme leading to a University Certificate,
Provided that any award of the University, including the Diploma, shall be subject to 60 credits assigned to the final year of the Course having been awarded by the University of Malta.

(2) The Board responsible for the programme towards which credits are transferred shall be responsible for ascertaining and reporting to the Registrar the

mark, grade and credit value equivalence of the units for which credits are transferred.

Attendance

35. Unless otherwise specified in the bye-laws of a Course, or expressly stated in the description of a study-unit as published in the catalogue of study-units, attendance for lectures, tutorials, seminars, practical or clinical sessions or work placements, fieldwork and any other teaching session in whatever mode is obligatory. Unauthorised absence may lead to the student being declared ineligible for assessment of the unit, in which case a 0 mark and an F grade shall be assigned and recorded.

Assessment

(1) Marking and Grading

36. Examiners shall express the student's performance in the assessment of study-units as a percentage mark and as a grade as indicated in the tables below. Both the percentage mark and the letter grade shall be recorded in the student's academic record. The percentage mark only is used for the purpose of calculating the student's progress and for the award classification.

Descriptor	Mark Range	Grade
Work of exceptional quality Exceptional performance showing comprehensive understanding and application of the subject matter. Evidence of extensive additional reading/research/work.	95%-100%	A+
Work of excellent quality Superior performance showing a comprehensive understanding of the subject matter. Evidence of considerable additional reading/research/work.	80% - 94%	A
Work of very good quality Performance is typified by a very good working knowledge of subject matter. Evidence of a fair amount of reading/research/work.	75% - 79%	B+
Work of good quality Above average performance, with a working knowledge of subject matter. Evidence of some reading/research/work.	70% - 74%	B
Work of average quality Considerable but incomplete understanding of the subject matter. Evidence of little reading/research/work.	65% - 69%	C+
Work of fair quality Basic understanding of the subject matter. No evidence of additional reading/research/work.	55% - 64%	C

Descriptor	Mark Range	Grade
Work of rather low quality Minimal understanding of the subject matter, with no evidence of additional reading/research/work.	50% - 54%	D+
Marginal Pass Marginal performance, barely sufficient preparation for subsequent courses in the same area.	45% - 49%	D
Pass - when assessment is based on a Pass/Fail basis only for study-units that are used for establishing eligibility to progress or for the award but are not taken in consideration for calculating the student's progress and for award classification purposes.	Not Applicable	P
Compensated Pass. Performance in the assessment of a study-unit, except a non-compensatable unit, that is deemed to be just below marginal pass but is deemed to be compensatable by good performance in other units. (vide regulation 45.)	35% - 44%	CP
Narrow failure that however is not compensated by good performance in other units.	35% - 44%	F
Unsatisfactory, failing work in any study-unit.	0% - 34.%	F
Unsatisfactory, failing work in a non-compensatable study-unit.	0% - 44%	F
Unjustified absence for an assessment, or failure to hand in assigned work in time, or ineligibility to take assessment due to unapproved absence from lectures. Shall be considered as F with 0 marks in the calculation of the average mark.	0%	F

37. The following grades when assigned to study-units shall **not** be taken into consideration for computation purposes but form part of the student's academic record.

Grade	Descriptor
I	Temporary grade for Incomplete work due to justifiable reasons (illness, approved absence, etc.) for which the assessment date has been postponed or deadline for submission of work has been extended.
W	Approved withdrawal of the registration for a study-unit after the official add/drop period has elapsed, given in consideration of exceptional circumstances, such as absence from lectures due to prolonged illness during the semester. The unit shall not be taken into consideration in the calculation of the average mark.

(2) Calculating an Average Mark

38. In calculating the average mark for each year of the Course (referred to as the Year Average Mark), each individual mark obtained for each unit registered (for) during the year shall be weighted by the credit value of the corresponding unit, the resultant marks are added and divided by the total number of credits to give the average mark for the year, provided that a student may request that marks obtained for a passed unit done over and above the requirements of the Course Programme for the year be not taken into consideration for this purpose. The average shall be recorded correct to one decimal place.

39. The Final Weighted Average Mark that shall be used to classify the award shall be calculated by weighting each Year Average Mark by the corresponding factor for the year as indicated in the bye-laws for the Course in terms of regulation 70 and the average shall be recorded correct to the nearest whole number.

Assessment Methods

40. The method of assessment for each study-unit shall be indicated in the study-unit description and published in the catalogue of study-units.

41. Unless in special circumstances and with the approval of the Board, all students on the same study-unit shall be assessed by the same method/s of assessment. Supplementary assessments shall normally have the same mode of assessment as the corresponding first assessment.

42. (1) Assessment may be made :

(a) **in a continuous mode,** i.e. by a set of assessments, which may take the form of class tests, take-home assignments, oral tests, practical work/projects, or a combination of two or more of these methods, or any other method of continuous assessment approved by the Board distributed throughout the study-unit; or

(b) **in a final mode,** i.e. by a single assessment at the end of the study-unit; or

(c) **in a continuous and final mode,** i.e. partly by a set of assessments distributed throughout the study-unit and partly by an assessment at the end of the study-unit.

(2) Study-unit assessments may be conducted by the lecturer/s who teaches the particular study-unit in consultation with the Head of Department or by a Board of Examiners approved by Senate on the recommendation of the Board.

(3) Synoptic study-units, and all compulsory study-units conducted at the end of the last semester of any Course leading to a diploma or degree, shall normally

include an examination component which shall contribute not less than 60% towards the final mark of the unit.

43. When the assessment of a study-unit comprises two or more components, the percentage weighting each component contributes to the award of the final mark and grade of the study-unit shall be indicated in the study-unit description published in the catalogue of study-units.

44. Any work assigned as coursework for continuous assessment purposes shall always be submitted before the date of the final examination of the study-unit. When a study-unit is assessed by coursework only, the date of submission of work shall not be set later than the last day of the examination session following the semester during which the study-unit is given.

45. Students who fail in any study-unit, except a study-unit that is declared to be non-compensatable in a Programme of Studies, with a mark of not less than 35 and whose current mark average is at least 50 shall be awarded the grade CP and shall be awarded credit for the unit by compensation and shall not be required to be reassessed.

Supplementary Assessments

46. Students who fail in any study-unit and who are not eligible to a compensatory pass (Grade CP) shall be allowed a supplementary assessment, provided they are eligible in terms regulations 47 and 48.

47. In any academic year, students shall only be eligible to be re-assessed in study-units to which not more than 16 credits are assigned, except when students fail in only one study-unit to which more than 16 credits are assigned or in two study-units which between them are assigned more than 16 credits but not more than 20 credits.

48. (1) Students shall be allowed a supplementary assessment of a failed unit on one occasion only during the same academic year the unit has been followed provided they had satisfied the attendance requirement of the study-unit and the deadlines for submission of coursework and provided they are eligible in terms of regulation 47.

(2) Students who fail a study-unit due to unjustified absence for an examination or due to non-submission of coursework by the set deadlines, may be allowed a supplementary session at the discretion of the study-unit examiner/s.

(3) Students who fail a study-unit due to ineligibility to take the first assessment because of failure to satisfy the attendance requirement shall not be allowed a supplementary assessment, unless in special circumstances with the approval of the Board. In such a case the Board shall impose special requirements on the student to make up for the missed teaching sessions.

49. In the supplementary assessment of a failed study-unit, students may be required to be reassessed either in the failed component/s of the assessment or in all the components of the assessment as indicated in the catalogue of study-units. A continuous assessment component may be indicated as not having the possibility of a Supplementary Assessment.

50. Students who fail the assessment of a study-unit involving a work placement, clinical practice or any other unit that requires assessment over a period of time, and when it is not practicable or possible for students to be re-assessed during the current year, shall not have the right to a supplementary assessment and shall:

either (1) be required to refer the study-unit to the following year if such referral is allowed in terms of these regulations;

or (2) be required to re-do the unit during an additional year of studies during which the students concerned shall be registered as part-time students and shall normally be required to do that study-unit only. Such an additional year may, at the discretion of the Board, not be counted for the purpose of course duration.

The conditions for the re-assessment of such study-units shall be indicated in the particular study-unit description published in the catalogue and/or in the bye-laws for the Course.

51. In any supplementary assessment, the maximum mark/grade that may be awarded shall be 45, grade D.

52. Supplementary assessments shall be held as follows:

(1) for the continuous assessment mode: by arrangement with the lecturer concerned provided that reassessment is completed before the end of the supplementary assessment session.

(2) for the examination mode: at a supplementary session of examinations, normally in September.

Progress

(1) Regular progression

53. Students shall register as regular students in the following year of the Course on obtaining the 60 credits assigned to the study-units as indicated in their Course Programme.

(2) Conditional progression

54. Students who after the supplementary session need not more than 10 credits in order to successfully complete the Course Programme for the year, shall, whenever possible and after academic counselling by the Dean and/or the Head of Department concerned, be given the option by the Board to either:

(1) refer the failed study-units to the following year to be done over and above the study-units indicated for that year, OR

(2) repeat the unit in an additional year of studies if the student is in the final year of the Course, OR

(3) repeat the year, if eligible in terms of these regulations.

55. Students referred to in regulation 54 who take up the option to refer failed units to the following year shall be considered to have progressed conditionally and shall not be allowed to continue with the Course if, after the supplementary assessment session of that year, they would have failed again to obtain the required credits for any of the referred compulsory units.

56. In the case of non-compulsory referred study-units, the Board, after consultation with the Head of Department and/or the Board of Studies, may allow students to register for alternative study-units which fall within the scope of the students' Programme of Study.

57. A study-unit that has been accepted as an alternative to a referred study-unit shall be registered for and followed under the same conditions as any other unit but shall be considered as a referred study-unit for marking and grading purposes and shall therefore attract a maximum mark of 45%, Grade D.

58. Any study-unit may be referred to the following year once only.

59. Students who fail the assessment of a referred study-unit in a normal session of examinations shall be allowed a final re-assessment in the September supplementary session, provided that they are eligible in terms of these regulations.

60. The maximum mark/grade that may be awarded to a referred study-unit, including study-units accepted as alternative to referred ones, and irrespective of whether the study-unit is assessed in a normal or in a supplementary session of examinations, is 45, Grade D.

Change of Area of Study

61. A student registered in a degree with more than one Area of Study may request to change one of the Areas of Study registered. In such instances, the Board

may, at its discretion, allow students to change under those conditions it may impose, including the condition of an additional year of study.

Requirement to repeat a year of study or to terminate a Course

62. Students who, by the end of a particular academic year of study, lack more than 16 of the credits required for their current year including credits for referred study-units (except students who, in terms of regulation 48, are eligible to be reassessed in one study-unit to which more than 16 credits are assigned), shall not be allowed a reassessment in any of the failed study-units and shall be required to repeat the year if eligible in terms of these regulations or, if not eligible to repeat a year, shall be required to withdraw from the Course.

63. Students who, after the supplementary assessment session still lack more than 10 credits to complete the requirement of their Course Programme for the particular year, shall be required to repeat the year if eligible in terms of these regulations or, if not eligible to repeat a year, shall be required to withdraw from the Course.

64. Students shall be allowed to repeat the same year of a Course once only and shall not, unless in exceptional circumstances and with the approval of Senate, be allowed to repeat a year more than once throughout any Course.

65. (1) Students who are not eligible to progress to the next year of the Course and are allowed to repeat the failed year shall be required to follow the Programme/s of Study that is/are current for the academic year during which they are repeating, including any study-units the student may have successfully completed in their failed year.
Provided that such students shall always be required to successfully complete all the compulsory units of their Programme/s of Study.

(2) In the first assessment of this year any grade may be obtained; in a supplementary assessment, the maximum grade that may be awarded shall be grade D. The credits obtained in this year shall count towards the final classification of the degree.

(3) The results obtained during the failed year shall not be taken into consideration for the award of the degree and shall not be included in the student's academic record,
Provided that, at the discretion of the Board, students registered in a degree comprising more than one Area of Study may be allowed to retain the credits obtained in a successfully completed Area of Study with a Year average mark of at least 50%. In such instances, the Board may either allow the student to register part-time and follow the units of the failed area only, or, time-table constraints permitting, allow the student to register also for some higher level study-units in the other area/s.

Special Provisions for Students in the Final Year of a Course

66. Students who after the supplementary session of examinations of their final year of study in a Course, need only to successfully complete one study-unit (normally a dissertation, long essay or project) to which more than 10 credits are assigned in order to successfully complete the Course shall be allowed an extra year of study in which to complete the missing unit.

Consequences of Withdrawal from a Course

67. When a student is required by regulations to withdraw from a Course, the student shall not be allowed re-admission into the same Course before the lapse of three years from withdrawing and thereafter may only be re-admitted by permission of Senate given on the recommendation of the Board.

68. When a student withdraws from a degree Course either by choice or because ineligible to proceed further in terms of these regulations, and unless the bye-laws for the Course provide for the granting of an interim award the student shall:

(1) if at least 60 credits have been obtained, be granted the Certificate of Higher Education (Cert. H.E.);

(2) if at least 120 credits have been obtained, be granted the Diploma of Higher Education (Dip. H.E.),

in both instances without reference to any Area of Study in the title of the award.

Classification of Undergraduate Awards

69. (1) Certificates shall be awarded unclassified.

(2) Diplomas may be awarded "With Distinction" or "Pass".

(3) Ordinary Degrees may be awarded in any of the following categories:

Category I
Category IIA
Category IIB
Category III.

(4) Honours degrees may be awarded in any of the following classes:

First Class Honours
Second Class Honours (Upper Division)
Second Class Honours (Lower Division)
Third Class Honours.

70. The classification of awards shall be determined by the Award's Classification Board in accordance with criteria that shall be indicated in the bye-laws and that shall be made subject to the following provisions:

(1) The performance in study-units in a Certificate or Diploma Course Programme shall normally be weighted equally except that, in the case of Diploma programmes that include Level 2 study-units, such units may be weighted by a factor that is not more than twice that of Level 1 units.

(2) In degree programmes, the performance in study-units of each year of the Course may be weighted differently towards the Final Weighted Average Mark, provided that the weighting of the study-units of any particular year shall not be more than 65%.

71. (1) Award Classification Boards shall consult the following guidelines when deciding upon the classification of awards at the end of each Course.

(a) A diploma is normally awarded "With Distinction" to students whose Final Weighted Average Mark is not less than 80%.

(b) Degrees are normally awarded as follows:

Average Mark	Ordinary Degrees	Honours Degrees
100% - 80%	Category I	First Class Honours
79% - 70%	Category IIA	Upper Second Class Honours
69% - 55%	Category IIB	Lower Second Class Honours
54% - 45%	Category III	Third Class Honours

(2) The Award Classification Board, at its own discretion, may award the degree with a higher category or class than that indicated to students whose Final Weighted Average Mark is up to five marks less than the threshold (minimum) for the category/class. In such cases the Award Classification Board is required to minute the decision and the justification for it.

(3) The Award Classification Board may also award a diploma or degree with a lower category/class than that indicated in the above guidelines. In such cases the Classification Board is required to obtain the authorisation of the Board of the Faculty or Institute or Centre responsible for the particular Course that shall minute the decision and the justification for it. The student/s concerned may appeal to Senate against the decision within two weeks of the publication of the Final Classification.

Miscellaneous

Changes to published Programmes and Study-Units

72. The University will make every effort to ensure that the published programmes and Study-Unit Catalogues are complete and up to date, but reserves the right to make changes on the recommendation of the relevant Board. The availability of optional units may be subject to timetabling constraints. Units attracting fewer than six student registrations may be withdrawn without notice.

Consequences of Unfulfilled Obligations

73. A student in debt to the University, or otherwise having unfulfilled obligations to the University, will not be permitted to re-register in any succeeding sessions, nor shall a degree, diploma or certificate be conferred upon a student in debt or having unfulfilled obligations, except by special permission of the Rector, or until the debt is paid or the obligation is fulfilled.

Professional Misconduct And/Or Unsuitability

74. (1) In the case of students following a professional Course, the University may at any time suspend or preclude from further studies any student who, following appropriate investigatory procedures that Senate may establish for such cases, is deemed to have acted or be acting in a manner which jeopardises the welfare of the subject (whether patient, pupil, or client) or which contravenes the relevant professional codes of conduct (i.e. professional misconduct), or whose behaviour is deemed to be incompatible with that required by the profession (i.e. professional unsuitability).

(2) The University may request a Police Good Conduct Certificate of its students.

Special Provisions for Part-Time Courses

75. (1) A Board may, from time to time, offer students the opportunity to follow a Course on a part-time basis in Areas of Study which shall be indicated before the commencement of each Course.

(2) The provisions of the foregoing regulations shall apply *mutatis mutandis* to courses followed on a part-time basis, and subject to such changes as may reasonably be deemed by the relevant Board as necessary due to the part-time nature of the Course.

UNIVERSITY OF MALTA
Institute of Health Care

B.Sc.(Hons) Physiotherapy
'Ideal' Course Programme

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC

YEAR I

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
PHT1011	**Cardiovascular/Respiratory Physiotherapy**	1&2	1	26	T/P	Assignment & Oral Test	C	NC
	Thorax and Pelvis Dissection				T	Practical Test		
	Anatomy of the Abdomen and Pelvis				T	Written Test		
	Anatomy of the Thorax				T	Written Test		
	Body Fluids, Cells, Cardiovascular and Respiratory Physiology				T	Written Test		
	Renal Physiology and Haematology				T	Written Test		
	Gastrointestinal Physiology and The Endocrine System				T	Written Test		
	Burns and Plastic Surgery				T	Assignment		
	Respiratory Conditions				T/P	Oral Test & Practical		
	Introduction to Surgery				T	Assignment		
	Cardiac Rehabilitation				T/P	Assignment		
PHT1041	**Manipulative Therapy I**	1&2	1	14	T/P	Oral Test & Practical	C	NC
	Anatomy of the Upper and Lower Limb				T	Written Test		
	Upper and Lower Limb Dissection				T	Practical Test		
	Living Anatomy				T/P	Oral Test & Practical		
	Soft Tissue Manipulations				T/P	Oral Test & Practical		
	Mobilisations - Upper Limb				T/P	Oral Test & Practical		
	Mobilisations - Lower Limb				T/P	Oral Test & Practical		
PHT1062	**Movement and Kinesiology**	1&2	1	12	T/P	Continuous Assessment	C	NC
	Movement and Kinesiology				T/P	Assignment & Presentation		
	Exercise Therapy				T/P	Assignment/Oral Test & Practical		
	PNFs				T/P	Oral Test & Practical		
	Hydrotherapy				T	Assignment		
	Patient Assessment				T	Assignment		
	Moving and Handling				T/P	Oral Test & Practical		
	Clinical Sciences				P	Assignment & Presentation		
	Applied Sciences							
PAT2121	Pathology	1	2	4	T	Written Test	C	NC
CPH2401	Pharmacology for Health Care Professionals	1 & 2	2	4	T	Written Test	C	NC

	TOTAL CREDITS	**60**
	Level 1	*52*
	Level 2	*8*
	Optional	*-*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care

B.Sc.(Hons) Physiotherapy
'Ideal' Course Programme

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR II								
PHT3032	**Neurological Rehabilitation**	1&2	3	25	T/P	Written Test & Practical	C	NC
	Anatomy of the Head, Neck and Vertebral Column and Neuroanatomy				T	Written Test		
	Head and Neck Dissection				T	Practical Test		
	Neuroanatomy and CNS Dissection				T	Written Test		
	Neurophysiology				T			
	Introduction to Neurological Rehabilitation				T/P	Written Test & Practical		
	Neuro Rehabilitation I							
	Neuro Rehabilitation II							
PHT2042	**Musculoskeletal Physiotherapy**	1&2	2	20	T/P	Continuous Assessment	C	NC
	Musculoskeletal Physiotherapy I				T	Oral Test & Assignment		
	Musculoskeletal Physiotherapy II				T	Oral Test & Assignment		
	Peripheral Nerve Injuries				T	Oral Test & Assignment		
	Women's Health				T/P	Assignment/Oral Test & Practical		
	Obstetrics and Gynaecology				T/P	Assignment/Oral Test & Practical		
	Clinical Sciences				P	Continuous Assessment		
	Research Methods I	1&2		9	T	Written Test	C	NC
	Introduction to Research Methods				T	Written Test		
	Research Methods				T	Written Test		
	Health Information Science				T	Writtent Test		
	Optional Study-units (6 credits) *			6			C	CP

TOTAL CREDITS	**60**
Level 1	*0*
Level 2	*20*
Level 3	*25*
Optional	*6*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care

B.Sc.(Hons) Physiotherapy
'Ideal' Course Programme

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR III								
PHT3021	**Physical and Electrotherapeutic Agents**	1&2	3	10	T/P	Oral Test & Practical	C	NC
	Low Frequency Currents				T/P	Oral Test & Practical		
	Peripheral Heating				T/P	Oral Test & Practical		
	Ultrasound				T/P	Oral Test & Practical		
	Interferential - TNS - Laser				T/P	Oral Test & Practical		
	Electrotherapy - Thermal Applications				T/P	Oral Test & Practical		
PHT3062	**Rehabilitation of the Older Adult**	1&2	3	8	T	Continuous Assessment	C	NC
	Physiotherapy for the Older Adult				T	Oral Test & Assignment		
	Rehabilitation of the Amputee				T	Written Test		
	Physiotherapy in Mental Health				T	Assignment		
PHT3082	**Care of the Child**	1&2	3	6	T	Oral/Written Test	C	NC
	Paediatrics I				T	Oral/Written Test		
	Paediatrics II							
PHT3101	**Clinical Sciences**	1&2	3	8	P	Oral Test/ Assignment	C	NC
PHT3042	**Manipulative Therapy II**	1&2	3	10	T/P	Oral Test & Practical	C	NC
	Living Anatomy (Back and Neck)				T/P	Oral Test & Practical		
	Mobilisations - Back and Neck							
	Advanced Mobilisation Techniques							
	Social Sciences							
IHC2011	Social Aspects of Health Care		2	2	T	Written Test	C	CP
PSY1401	Introduction to Psychology for Health		1	2	T	Written Test	C	CP
PSY2401	Helping Skills for Health Carers		2	2	T	Written Test	C	CP
IHC2013	Health Promotion and Health Education		2	4	T	Written Test	C	CP
	Professional Issues				-	-		
PHT3018	Development of Critical and Reflective		3	2	T	Assignment	C	NC
IHC2012	Ethics for Health Professions and Ethical Dilemmas		2	4	T	Assignment & Writtent Test	C	CP
	Optional Study-units (2 credits) **			2	T		C	CP

TOTAL CREDITS	**60**
Level 1	*2*
Level 2	*12*
Level 3	*44*
Optional	*2*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care

B.Sc.(Hons) Physiotherapy
'Ideal' Course Programme

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR IV								
PHT4101	**Clinical Sciences**	1&2	4	50	P	Continuous Assessment	C	NP
PHT4200	**Dissertation**	1&2	4	10	T	Project	C	NP

	TOTAL CREDITS	**60**
	Level 4	*60*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care

B.Sc.(Hons) Physiotherapy
'Ideal' Course Programme

RECOMMENDED LIST OF OPTIONAL STUDY UNITS

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	CP/NC
ANA1011	Histology		1	2			
IHC1001	Disability Issues*		1	2			
HSM3001	Introduction to Health Service Management (Recommended Extra)		3	4			
IHC1002	Introduction to First Aid (Recommended Extra)		1	2			
PHT3019	Dermatology/Ultraviolet **		3	2			
IHC2014	Comunication Skills for Health Professions*		2	4			

Ethical Considerations

Ethical written permission was obtained from the Chairman and Director of the Institute of Health Care of the University of Malta and from the Director General of Health Services on the island. This was followed by a presentation to an Ethics Board constituted by representatives of the University of Malta and the Department of Health. This Board approved the study.

A covering letter providing the information regarding the study was sent to each interviewee. Prior to every interview all participants were informed about the purpose of the study and that they could withdraw at whatever stage of the interviews without prejudice.

All the data obtained was to be safely stored and only to be viewed by myself and my supervisors should the need arise. At the end of the study, all tape recordings are to be destroyed.

Information Sheet

Mark Sacco
Room 307,
Institute of Health Care,
University of Malta,
Msida.

I am a physiotherapist employed to teach physiotherapy at the University of Malta. I am also a registered student at Sheffield Hallam University, United Kingdom. My area of study is the Physiotherapy Curriculum.

During my research I would like to seek your opinion regarding the course of study that you undertook. Your opinion is important as it might influence changes to the content of the curriculum of future physiotherapists as well as the standard of physiotherapy being practiced on the island.

I would appreciate it if you would spare the time to participate in an interview related to the area of study. I will treat all the information obtained in strict confidence and I will not identify any of the participants in the resultant study.

Should you agree to participate, but later change your mind, you will be entirely free to terminate your participation at any time or to decline to answer certain questions.

I intend to use a tape recorder during the interviews, and will need your consent (form attached) to record the interview should you decide to participate in the study. I will use the recordings for the sole purpose of the study and will not reveal your name and identity either during or after the course of study. I will code the data collected so that it cannot be linked to your name.

The Director General (Health), the Physiotherapy Manager and the Chairman of the Institute of Health Care have approved this study. If you wish to ask any questions about the study or about being a participant please call me on 2595 2016 or home on 372330.

I thank you in anticipation for your assistance.

Mark Sacco

Consent Form

Modernizing the Maltese Physiotherapy Curriculum: An Empirical Study

Code Number: _____

I confirm that I have read the attached information sheet.

I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving reason.

I have no objection to the use of the tape recorder, as I know that my identity will not be revealed and that the raw data will be kept in a secure place and not made public.

I agree to participate in the above study.

_____   _____   _____
Name (Respondent)   Date   Signature

_____   _____   _____
Researcher   Date   Signature

Form to be filled in **DUPLICATE**: 1 copy for Respondent and 1 copy for Researcher.

...IVERSITA TA' MALTA
'UT GHALL-HARSIEN TAS-SAHHA
RDAMANGIA-MALTA

UNIVERSITY OF MALTA
INSTITUTE OF HEALTH CARE
GWARDAMANGIA-MALTA
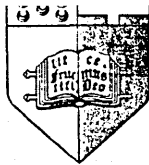
IGHNA:

EGHEK:

OUR REF:

YOUR REF:

1st October 2001

Professor J. Rizzo Naudi
Chairman
Institute of Health Care

Re: PhD titled 'Modernizing the Maltese Physiotherapy Curriculum: An Empirical Study'

I am now in the second year of the study regarding the above title and I intend to research all third year and fourth year Physiotherapy students by means of a questionnaire and an interview. I would like to obtain your permission to undertake such a study over the next six months.

Kindly find enclosed a copy of my proposal that has been approved by Sheffield Hallam University in respect to the above research study.

Thanking you in advance for your kind co-operation,

Mark Sacco
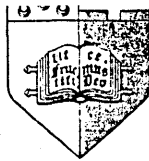
TAGHNA: OUR REF:

TIEGHEK: YOUR REF:

1st October 2001

Dr S. Buttigieg
Director
Institute of Health Care

Re: PhD titled 'Modernizing the Maltese Physiotherapy Curriculum: An Empirical Study'

I am now in the second year of the study regarding the above title and I intend to research all third year and fourth year Physiotherapy students by means of a questionnaire and an interview. I would like to obtain your permission to undertake such a study over the next six months.

Kindly find enclosed a copy of my proposal that has been approved by Sheffield Hallam University in respect to the above research study.

Thanking you in advance for your kind co-operation,

Mark Sacco

I am pleased to inform you that you can go ahead with your study and interviews as required above

regards

10/10/2001

RECEIVED
-1 OCT 2001

ЛР ... ...

ГUT GHALL-HARSIEN TAS-SAHHA
\RDAMANGIA-MALTA

UNIVERSITY OF MALTA
INSTITUTE OF HEALTH CARE
GWARDAMANGIA-MALTA
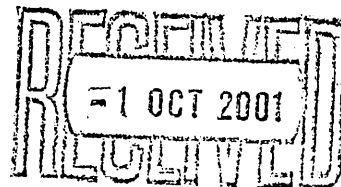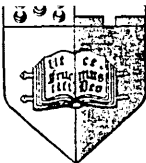
AGHNA: *OUR REF:*

IEGHEK: *YOUR REF:*

1ˢᵗ October 2001

Dr Ray Busuttil
Director General Health
Department of Health
15, Merchants Street,
Valletta

<div align="center">Re: Ethical Permission</div>

As you are aware I am a physiotherapist teaching Physiotherapy at the Institute of Health Care. I am also a registered student at Sheffield Hallam University reading for a PhD titled 'Modernizing the Maltese Physiotherapy Curriculum: An Empirical Study'.

I am now in the second year of the study regarding the above title and I intend to research all qualified physiotherapists working in Government Service by means of a questionnaire and an interview.

I also intend to interview a sample of past and current patients attending the Physiotherapy Department at St. Luke's Hospital.

I would like to obtain your permission to undertake such a study over the next six months.

Kindly find enclosed a copy of my proposal that has been approved by Sheffield Hallam University in respect to the above research study.

Thanking you in advance for your kind co-operation,

Mark Sacco

CYCLE I

RESEARCH METHOD: GROUP INTERVIEW (30.01.02)
Pre-piloted Questions

Introduction - **Myself**
- **Aim of Research**
- **Collaboration Required**

- If we had to critically look at our course programme, what general comments would you come up with?
- What are your opinions regarding the mode of assessment of our course held at the I.H.C.?
- Are we content with the clinical component of our course?
- When it comes to the actual academic content, what are your views?
- What are your views regarding the common core system that the I.H.C. has adopted?
- Do we think that what is being taught is what the clinician in the field requires?

CYCLE I

RESEARCH METHOD: GROUP INTERVIEW (30.01.02)
<u>Pre-piloted Questions</u>

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- Kieku kellna nharsu b'mod kritiku lejn il-programm tal-kors, x'inhuma l-kummenti generali li kontu taghmlu?
- X'inhuma l-opinjonijiet taghkom dwar kif qed jigi ezaminat il-kors li qed jigi mghallem fl- I.H.C.?
- Sodisfatti bil-parti klinikali tal-kors?
- X'inhuma l-opinjonijiet taghkom meta wiehed ihares lejn il-kontenut akkademiku?
- X'tahsbu dwar is-sistema li qed tintuza mill-I.H.C. bhalissa, ta' kif qed jigu mghallma l-common core units?
- Tahsbu li dak li qed jigi mghallem, hu fil-fatt dak li ghada pitghada se jkollu bzonn minn ikun qed jahdem f'dan il-qasam?

CYCLE I

RESEARCH METHOD: GROUP INTERVIEW (30.01.02)
<u>Amended Questions</u>

Introduction - **Myself**
- **Aim of Research**
- **Collaboration Required**

- If we had to critically look at our course programme, what general comments would you come up with?
- Do you have any opinions regarding the mode of assessment that is used at the Institute of Health Care?
- Can you comment about the academic component of this course?
- Do you agree with the common core system that the IHC has adopted? Can I have your comments?
- Are we convinced that what is taught is what the clinician in the field actually requires?

CYCLE I

RESEARCH METHOD: GROUP INTERVIEW (30.01.02)
Amended Questions

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- Kieku kellna nharsu b'mod kritiku lejn il-programm tal-kors, x'inhuma l-kummenti generali li kontu taghmlu?
- Ghandkom xi opinjonijiet dwar il-metodu li qed jintuza biex jigi ezaminat il-kors gewwa l-I.H.C.?
- Tistghu tghadduli xi kummenti dwar il-parti akkademika tal-kors?
- Taqblu mas-sistema li giet addottata mill-I.H.C. ta' kif jigu mghallma l-common core units? Nista' niehu xi kummenti minn ghandkom dwar dan?
- Ahna konvinti li dak li qed jigi mghallem, hu fil-fatt dak li hu mehtieg minn min jahdem f'dan il-qasam?

CYCLE I

RESEARCH METHOD: FOCUS INTERVIEW (February 2002)
<u>Pre-piloted Questions</u>

<u>Interview Design and Questions</u>

- Introduction
- What are your comments regarding our group discussion that we have had?
- Have you had a chance to read the transcript of our first meeting?
- Have you discussed the outcome of the meeting with your colleagues?
- What are your comments regarding the content of the course that you have been following?
- Are there any subjects that you think ought to be included in the curriculum of studies?
- If we review this course programme, are there any study-units that ought to be in a different stage of the course?
- Are there any study-units which in your opinion were superfluous?
- Did you think that the course was very theory orientated?
- Are you pleased with the amount of practical skill training that the course involves?
- Can you suggest a manner in which the course could be organised to help students learn/understand things better?
- Regarding the actual teaching, can you give me your comments?
- What did you think about the way the Practicals were taught?
- In your opinion did the course provide you with enough skills to treat patients?
- Regarding the Clinical Placements, can you give me your opinion regarding the time you spent there?
- Do you think that the time spent on clinical placements is adequate?
- Can you suggest a way in which these clinical placements can be improved?
- What is your opinion regarding the mode of assessment of the course?
- Can you suggest how you think this could have been improved?
- On the whole, did you find the course stressful at all?
- Can you give me your opinion about the dissertation that has to be written as a part of your course?

CYCLE I

RESEARCH METHOD: FOCUS INTERVIEW (February 2002)
Pre-piloted Questions

Is-Sura tal-Intervista u l-Mistoqsijiet

- Introduzzjoni
- X'inhuma l-kummenti taghkom dwar id-diskussjoni li kellna bhala grupp?
- Kellkom cans taqraw it-transcript ta' l-ewwel laqgha li kellna?
- Tkellimtu mal-kollegi taghkom dwar dak li hareg mill-ewwel laqgha taghna?
- X'inhuma l-kummenti taghkom dwar il-kontenut tal-kors li qeghdin issegwu?
- Hemm xi suggetti li tahsbu li ghandhom ikunu nkluzi fil-kurrikulu tal-kors?
- Kieku kellna nirrevedu l-programm tal-kors, tahsbu li hemm xi suggetti li jistghu jigu mghallma f'xi stadju differenti tal-kors?
- Fl-opinjoni taghkom tahsbu li hemm xi suggetti li kienu zejda?
- Tahsbu li l-kors kien imfassal izzejjed fuq it-tejorija?
- Sodisfatt bl-ammont ta' tahrig prattiku li hemm fil-kors?
- Tistghu tissuggerixxu xi mod li bih jista jigi organizzat il-kors sabiex jghin lill-istudenti jitghallmu u jifhmu l-affarijiet ahjar?
- Tistghu taghtuni l-kummenti taghkom dwar it-taghlim innifsu?
- X'tahsbu dwar il-mod li bih gew mghallma l-Prattici?
- Fl-opinjoni taghkom, tahsbu li l-kors provdilkom bizzejjed tahrig prattiku sabiex tkunu tistghu tittrattaw il-pazjenti?
- Dwar il-Clinical Placements, tistghu taghtuni l-opinjoni taghkom dwar iz-zmien li qattajtu hemmhekk?
- Tahsbu li z-zmien li qattajtu fuq il-Clinical Placements kien bizzejjed?
- Tistghu tissuggerixxu xi mod kif dawn il-clinical placements jistghu jigu mtejba?
- X'inhi l-opinjoni taghkom dwar kif jigi ezaminat il-kors?
- Tistghu tissuggerixxu xi mod ta' kif tahsbu li dan seta jigi mtejjeb?
- Il-kors sibtuh stressanti?
- Tistghu taghtuni l-opinjoni taghkom dwar it-tezi li tridu tipprezentaw bhala parti mill-kors?

CYCLE I

RESEARCH METHOD: FOCUS INTERVIEW (February 2002)
Amended Questions

Interview Design and Questions

- Introduction
- Do you have any comments about the group discussion that you took part in?
- Have you had a chance to read the transcript of our first meeting?
- Have you discussed the outcome of the meeting with your colleagues?
- Do you want to comment on the course content for your programme of studies?
- Are there any subjects you think ought to be included in the course curriculum?
- Given the chance to review the course programme, would you transfer any unit/s to a different stage of the course?
- Would you consider any study-units to be extra to your programme of studies?
- Do you think that the course was very theory orientated?
- Are you pleased with the amount of practical skill training that the course involves?
- Are there ways in which the course could be organised to help students learn/understand things better?
- With regards to the actual teaching, can you give me your comments?
- What did you think about the way the Practicals were taught?
- Do you think that the course provided you with enough skills to treat patients?
- With regards to the Clinical Placements, can you comment on the time you spent on each placement?
- Do you think that the time spent on clinical placements is adequate?
- Can you suggest a way in which these clinical placements can be improved to give a better learning experience?
- What is your opinion regarding the mode of assessment of the course?
- Do you have any suggestions how the mode of assessment can be improved?
- Can you comment whether you found the course stressful at all?
- Can you give me your opinion about the dissertation that has to be written as a part of your course?

CYCLE I

RESEARCH METHOD: FOCUS INTERVIEW (February 2002)
Amended Questions

Is-Sura tal-Intervista u l-Mistoqsijiet

- Introduzzjoni
- Ghandkom xi kummenti x'tghaddu dwar id-diskussjoni li kellna bhala grupp, li hadtu sehem fiha?
- Kellkom cans taqraw it-transcript ta' l-ewwel laqgha li kellna?
- Tkellimtu mal-kollegi taghkom dwar dak li hareg mill-ewwel laqgha taghna?
- Tixtiequ tghaddu xi kummenti dwar il-kontenut tal-kors li qeghdin issegwu?
- Hemm xi suggetti li tahsbu li ghandhom ikunu nkluzi fil-kurrikulu tal-kors?
- Kieku kellna nirrevedu l-programm tal-kors, tahsbu li hemm xi suggetti li jistghu jigu mghallma f'xi stadju differenti tal-kors?
- Fl-opinjoni taghkom tahsbu li hemm xi suggetti li kienu zejda?
- Tahsbu li l-kors kien imfassal izzejjed fuq it-tejorija?
- Sodisfatt bl-ammont ta' tahrig prattiku li hemm fil-kors?
- Tahsbu li l-kors jista jigi organizzat b'tali mod u manjiera li jghin lil l-istudenti sabiex jitghallmu u jifhmu l-affarijiet ahjar?
- Tistghu taghtuni l-kummenti taghkom dwar it-taghlim innifsu?
- X'tahsbu dwar il-mod li bih gew mghallma l-Prattici?
- Tahsbu li l-kors provdilkom bizzejjed tahrig prattiku sabiex tkunu tistghu tittrattaw il-pazjenti?
- Dwar il-Clinical Placements, tistghu tikkummentawli dwar iz-zmien li qattajtu fuq kull placement?
- Tahsbu li z-zmien li qattajtu fuq il-Clinical Placements kien bizzejjed?
- Tistghu tissuggerixxu xi mod kif dawn il-clinical placements jistghu jigu mtejba sabiex ikunu ta' esperjenza edukattiva aktar utili?
- X'inhi l-opinjoni taghkom dwar kif jigi ezaminat il-kors?
- Tistghu tissuggerixxu xi mod ta' kif dan jista' jsir ahjar?
- Tistghu tghiduli jekk sibtux li l-kors kien xi ftit jew wisq stressanti?
- Tistghu taghtuni l-opinjoni taghkom dwar it-tezi li tridu tipprezentaw bhala parti mill-kors?

Interviews

The importance of the interview technique to obtain data for this research cannot be emphasized enough. The interview is an important data gathering technique consisting of verbal communication between the researcher and the interviewee, and many authors consider this technique as an accepted research tool (Carter and Thomas 1997, Cohen and Manion 1994, Brenner, Brown and Canter 1985, May and Pope 1995). Most of the interviews carried out were of the semi-structured type, as this was identified as being the most appropriate for the study. The semi-structured interview has the highest response rate and permits a relaxed informal conversation, at the same time allowing the interviewer the advantage of observing non-verbal communication. The face-to-face interview also provided the opportunity to discuss any sensitive issues, mainly those given by the junior members of staff regarding the establishment. Another advantage is that a qualitative interview allows the respondent to express themselves, rather than being confined to a set of pre-determined answers. By the use of probes, more details were uncovered, when the respondent felt unsure or reluctant to answer a question directly. The purpose of carrying out these interviews was initially to investigate whether a need 'to change the curriculum' really existed. Unlike a questionnaire, it gives the researcher the opportunity to gather underlying perceptions and possible reasons behind respondent's answers (Fitzpatrick and Boulton 1994); thus allowing the interviewer the chance to follow a path that was not originally planned or intended. Other interviews followed, whereby suggestions regarding the actual content and running of the course were made. Later, other course co-ordinators at the Institute of Health Care were interviewed to compare whether the problems the physiotherapy division were facing regarding the curriculum, were particular to it or common to other professions. Senior members of the clinical staff were interviewed: to investigate their opinion about the present graduates, any perceived shortcomings in their standards of practise, and their suggestions on what a new curriculum should include. The members of staff within the I.H.C. took part in a focus group interview and the needs and any limitations regarding the curriculum were discussed. The next cycle of the study involved interviewing the public, to

compare data from those attending state and private physiotherapy. A semi-structured interview was again adopted. The following cycle involved interviews with the Physiotherapy Representative on the Council for Professions Complementary to Medicine, the Manager Physiotherapy Services, the Chairman and Director of the Institute of Health Care, the Registrar's Representative at the I.H.C., a physician and a senior clinical member of staff. An open/unstructured approach was adopted for all these interviews, thus allowing the interviewer and the respondents the possibility to explore and express themselves freely. In all the cases the opinions, and the perspectives of the interviewees were required, and as Allport (1942) stated, there is no better way of finding out something about what people think, than to ask them. The greatest disadvantage of the face-to-face interview is the time required. It is also worth noting that interviewer bias is greatest, using this technique. Another disadvantage is that the interview technique does not offer any anonymity; both the responder and the interviewer are aware of who the other person is, hence the importance of all the ethical issues concerned, being adopted and abided by.

The researcher's role during the interview - Rapport and Neutrality

One cannot describe or demonstrate rapport on paper as this refers to the ability of the interviewer to respect what the respondent replies in such a manner that this feeling of mutual understanding, between the person speaking and the person listening, comes about. What is important is that the interviewer must never judge or show feeling or attitude to what is being said. In order to enhance my rapport with the interviewees the reasons why this interview was taking place and the importance of their honest replies to the questions was explained.

On the other hand, neutrality is another important issue that has to be brought across prior and during the interview. As the word implies neutrality also means that the respondent must have complete trust in the interviewer in that their replies will be kept completely confidential. There ought to be a close link

between neutrality and ethical issues while conducting interviews. This again was a difficult issue to overcome, as some of the interviewees expressed a very honest opinion regarding their employer, work place and occasionally colleagues. One must also take into consideration the fact that as co-ordinator of the course, also meant that at times interviewees might indirectly be criticising me.

Patton (1990) talks about how the interviewer can try to maintain neutrality by means of the use of a particular type of questioning called 'illustrative type format' or 'role-play and stimulation questions'. This type of questioning was used when asking sensitive questions. An example of what Patton (1990) refers to as a 'Simulation question' was used whilst asking a question as though it were somebody else asking - in this manner an element of neutrality was maintained, and the respondent was free to reply in whatever manner, they felt the most comfortable.

As course co-ordinator, interviewer and my concern with the physiotherapy curriculum for a number of years, the danger of introducing error and bias was quite large and true. Powney and Watts (1987) identify three sources of interviewer bias, those related directly to the interviewer, such as sex, age, education, and socio-economic status; those associated with psychological factors, including perception, attitudes, expectations and motives; and finally any behavioural factors related to the conduct of the interview itself. Given that the curriculum was researched as part of my Master's degree, it was clearly evident that the gathering and interpretation of data might bias my preconceptions regarding the theory and assessment of the present curriculum. The whole process was therefore one of researching the present curriculum with an open mind, and not trying to influence the research process, the interviewees, nor the data interpretation.

To minimise any errors that could have been associated with the interviews a number of measures were taken, some of these might sound obvious to the reader, but as more and more interviews were held, the technique improved

and hopefully any margin of error decreased accordingly. Special attention had to be used to reduce bias. The tone of voice and facial expression had to be kept neutral to give the respondent the freedom to express what they really wanted to say. It was emphasized that no correct answer existed, but that every honest answer was what was required. Every effort was made by the researcher to create a sense of warmth and trust in order to gain co-operation and build rapport whilst at the same time remaining objective and neutral (Neuman 2003).

An interview schedule was prepared in advance. This consisted of the questions to be asked, how they were phrased, the question sequence, the depth of the questions and finally, how far to push a topic or interviewee were taken into consideration.

> "*Like fishing, interviewing is an activity requiring careful preparation, much patience, and considerable practice if the eventual reward is to be a worthwhile catch.*"
>
> (Cohen 1976, pg 82)

Interview Feedback

Feedback from these initial pilot interviews was useful and valuable. Concerning the actual physical properties of the environment in which these interviews were held a lot was learnt. This might be simple almost obvious to the reader, but useful and critical to somebody who has never interviewed and recorded people before. It was noticed that the chosen room was inappropriate, as it was summer and the air conditioners were on, resulting in a perpetual hum that interfered with the recording of the data. The tape recorder was placed too close to the interviewee, yet too far from the interviewer resulting in the interviewer hardly being heard. It was noticed that the interviewer tended to talk too fast in the initial stages of the interview and was scared of periods in which silence prevailed and would rush into asking another question. It was only later, following further interviews that the author realised what a powerful probe silence is to an interviewee. The importance of transcribing the interview almost immediately was realised as one quickly

forgets particular incidents that took place during interviews. The author became aware that certain details had to be noted immediately after the interview. Following my supervisor's advice, the author began to note things like non-verbal communication, the interviewee's hesitancy to answer questions and the times when a respondent would ask whether they are answering the questions properly. Following the initial pilot interviews, time was spent over a coffee with the interviewees going over the interview technique. Their personal feelings regarding the whole approach was asked and the author was very pleased to find out that they did not feel threatened or intimidated to reply honestly to all the set questions. However, it was noticed that in certain instances the wording was vague and that two of the questions were not being understood initially. Prompting by the interviewer was necessary to elaborate the question further for one of the students to fully understand what was being asked. This resulted in both questions being changed and written in such a manner that was understood more easily. The author also became aware that even though the interview was held in English, there were various phrases in Maltese which were inserted at different stages. The interviewer realised that the Maltese translation for the verb 'to perceive', literally translated means 'what do you think', and one of the respondents was happier with the use of this term. Even though both respondents stated that they were comfortable with the use of the recorder, the author noticed that one of the interviewees leaned away at the start of the interview. As a result of this, the author decided that a longer period of introduction was necessary, prior to the switching on of the tape recorder. Following the initial two interviews, the author repeated the sessions with another two students, a third and a final year student, again trying to simulate the actual target population that were to be included in the data collection. This time the interview schedule included the amended questions together with all the added experience that was gained by the author in the initial two interviews. Now, the author felt more comfortable and confident as his interviewing skills had improved to such an extent that he now felt confident to start the data collection.

Openness and Confidentiality

The author felt that the issue of confidentiality must be stressed further, as some of the questions to be asked required personal opinions regarding the service on offer. The interviewees were asked to look upon the author as a researcher and not as a previous Manager of Physiotherapy Services. Initially, the respondents gave answers that they thought the author would like to hear, and were worried about giving the desired information. It was only after stressing that honest and truthful replies were required, that the interviews seemed to flow better. During one of the interviews, the author had to remind a respondent that if he felt uncomfortable during any stage of the interview, he was not obliged to answer all the questions. This had the effect of making the interviewee feel more relaxed. A lot of effort was made by the researcher to make the respondents feel at ease by appearing relaxed and adopting a chatty informal manner of speaking. Dress was casual smart, and the furniture, where the interviews were carried out, was placed in such a manner that the interview was not held in cramped conditions. A decision was taken to decrease the number of questions, as some were found to be superfluous to the data required. This resulted in a shortened interview from approximately one hour to about 45 minutes. The interviewing technique changed as the author became more confident and started to interview individuals who were considered the prime stakeholders of the curriculum process. These interviews commenced with a few prepared questions and were followed by a freer approach, whereby questions were formulated as the interview was taking place. In this manner, the interview schedule became 'open' as opposed to semi-structured.

> *"Interview guides can be modified over time to focus attention on areas of particular importance, or to exclude questions the researcher has found to be unproductive for the goals of the research."* (Lofland and Lofland 1984)

The whole purpose of giving such a detailed account of the interview process was two-fold. Firstly, the author wanted to collect the data that was necessary to prove that a change in the curriculum was essential, that it was appropriate

and particular to our local medical needs, and finally, that all the stakeholders considered it to be the 'ideal curriculum' at this point in time. The second was to demonstrate the rigour adopted during the interviewing process.

CATEGORY	THEMES	REFERENCES
A. Course Design	i. Change in sequence when subjects are taught	A69, A74, Bii27, C41, C43, C201, C205, C207, D23, D31, D117, E17
	ii. Theory coordinated with practical	Bii93, Bii94, Bii95, Bii99, C67, C189, D51, D55, E13, I25, J146
	iii. Ratio between theory and practical components wrong	D7, F19
	iv. Weighting between different subjects	Bi15, D15
	v. Change in layout of course	C67, C69, C77, D55, D63, D98, D194, E11, E17, E59, E82
	vi. Students should get exposure to all clinical areas	D159
	vii. Spend time observing	D180, D194
	viii. Course too ambiguous	A44
	ix. Not stimulated to think	A54, Bii42
	x. Method of assessment should change	A60, E59, E61, H111, J234
	xi. Amalgamating study-units into modules	E15, E41, J330
	xii. Course not designed to help students link knowledge to clinical reasoning and skills	Bi21, E17, E19, E32
	xiii. Course designed/ geared towards Problem Based Learning	E22
	xiv. Course designed around F.C.E.	E61, E80
	xv. University does not set F.C.E. at all	E68
	xvi. Change to course must take place	C7, F43
	xvii. Too many students	F129, H87
	xviii. A small number of students	I18, I24
	xix. Entry qualifications	F125, H16, H18
	xx. Change in teaching staff	F23
	xxi. Course not commencing annually	F127, F129
	xxii. Study-units all taught individually	F47, F49, F51, H93, H95, J330, J332
	xxiii. Number of credits	F77, F81
	xxiv. No longer tied down by Rules & Regulations	F123
	xxv. Clinical modules not coordinated re: length of time	I32
	xxvi. Subject not directly related to physiotherapy, done in the earlier parts of the course	J248, J254
	xxvii. More time required to prepare for FCE	J245
	xxviii. To narrow the gap between staff and students	I68, I70
	xxix. Not perceived as an easy course	J14
	xxx. Common core lectures with other students – different opinions	J88
	xxxi. Could not attend clinical placement due to sex	J186

524

CATEGORY	THEMES	SUB-THEMES	REFERENCES

B. Course Content

1. Theory

2. Practical

Sub-theme	References
i. Irrelevant	A55, B17, C17, C19, F23, I58
ii. Too much detail	A55, B17, C17, C19, D123, D127, D133, I10
iii. Discrepancy	A64, Bi15, F19
iv. Omitted	C21, C31, C33, C37, D9, D11, F39, I10, J132, J136
v. Not suitable	Bi19, F53
vi. More supervision	C85, D78
vii. Not applicable	C59, D15, F53, J34, J68, J78
viii. Subjects perceived by students as a waste of time	A85, Bii16, Bii18, E32

CATEGORY	THEMES	SUB-THEMES	REFERENCES

C. Teaching/ Delivery of Course

i. Applied Teaching

    a. On a real patient → A86, A89, A90, A91, A92

    b. Difficult as early students will not have clinical experience → Bii77, E17, E32

    c. Referring to physiotherapy → Bi18, C61, C191, D31

ii. Use of Video → Bii77, Bii81, Bii88

iii. Getting Patient to I.H.C. → Bii111, Bii127

iv. Evidence Based → C81

v. Problem Based Teaching → D31, D147, F61, H87, H89

vi. Delivery of some subjects especially common core subjects by a physiotherapist → D17, D19, F51, H34

vii. Lecturers unprepared → D49, F67

viii. Punctuality → D178

ix. Self-directed Learning → Not guided enough → J118

x. Teaching Style → F61, F63, F73, I64, J74

xi. Cancelled Lectures → I32

xii. Good Quality → I56, J114

xiii. Specialised Lecturers → F23, H85

526

CATEGORY	THEMES	SUB-THEMES	REFERENCES

D. Physiotherapy Skills

- i. Handling → Bii107
- ii. Techniques → a. Not practiced on real patients → D153, I50
- iii. Forgetting skills by latter part of course → A64
- iv. Lacked theoretical background → J174

527

CATEGORY	THEMES	REFERENCES
E. Clinical Practice		
	i. Clinical reasoning	Bi21
	ii. Clinical reasoning skills	A65
	iii. Communication skills	A94, Bi22, C51, D149, H70
	iv. Quality of supervision	C99, C101, C119, C121
	v. Not enough supervision	C101, I34
	vi. Feedback	C103, C109, C111
	vii. Payback by supervision	C105, F19
	viii. Amount of clinical practice	D190
	ix. Clinical assessment	C151, C155, C173, C177, C181
	x. Emphasis on assessment of patient	D64, D68
	xi. Complacent	A54
	xii. Time management	Bi21
	xiii. Clinical problem solving skills	A65
	a. Action learning	A66
	xiv. Multi Disciplinary Team discussion	A66
	xv. Being left on your own	I34, I36
	xvi. No/Few patients for students	I36
	xvii. Not coordinated	I32, J152

| CATEGORY | THEMES | SUB-THEMES | REFERENCES |

F. Clinical Supervisors/ Educators

	i. Must want to be a supervisor		C111, D80
	ii. Not interested		D76, D80
	iii. Does not have the time		D78, I34, I36
	iv. Quality	a. Not competent	C111, D76, D84
	v. Number of visits irregular		I34

CATEGORY	SUB-CATEGORY	THEMES	SUB-THEMES	REFERENCES
				D88, D92, E57
G. Course Assessment	1. Final Comprehensive Examination	a. Written	i. Stagger Final exams throughout course	D88, D100, J208, J214, J222, J234, J236
			ii. Causes stress (Not happy with)	A50, D92, J214, J218
			iii. Everything all over again	A48, E63
			iv. More student friendly	E57
			v. Unjust	E61
			vi. More than 2 papers	D137
		b. Dissertation	i. Started earlier	C201, G28, G30, J262, J264
			ii. Specialisation	C201
		c. Practical/Viva	i. A number of scenarios/patients not one	C213, D88, I66
			ii. Will not be a failing exam	D106
			iii. Unjust	C161, E61, I66, J216
			iv. Adjusting treatment and reasoning to please examiner	D162, E80
			v. Time consuming	H107
	2. Clinical Assessment		i. Complying to please supervisor	D84, D160, D162, D168, E80
			ii. Standardized assessment sheet	C151, C155, D111, D115
			iii. Too much emphasis on test rather than on the learning process	D110, E47, E52
			iv. Should contribute to F.C.E.	C243, I66
			v. Done by IHC staff not clinicians	H87
	3. Theory Assessment		i. Finals after particular subjects	D98, D100, D102, J234, J316
			ii. More than one method of assessment per study-unit	Bii50, Bii52, C185, D210, F89
			iii. Seen papers	A58, E57
			iv. Assessing modules not individual study-units	E15
			v. Students over assessed	E53, F103, F113, F115, H99, H110, H113, J232
			vi. Change in means of assessment	F75

530

CATEGORY	THEMES	REFERENCES

H. Continuing Professional Development

i. Should not be the remit of the university → Bii61, El12, El14

ii. Immediate post qualification skills → A64

iii. Ongoing development → A64

CATEGORY	REFERENCES

I. Problem Based Learning → Bii69, H87

| CATEGORY | THEMES | REFERENCES |

| J. Extracurricular Activities/Study-units | | |

i. Better learning experience → D110

533

CATEGORY	THEMES	REFERENCES

K. Learning

	THEMES	REFERENCES
	i. By discussion	D180, D182, I64, J120, J285, J295
	ii. By observing	D180
	iii. Do not like power point	D180, D182
	iv. Superficial learning	I52
	v. Subjects taught over a period of time	I54
	vi. Group work	I64
	vii. Self directed learning	J120
	viii. When the theory is directly followed by the practical	J168

534

CATEGORY	THEMES	REFERENCES

L. Post Graduate Qualification

i. A need for it → E128, E130, E132

CATEGORY	THEMES	REFERENCES

M. Common Core Lectures	i. Lecturers not familiar with Health Care Professionals	F53, H85, J42, J44, J48, J64, J92
	ii. Professional jealousy	FII9
	iii. Attended together with other students	I60, J88
	iv. Too many students	I62, J78, J86
	v. No discussion	I62, JI24
	vi. Lecturers prejudiced against IHC students	H85
	vii. To attend with medical students	H85
	viii. Better if common core lectures did not take place	J58, J82
	ix. Not done in enough detail	J60, J62, J64
	x. Teaching style could have been improved	J74
	xi. Too generic	J80
	xii. Don't have time for them	J258

CATEGORY	THEMES	REFERENCES
N. Diploma Students	i. High failure rate	FH4, H10, H12
	ii. Learn same curriculum as degree	H14
	iii. Poor communication skills	H26
	iv. Not capable of independent learning	H24, H26
	v. Low standard of English language	H26

CATEGORY	THEMES	REFERENCES
O. Degree Students	i. Learn subjects in greater detail	H28
	ii. Moved on to post graduate studies	H34, H40
	iii. UK State Registration	H40
	iv. No clashes with staff qualified with a diploma	J277, J279
	v. Tend to question more	H6
	vi. Tend to be more assertive	H6
	vii. Are more receptive to patients' needs	H6
	viii. Are capable of working on their own	H26
	ix. Have the communication skills needed to complete the course	H24
	x. Capable of doing research	H28

538

CATEGORY	THEMES	SUB-THEMES	REFERENCES

P. Curriculum

i. Curriculum History	→	F29, F33, F35
ii. Curriculum Design	→	F43, H32, H34, H36, H55. H57
a. Number of credits	→	H97

539

CATEGORY	THEMES	REFERENCES
Q. Feedback		
	i. How we were treated	I10, I14
	ii. Not made to feel welcome	I32

CATEGORY	THEMES	REFERENCES

R. Department of
Health Courses

i. Different teaching ethos → H6, H80

ii. Communication skills → H80, H81
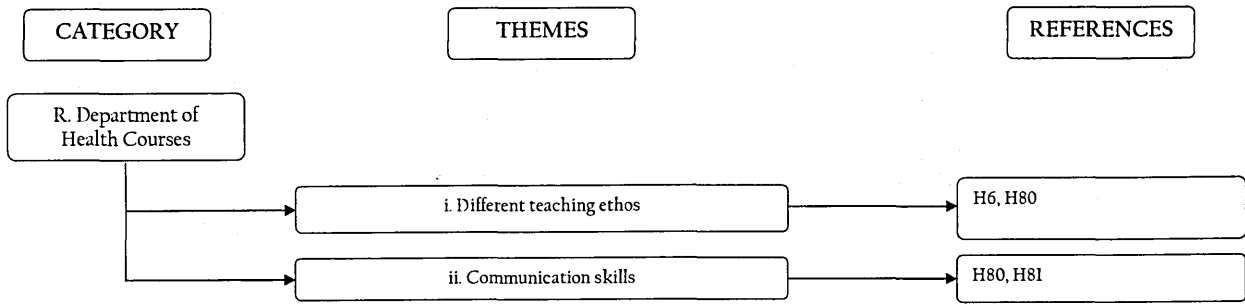
Curriculum Development I

Summary of Events

Week commencing Monday July 8th preparation of notes regarding teaching and learning

Friday July 12th handing of notes to staff to read and become acquainted with

Staff informed of meeting regarding Curricular Development to take place on Friday 19th July 2002

Meeting – Friday 19th July 2002

Members present: Mr Tonio Agius
Mr Stephen Lungaro-Mifsud
Mr Mark Sacco

Apologies for absence: Ms Nadine Galea

Agenda

Mode of delivery
Changes to the curriculum
SWOT as applied to student development
During the meeting problem-based learning according to Maastricht University applied to the education of Physiotherapy was discussed

A demonstration how PBL could be introduced to the IHC was given by myself and the topic chosen was 'Ultrasound'.

Following a discussion it was decided that as far as possible all teaching of credits taught by the Physiotherapy Division staff will be carried out in this manner:

A SWOT approach was then explained to the members present and this was immediately approved and is to be introduced to the present 2nd year students prior to their going out on clinical practice.

The staff present were asked to prepare a PBL approach to teaching one of their subjects taught and to give a demonstration at the next meeting which was to take place on Wednesday 24th July 2002.

The present catalogue of study-units was reviewed and a decision taken to amalgamate a number of related study-units. It was also agreed that the present course is over assessed. Hence the amalgamation of these study-units into modules will result in the student being assessed on one occasion. It was

542

also agreed that the mode of assessment ought to vary in that students will be asked to express their knowledge learnt both verbally via the Problem Based Learning assessment (This would be of a Pass/Fail nature), and by means of written assignments, project reports or unseen test papers.

Meeting – 24th July 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco

Agenda

Problem Based Learning demonstrations
Changes to the catalogue of study-units

The meeting commenced with an example given by Stephen of a PBL approach to the study-unit related to the care of the elderly. This was followed by Tonio who gave us an example of PBL related to musculoskeletal injuries.

A discussion regarding assessment followed both these examples of PBL demonstrations and it was agreed that students have to be encouraged to voice their knowledge rather than write it.

Changes to the catalogue of study-units

At this stage Ms Jo-Anne Stivala (Registrar's representative at IHC) was asked to attend the meeting.

Ms Stivala was asked whether changes to the mode of assessment regarding their Final Examination could take place to the October 2000 Intake.

Ms Stivala was also asked whether a module result as opposed to individual study-unit results would be acceptable to the Registrar's office.

Advice was sought from Ms Stivala regarding module names, study-unit codes and credit value.

Following a discussion on the module 'Clinical Sciences' as appearing in the present catalogue of study-units, it was agreed that the study-unit 'Upper Limb – Spotting' be removed and incorporated into the study-unit 'General Spotting' which appears in the module 'Applied Sciences' in Year II. It was also agreed that the study-unit titled 'Introduction to First Aid' be deleted as compulsory from the course schema, but appear as recommended optional. This follows feedback from the students presently attending this study-unit, especially as it is a totally theoretical credit with no practical sessions included. It is being recommended that students attend this study-unit as an option, which will also be reinforced by practical sessions.

It was decided that all physiotherapy skills related to Electrotherapy and the heating and cooling of tissues be amalgamated into a new module titled 'Physical and Electrotherapeutic Agents' with a credit value of 7. These would include 'Low Frequency Currents' from the first year of the present catalogue which would now have a credit value of 1, 'Peripheral Heating', 'Ultrasound',

'Interferential – Transcutaneous Nerve Stimulation – Laser' from the second year, and 'Electrotherapy Thermal Applications' from the third year.

It was also decided that a new module titled 'Manipulative Therapy I' be introduced. This would include 'Living Anatomy', 'Soft Tissue Manipulations', 'Mobilisations – Upper Limb' from the first year of the present catalogue, 'Mobilisations – Lower Limb' from the second year, with a credit value of 5.

As the present catalogue of study-units for the 2002 Intake has already been presented to Senate, these changes are to come about for the 2003 Intake.

On Ms Stivala's advice it was decided that the catalogue of study-units for 2001 and 2002 Intakes be altered to include the above mentioned new modules without the study-units appearing in the catalogue.

Meeting – 31st July 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

PBL – Nadine
Catalogue of study-units Year II

The meeting commenced with a demonstration of the application of PBL as applied to Physiotherapy Neurological Rehabilitation. This was followed by a discussion following which it was agreed that the neurological component of the Physiotherapy course be amalgamated into one module which will be taught in the third year of the course.

Freshers' week – Students' induction

It was agreed that during freshers' week a number of lectures will be carried out which will help the students to be better orientated towards tertiary education, specifically aimed at the Physiotherapy course. These shall include introductory lectures on: Problem-based learning, S.W.O.T. analysis, and Peer assessment, amongst others.

Catalogue of study-units

Year I
Applied Sciences
Following a discussion on the present module 'Applied Sciences' in Year I, it was agreed that since the students will not be commencing clinical practice till the end of the second year the following study-units are to be transferred to other years of the course: Ethics for Health Professions, Pharmacology I, Introduction to Psychology and Understanding Sociology. The total number of credits allotted to the Applied Sciences module will therefore amount to 10.

Physiotherapy Theory
Following a discussion it was agreed that the study-units 'Movement and Kinesiology' and 'Exercise Therapy' be deleted from the catalogue of study-units and be incorporated in the new module titled 'Movement and Kinesiology'. This new module will include Movement and Kinesiology, Exercise Therapy, Proprioceptive Neuromuscular Facilitation Techniques, Hydrotherapy, Patient Assessment, Moving and Handling, with a credit value of 8.

Hence, the total number of credits for Year I of the Physiotherapy course will be:
Applied Sciences 10 credits
Clinical Sciences 0 credits

Physiotherapy Theory 0 credits
Physiotherapy Skills 0 credits
Physical and Electrotherapeutic Agents 7 credits
Manipulative Therapy I 5 credits
Movement and Kinesiology 8 credits
Total: 30 credits

Year II
Applied Sciences
Following a discussion it was agreed that the study-units 'Introduction to Neurological Rehabilitation' and 'Obstetrics and Gynaecology' be transferred to modules in different years of the course. Pharmacology I is to be introduced to this module, hence students will be attending Pharmacology I and Pharmacology II in the second year. Total number of credits for this module 12.

Clinical Sciences
It was agreed that the 6 credits allotted to the clinical modules be removed from the second year and transferred to different years of the course.

Physiotherapy Theory
It was agreed that the four study-units which make up this module be deleted and transferred to other modules: Peripheral Nerve Injuries, Respiratory Conditions, Surgery (Introduction), Musculoskeletal Physiotherapy I. Total number of credits for this module 0.

Manipulative Therapy II
Following a discussion it was agreed that the new module 'Manipulative Therapy II' is to include 'Living Anatomy' (Back and Neck) from the first year, 'Mobilisations Back and Neck' from the third year, 'Advanced Mobilisation Techniques' from the fourth year. Total number of credits for this module 3.

Musculoskeletal Physiotherapy
Following a discussion it was agreed that this new module should include the following study-units: Musculoskeletal Physiotherapy I, Musculoskeletal Physiotherapy II, Peripheral Nerve Injuries, Women's Health which will include Obstetrics and Gynaecology. Total credit value 8.

Cardiovascular/Respiratory Physiotherapy
Following a discussion it was decided that this new module should include Respiratory Conditions, Surgery (Introduction), Cardiac Rehabilitation. Total credit value 4.

Meeting – 8th August 2002

Members present: Mr Tonio Agius
                    Mr Stephen Lungaro-Mifsud
                    Mr Mark Sacco
                    Ms Nadine Galea
                    Professor Anne Parry

Agenda:

Changes to the course curriculum

Genetics: Following a discussion it was decided that Genetics should no longer be a compulsory study-unit in the third year of the course schema but should be offered as an optional study-unit.

Neurological Rehabilitation: Following a discussion and taking into consideration the clinical needs it was decided that the following study-units be amalgamated into one module and be taught ideally at the same time as the Paediatric/Neurological module.

BPT024	Introduction to Neurological Rehabilitation
BPT025	Neuro Rehabilitation I
BPT026	Neuro Rehabilitation II

New module title: Neurological Rehabilitation

Professional Issues: It was decided that the following study-units be amalgamated into one module titled: Professional Issues. These include:

PHT3018	Development of Critical and Reflective Practice
IHC1007	Ethics for Health Professions
IHC2002	Ethical Dilemmas in Health Care
IHC1006	Communication Skills for Health Professions

It was also decided that this module should include lectures on Team Work and Legal Issues.

Paediatrics: A discussion took place whether to remove the study-units Paediatrics I and Paediatrics II (BPT027 and BPT037 respectively) and include them under the Neurological Rehabilitation and Musculoskeletal Physiotherapy modules. But since the amount of paediatric referrals is very high in Malta and that approximately 25% of all physios employed by the state are working with children, it was decided that a new module be created titled: Physiotherapy Rehabilitation for the Care of the Child.

548

Meeting – 21st August 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

Changes to the course curriculum

Histology: Following a discussion it was decided that since the present study-unit is slightly more than A-Level Biology standard and that a physiotherapist does not require a study-unit in Histology to practise safely and efficiently. This study-unit is to be offered optionally.

Disability Issues: Following feedback by the students it was decided that this study-unit be removed from the catalogue of study-units as a compulsory subject and be offered as a Recommended Optional study-unit.

Understanding Sociology: Following the latest information from the Registrar's Office that the study-unit "Understanding Sociology" which is a common core subject is to be upgraded to a value of 3 credits, it was decided that this was a bit excessive related to the rest of the course. Hence it was decided that the following two sociological study-units be included in the new module titled "Social Sciences".

Social Sciences: Following a discussion it was decided that a new module titled 'Social Sciences' be introduced to the catalogue of study-units and this will include:

SO225	Sociology of Health and Illness
SO226	Professionalisation of Health Care
PS151	Introduction to Psychology
PS181	Health Psychology I
CDH0132	Health Promotion and health Education

Total credit value: 6

Research Method: Following a discussion it was decided that IHC1005: Introduction to Research Methods and IHC2001: Research Methods, together with PHL1103: Health Information Science I be included in a new module titled Research Method with a credit value of 3.

Dermatology/Ultraviolet: Following a discussion it was decided that this study-unit be offered as a recommended optional.

Burns and Plastic Surgery: Following a discussion it was decided that the above named topics are to be covered in the module titled Cardiovascular/Respiratory Physiotherapy and the total credit value be increased to 5.

Rehabilitation of the Older Adult: Following a discussion, it was decided that this study-unit should be made up of Physiotherapy of the Older Adult, Rehabilitation of the Amputee and Physiotherapy in Mental Health. Total credit value for this module is 4.

Meeting – 28th August 2002

Members present: Mr Tonio Agius
                        Mr Stephen Lungaro-Mifsud
                        Mr Mark Sacco
                        Ms Nadine Galea

Agenda:

Changes to the course programme

Following a lengthy discussion regarding which modules ought to be placed in which academic years, it was provisionally decided that the course catalogue will read as follows:

Year I

Applied Sciences	9 credits
Manipulative Therapy I	5 credits
Movement and Kinesiology	8 credits
Cardiovascular/Respiratory Physiotherapy	5 credits

The module over which most discussions took place was Cardiovascular/Respiratory Physiotherapy. It was decided to include this module in the first year of the course as this module involves a lot of hands-on-skills which will complement Manipulative Therapy I and Movement and Kinesiology. This also will result in students being capable of gaining clinical practice in more clinical settings earlier on in the course.

Year II

Applied Sciences	10 credits
Physical and Electrotherapeutic Agents	7 credits
Musculoskeletal Physiotherapy	8 credits
Professional Issues	5 credits
Research Method	3 credits

The discussion focused mainly on two of the modules, Physical and Electrotherapeutic Agents which is normally taught in the first year of the course, and Research Method which historically has been taught in the first, second and third year. As a result of the above changes, students will present their proposal for their dissertation at the end of the second year and will be capable of commencing their dissertations at the beginning of the third year as opposed to the end of that year.

Year III

Neurological Rehabilitation	3 credits
Manipulative Therapy II	3 credits
Rehabilitation of the Older Adult	4 credits
Care of the Child	2 credits
Social Sciences	6 credits

Year IV
Clinical Modules

As a result of the proposed changes to the theoretical component of the Physiotherapy course curriculum, students will be taught related topics in one module at one session in one year. Hopefully this will lead to students learning subjects in a more complete manner as opposed to individual un-integrated subjects. It will also mean that students will be capable of commencing clinical practice in the first year of the course as opposed to the end of the second year, which hopefully will mean that students will be putting into practice the skills taught at an earlier stage helping to improve their motivation. The course is designed in such a manner that all the theory will be taught in the first three years and the final year will be purely clinical practice. The alterations to the course have come about following interviews with past and present students, members of the clinical staff, and all the full-time members of the academic staff. The clinical modules and their credit values have not been included in the course programme so far and will be discussed at the next meeting scheduled for Wednesday, 4th September 2002.

Meeting – 4th September 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

Changes to the course programme

Year I
It was decided that the title for module 'Applied Sciences' which contains the anatomy and physiology study-units be changed to 'Biomedical Science'.

It was decided following a discussion that the study-unit 'Pathology' be removed from the module 'Biomedical Science' and inserted into a new module titled 'Applied Sciences' which will also include 'Pharmacology I' and 'Pharmacology II'.

It was also decided that the students should commence a period of clinical observation in the first year of the course and will have a credit value of 2. The title of this module being 'Clinical Sciences'.

Year II
The module 'Applied Sciences' will now read 'Biomedical Science'.

'Pharmacology I' and 'Pharmacology II' are to be removed from the module 'Biomedical Science' and transferred to Year I 'Applied Sciences'.

The module 'Physical and Electrotherapeutic Agents' is to be transferred to the third year of the course.

A module titled 'Clinical Sciences' will also be introduced in the second year of the course with a credit value of 2.

Year III
The module 'Social Sciences' be transferred to the second year of the course.

A module 'Clinical Sciences' with a credit value of 3 is to be introduced in the third year of the course.

It was agreed that the students be allowed to attend for two credited optional study-units during the third year of the course.

It was agreed that the list of optional study-units be included in the third year of the course programme thus informing students of the optional study-units being offered by the Physiotherapy Division.

It was agreed that the study-unit 'Genetics' in the optional study-units being offered no longer be given the 'recommended' status.

Meeting – 16th October 2002

Members present: Mr Tonio Agius
Mr Stephen Lungaro-Mifsud
Mr Mark Sacco
Ms Nadine Galea

Agenda:

Changes to the course programme

To be in line with the changes being proposed within the new University regulations regarding undergraduate courses which stated that all courses should consist of 240 credits, the proposed Physiotherapy course programme was reviewed and discussed and reads as follows:

Year I
Biomedical Science	14 credits
Manipulative Therapy I	10 credits
Movement and Kinesiology	14 credits
Cardiovascular/Respiratory Physiotherapy	12 credits
Clinical Sciences	2 credits
Applied Sciences	8 credits

Year II
Biomedical Science	16 credits
Social Sciences	12 credits
Musculoskeletal Physiotherapy	16 credits
Professional Issues	8 credits
Research Method	6 credits
Clinical Sciences	2 credits

Year III
Neurological Rehabilitation	10 credits
Manipulative Therapy II	8 credits
Rehabilitation of the Older Adult	12 credits
Care of the Child	5 credits
Physical and Electrotherapeutic Agents	14 credits
Clinical Sciences	6 credits
2 Optional credits	4 credits

Year IV
Clinical Sciences	60 credits

Meeting – 6th November 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

<u>**Agenda:**</u>

Changes to the course programme

To harmonize the course programme bringing it further in line with the proposed University regulations regarding undergraduate courses following various discussions it was decided that identified modules will be deemed compulsory.

The number of optional study-units that a student will be allowed to undertake is to be increased from 2 to 4.

It was decided following a discussion that certain modules are more relevant to the Physiotherapy course than others. Hence it was decided that if a student does not obtain a pass grade in one of these modules yet is deemed to be a good student and has good grades (C or above) in all the other modules obtained in that year, then a compensatable pass grade could be granted to the student at the discretion of the Board of Studies.

Each module in the course programme will have either 'NP' or 'CP' inserted next to the module title. These initials stand for 'Non-compensatable Pass' and 'Compensatable Pass' respectively.

Module 'Movement and Kinesiology', following a discussion it was decided to include the Clinical Sciences module in this module. Thus the number of credits attributed to this module has increased to 16.

Year I

Biomedical Science	14	Compulsory	NP
Manipulative Therapy I	10	Compulsory	NP
Movement and Kinesiology	16	Compulsory	NP
Cardiovascular/Respiratory Physiotherapy	12	Compulsory	NP
Applied Sciences	8	Compulsory	CP

Year II

Biomedical Science	16	Compulsory	NP
Social Sciences	12	Compulsory	CP
Musculoskeletal Physiotherapy	18	Compulsory	NP
Professional Issues	8	Compulsory	CP
Research Method	6	Compulsory	CP

Year III

Neurological Rehabilitation	10	Compulsory	NP
Manipulative Therapy II	10	Compulsory	NP
Rehabilitation of the Older Adult	10	Compulsory	NP
Care of the Child	6	Compulsory	NP
Physical and Electrotherapeutic Agents	10	Compulsory	NP
Clinical Sciences	6	Compulsory	NP
Optional Study-units	8	Compulsory	CP

Year IV

Clinical Sciences	60	Compulsory	NP

Meeting – 12th December 2002

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

Changes to the course programme

To help students become more familiar with the assessment of the course it was decided that the course programme should include the method of assessment for each study-unit.   To try and overcome the over assessment previously attributed to the Physiotherapy course it was decided that modules be assessed globally rather than each study-unit individually.   Unfortunately some study-units especially those in the Biomedical Science module are what are known as common core study-units that are assessed individually.

A note in bold on each page of the course programme stating that a pass in all the components within each study-unit is compulsory for a final grade to be awarded to the module be included.

Meeting – 9th January 2003

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

Changes to the course programme

The proposed course programme was introduced to the meeting by Mr. Sacco and the fact that no Final Comprehensive Examinations will be held at the end of the course was emphasized hence the need for more diligent theoretical and clinical modules is necessary. The second half of this meeting is to devise as accurate and fair a means of assessment for the clinical modules as possible – Mr. Lungaro-Mifsud to propose suggestions at that stage.

Having reviewed the course programme it was unanimously decided that no further changes to the course programme were necessary. Each module and study-unit was read and discussed. The note regarding the fact that a pass in each study-unit is required was altered to read as follows:
'A pass in all the components within each study unit is compulsory for a final grade to be awarded.'

For a pass to a module to be awarded, a pass grade in all the components within each module is compulsory hence each study-unit must have a respective weighting. During the meeting each study-unit and module was reviewed and the percentage weighting was allotted.

Year I
The means of assessment for the study-unit 'Clinical Sciences' in the module 'Movement and Kinesiology' to be changed from 'Continuous Assessment' to 'Assignment and Presentation'; the study-units 'Respiratory Conditions' and 'Cardiac Rehabilitation' in the module 'Cardiovascular/Respiratory Physiotherapy' to change from 'Oral Test and Practical' to 'Oral Test' and 'Assignment' respectively.

Year III
Clinical Sciences – The means of assessment to be altered from 'Continuous Assessment' to 'Oral Test/Assignment'.

Following a lengthy discussion in which no definite conclusion regarding the assessment of the Clinical Sciences modules came about it was decided that another meeting on Thursday 16th January 2003 at 9.00am be held.

Meeting – 16th January 2003

Members present: Mr Tonio Agius
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Nadine Galea

Agenda:

1. Percentage weighting of course leading to classification
2. Changes to the course programme
3. Course assignment
4. Clinical staff meeting

1. Classification

Following a discussion it was agreed that the first three years of the course should have equal weighting i.e. 20% and the final year 40%. Since the new course programme deals in separate modules each being a package of knowledge it was considered that no one theoretical year be more important than another. The final year which is purely clinical in reality is a summation of all the theory and skills learnt in the three years put into practice. During the final year students also have to present their dissertation which in itself consists of a large chunk of work.

2. Course programme

Clinical assessment of the course
This discussion followed the presentation and discussion that took place the previous week.

Year I
The clinical module will be assessed by means of an assignment and a presentation titled "The Role of the Physiotherapist". The presentation will be of 10 minutes duration followed by 5 minutes of questioning.

Year II
The clinical module in the second year of the course will be assessed solely by the clinical supervisor on a continuous assessment basis.

Year III
The clinical module in the third year of the course will be assessed by means of an assignment and presentation. The assignment will consist of a "case study" and the presentation will be of 10 minutes duration followed by 5 minutes of questioning.

Year IV
Students will be assessed on two separate occasions.

- The first assessment will be held during the week before the Christmas recess and students will be assessed on the skills of Patient Assessment. This assessment will be held on a patient who will be taken from the unit in which the student is currently working. The aim of this exercise will be to assess
  1. the competence of assessment skills
  2. the ability of a student to convey the findings and discussion
  3. record keeping skills

The maximum time allowed to the student to carry out this patient assessment is 40 minutes, this will be followed up by a 20 minute period in which the student will be expected to write up their findings. This will be followed by a 15 minute discussion with the examiners.

- The second assessment will be held during the third week of June. The student on this occasion will be tested on the "treatment" applied to the patient. This treatment session will be held on a patient chosen randomly from the students' patient case-load. The time allowed for this assessment will be 45 minutes which will include any discussion.

3. Course assignment

Following a discussion it was decided that all course assignments be of 2000 word duration plus or minus 10%. Should an assignment be handed in late or be longer or shorter than the amount stipulated than the best grade to be awarded will be a grade D.

4. Staff/Clinicians meeting

It was decided that a meeting with the manager and senior staff of the Physiotherapy Department be held to inform them about
  1. the changes in the new course programme
  2. the new mode of clinical assessment
  3. the importance of the clinician as assessor

Meeting – 24th January 2003

Members present: Mr Tonio Agius
                         Mr Stephen Lungaro-Mifsud
                         Mr Mark Sacco
                         Ms Nadine Galea

Agenda:

1. Changes to the course programme – course assessment
2. Final Classification weighting

1. Changes to the course programme
Further discussion took place regarding the proposed changes to the course assessment as decided in the previous meeting. It was decided that these changes ought to be introduced for the 2000 Intake in the academic year 2003/04. The Final Practical Examination – Patient Assessment, Treatment and Viva Voce will take place on two separate occasions. The Patient Assessment will be carried out in March 2004 and will carry 40% of the total mark, while the Patient Treatment will be held in June 2004. The weighting for this second component of the Practical Exam is to be 60%. A number of discussions took place regarding the outcome should a student fail the first component of this examination. Advice from the Registrar's representative was sought. After having consulted the Registrar it was decided that this format of the Final Examinations could not be held due to standing University Regulations. Hence it was decided that no changes to the present format of assessing the students in their practical examinations will take place.

2. Final Classification
The members present were informed that the sub-committee of the IHC Board on Final Classification Weighting has overruled the proposed weightings suggested by the Physiotherapy Board of Studies and has imposed a weighting of:

Year I	15%
Year II	25%
Year III	25%
Year IV	35%

Medical Conditions most commonly referred to Physiotherapy Services in Malta

Medical Wards

Conditions	No. of Referrals
CVA	421
Chest infection	386
COPD	108
Mobility	69
Parkinson's Disease	46
Asthma	32
Bronchitis	30
CA	28
Chronic heart failure	25
TIA	22
L limb weakness	19
Pulmonary oedema	18
MVA	14
Deterioration	10
DVT	10
Leukemia	11
Gait disturbance	11
Amputation	8
Vertigo	8
Liver disease	7
Frozen shoulder	6
Pleural effusion	6
Osteoarthritis	6
Mycardial infarction	6
Electrocution	6
Falls	6
Anaemia	6
Renal failure	6
Pulmonary fibrosis	6
Neuropathy	5
Meningitis	5
Back pain	5
Pneumothorax	5
Chest pain	4
RA	4
Epilepsy	4
Pulmonary effusion	4
Renal transplant	4
Dizziness	4
Hypertonia	4
CP	3
Dehydration	3

Cellulitis	3
Cerebral infarct	3
Cerebellar ataxia	3
Fractured hip	3
Diabetes	3
Rheumatoid arthritis	3
Neuralgia	2
Cerebellar signs	2
Hyper calceamia	2
Nephronic syndrome	2
Tetanus	2
Cervical radiculopathy	2
Paget's disease	2
Cystic fibrosis	2
Gout	2
Sciatic	2
Encephalopathy	2
Post laparatomy	2
Fracture olecranon	2
Asbestosis	2
Facial palsy	2
Loss of consciousness	2
Multiple menigoma	2
Shoulder pain	2
Emphysema	2
Renal carcinoma	2
Broncho spasm	2
Head injury	2
Multiple myeloma	2
Tempero mandibular joint arthritis	2
Asphyxia	1
Brachial plexus injury	1
Chronic renal failure	1
Fever	1
Fractured spine	1
Loss of conscious	1
Metabolic acidosis	1
Convulsion	1
Dermatomyositis	1
Neuropraxia	1
Fibrotic lung disease	1
Hallucination	1
Crush fracture L2 L5	1
Post CPR	1
Osteomyelitis	1
Pyrexia (Fever)	1
Hepatic encephalopathy	1

Ischemic heart disease	1
Metastasis	1
Dementia	1
Gastroenteritis	1
Chronic granulomatosis disease	1
L5 vertebral collapse	1
Anaphylaptic shock	1
Alzheimer's disease	1
Dystonic reaction	1
Ankle injury	1
Respiratory failure	1
Overdose	1
Alcoholism	1
Wrist drop	1
Hip abscess	1
Infection of (L) foot	1
Knee pain	1
URTI	1
SOB	1
AML	1
Bacticemia	1
LBP	1
Gas gangrene	1
Anorexia	1
OA	1
Osteoporosis	1
Lung abscess	1
Motor neuron disease	1
(L) foot drop	1
U.L. stiffness	1
Pulmonary oedema	1
Dysarrthria	1
Deep vein thrombosis DVT	1
Myaesthenia gravis	1

Neuro-Surgical Unit

Conditions	No. of Referrals
Discotomy	80
Laminectomy	39
Crainiotomy	21
CVA	3
SDH	3
Shunt	2
NPH	1
Brain abscess	1
Faranimotomy	1

Orthopaedic Wards

Conditions	No. of Referrals
Dynamic hip screw (DHS)	123
Total knee replacement (TKR)	116
Arthroscopy	105
Bimalleolar/Trimalleolar #	65
Hemiarthroplasty	54
Tibia & Fibula #	38
Femur #	37
Total hip replacement (THR)	31
Low back pain	26
# spine	26
Calcaneum #	19
Keller's #	17
Manipulation under anaesthetic	16
Humerus #	15
Anterior cruciate ligament injury	14
Tibial plateau #	14
Patella #	12
Colles #	11
Scoliosis	11
Infected wounds	10
Multiple Injuries	10
Olecranon/Head of radius #	10
Pubic rami #	10
High tibial osteotomy	9
Metatarsal #	9
Dynamic condylar screws (DCS)	8
Acute compartment syndrome	5
Osteomyelitis	5
Pelvis #	4
Acetabulum #	3
Quadriceps tendon tears	3
Supracondylar/Intracondylar #	3
Amputations	2
Clavicle #	2
Patellar replacement	2
Pathological #	2
Shoulder hemiarthroplasty	2
Slipped upper femoral epiphysis	2
Dislocated hip	1
Dislocated shoulder	1
Girdlestone	1
Lengthening	1

Surgical Wards

Conditions	No. of Referrals
General surgery (in order of occurrence) – laparatomy appendicitis hernia gastrectomy amputations (transfemoral and transtibial) cholecystectomy colectomy sigmoid colectomy AP resection triple by-pass thyroidectomy stab wounds splenectomy	462
Gynaecological (in order of occurrence) – hysterectomy oophorectomy pelvic floor repair salpingectomy myomectomy	329
Mobilisations – post surgical/social cases	74
Surgery to the breast – mastectomy	52
Head injury	10
Circulatory problems – lymphoedema, cellulitis	9
Burns	8

Paediatrics Department

Conditions	No. of Referrals
Learning difficulty	76
Bilateral potential talipes	28
Child global developmental delay	19
Scoliosis	18
# of radius	14
Elements of attention deficit hyperactive disorder (ADHD)	13
Behavioural problem	13
Speech difficulty	12
Speech delay and learning difficulty	12
Supracondylar #	12
Mild/slight scoliosis	11
# of radius and ulna	10
Overriding toes	9
Ankle sprain/injury	9

# of humerus	6
Sternomastoid tumour	5
# of elbow	5
Distal tibia #	4
Pes planus	3
Contusion of (L) elbow	3
# (L) femoral shaft	3
Cp	3
Torticollis	3
Kyphosis	3
Erb's palsy	3
# upper limb	3
# of lower limb (R)	3
# of ulna (L)	2
# of (R) forearm	2
Cough with catarrh	2
Chest physio	2
Left sternocladomastoid & tightening	2
# of head of radius	2
Dislocation of elbow	2
Spastic diplegia	2
# of epicondyle	2
# of left arm	2
Facial palsy	2
Leg length discrepancy	1
Right hemiplegia	1
Back pain	1
Marked intoeing	1
Elbow physio	1
Left patellar tendonitis	1
S.U.F.E. (L) hip	1
Trauma (L) ankle	1
P.O.P.	1
Bout of coughing	1
Marked learning difficulty	1
Learning difficulty and stammering	1
Learning difficulty and selective medism	1
Mild congenitive deficiency	1
Severe epilepsy	1
# of lateral malleolus (R)	1
Tibial plateau	1
Plantar fasciatis	1
Structural talipes	1
Spiral # of (R) tibia	1
Bilateral corrective tibial ops	1
Astrocytoma	1
Lumbar scoliosis (L)	1

Repair of extensor hallucis longus	1
Posterior traumatic tenosynovitis	1
Brain tumour	1
Inversion sprain injury	1
Venous return of (L) lower limb	1
Contusion of (R) knee	1
Right sided pneumonia	1
Mild diplegia	1
Greenstick # of distal radius (L)	1
Post op	1
Aggressive deficit (mild)	1
R/O of ganglion (L) ankle	1
Delayed walking	1
(R) salter hernia	1
#of ulna (R)	1
Shoulder dislocation	1
Neck pain	1
Stick fibrosis	1
U/S treatment	1
Painful shoulder	1
Osgood's schlatter's	1
Motor delay	1
Neurofibromitosis	1
Greenstick # of upper limb	1
Lower radial metaphysis	1
Bone cyst of distal tibia	1
P.D.D.	1
Congenital talipes	1
Bronchitis	1
Soft tissue injury of wrist	1
Persisting tiptoeing	1
# of tibia & fibula	1
Injury of (L) knee	1
Adduction deficiency (L) foot	1
Spina bifida	1
Severe psychomotor retardation	1
Decrease neck and trunk control	1
# wrist	1
Tight (L) T.A.	1
Bilateral foot and knee pain	1
Hydrocephalus	1
Wrist sprain	1
Attention difficulty	1
Groin strain	1
Sprained neck	1
# of lower pole of (L) patella	1
Epiphysiolytis of (R) ankle	1

Mild unsteady gait	1
Partial tear of rotator cuff (R)	1

Other Common Neurological Syndromes

Conditions	No. of Referrals
Down's Syndrome	13
Cerebral palsy	3
Pierre Robyn Syndrome	1
Leukodystrophy	1
Prader Willi Syndrome	1
William's Syndrome	1
Gillian Barre Syndrome	1

Physiotherapy Outpatients Department

Conditions	No. of Referrals
Arthroscopy	89
Total knee replacement (TKR)	62
# Femur	49
Multiple fractures	27
Total hip replacement (THP)	22
Back conditions	16
R/A	16
ACL	12
Ankle (including calcaneum)	12
# Tibia	11
# Humerus	11
# Bimalleolar	9
Hemiarthroplasty	9
Pelvis (all conditions)	8
MUA shoulder	8
# Patella	8
Knee	8
# Maleolus (L&M)	6
Menisectomy	5
Trimalleolar	4
Hip	3
# Radius	3
HTO	2
MUA elbow	2
# Intertrochanteric	2
# Olecranon	2
# Lateral Epicondyle	2
Medial collateral ligament strain	2
DCS	2
Whiplash/Neck pain	2

# Fibula	1
Pepletion bone & grafting	1
Scapula	1
Soft tissue injury	1
Base metatarsal	1
Acetabulum	1
Austin Moore	1
SUFE	1
Hallux	1
Colles	1
Lacerated wound	1
Vastus Medialis	1
Fasciotomy	1

Oncology & Palliative Care

Conditions	No. of Referrals
Cancer of the Bonchus	13
Cancer of the Breast	11
Lymphoedema of the Upper limb	8
Lymphoedema of the Lower limb	5
Cancer of the Rectum/Colon	4
Cancer of the Blood	4
Cancer of the Brain	4
Cancer of the Liposarcoma	3
Cancer of the Kidney	2
Cancer of the Spinal	2
Cancer of the Hodgkins	2
Cancer of the Stomach	1
Cancer of the Uterus	1
Cancer of the Bile duct	1

CYCLE III

RESEARCH METHOD: COURSE COORDINATORS – FOCUS INTERVIEW
                                                              (August 2002)
<u>**Pre-piloted Questions**</u>

Introduction   -   **Myself**
                          -        **Aim of Research**
                          -        **Collaboration Required**

- Can you relate the history of Occupational Therapy/Radiography education in Malta?
- Can you comment about the changes between the Diploma and Degree courses?
- Supposing I was an applicant wishing to join your course, and I ask you to describe the highlights of the course, how would you answer?
- As co-ordinator of your course what are the negative aspects of your course?
- Are there any administrative changes that you would like to see made?
- What is the actual origin of your course curriculum?
- To what extent would you say is your curriculum targeted towards local medical needs?
  *(Take Multiple Sclerosis and Diabetes, which is given the most prominence in your curriculum? Can you explain why?)
- Is your curriculum based on the medical model of education?
  *(Do you teach your course in medical specialities or decompartmentalised components?)
- Can you see different ways of teaching your curriculum?
- In principle, what are your views regarding the common core system of lectures?
- Are there any of your past students who have gone on to post-graduate study?
- When Malta joins the E.U., do you foresee any problems with your present qualifications?
- Having spoken about the content of the course, can you comment about the way that it is taught or the delivery?
- Have you ever had any feedback from students regarding the manner in which they were taught?
- Are you happy with the way your students are assessed during their course of studies?
  *(Can you elaborate about this situation?)
- Okay to end, how will you compare the education of your profession now, to when you were a student?

CYCLE III

RESEARCH METHOD: COURSE COORDINATORS – FOCUS INTERVIEW
(August 2002)
Pre-piloted Questions

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- Tista tghidli dwar l-istorja tat-taghlim tal-Occupational Therapy f'Malta?
- Tista tikkummenta fuq it-tibdil li kien hemm bejn il-kors li kien iwassal ghal Diploma u dak li issa jwassal ghal Degree?
- Kieku kelli nkun se napplika bhala student fil-kors tieghek, u nitolbok tghidli dwar dak kollu li hu attrajenti fil-kors, kif twegibni?
- Bhala l-Koordinatur tal-kors tieghek, liema tahseb li huma l-aspetti negattivi tal-kors?
- Hemm xi tibdil amministrattiv li tixtieq li tara jsehh?
- Fuq xhiex inhu mfassal il-kurrikulu tal-kors tieghek?
- Kemm tahseb li l-kurrikulu tal-kors huwa mmirrat biex jolqot il-htigijiet lokali fejn tidhol is-sahha?
  *(Niehdu per ezempju l-Multiple Sclerosis u d-Dijabete, liema hu mghoti l-aktar prominenza fil-kurrikulu? Tista tispjegali ghalfejn?)
- Il-kurrikulu tal-kors tieghek hu bbazzat fuq il-mudell ta' kif inhi mghallma l-medicina?
  *(L-istudenti huma mghallma fuq kondizzjonijiet medikali partikulari jew ???????? decompartmentalised components?)
- Tahseb li l-kurrikulu jista jigi mghallem b'modi differenti?
- Bhala principju, x'tahseb dwar is-sistema ta' kif jigu mghallma dawk li nsejhulhom 'common core' units?
- Kien hemm xi studenti minn tieghek li komplew javvanzaw fl-istudji taghhom?
- Tahseb li l-kwalifiki li ghandek fil-prezent jistghu joholqulek xi problemi meta Malta tissieheb mal-U.E?
- Issa li tkellimna dwar il-kontenut tal-kors, tista tghidli xi haga dwar il-mod ta' kif inhu mghallem?
- Qatt xi darba rcivejt xi kummenti jew ilmenti minn xi studenti dwar il-mod kif gew mghallma?
- Inti kuntent bil-mod ta' kif l-istudenti huma ezaminati matul il-kors taghhom?
  *(Tista telabora fuq din is-sitwazzjoni?)
- U biex naghlqu, kif tqabbel il-mod ta' kif il-professjoni tieghek qeghda tigi mghallma llum, ma meta inti kont student?

573

CYCLE III

RESEARCH METHOD: COURSE COORDINATORS – FOCUS INTERVIEW
(August 2002)

Amended Questions

Introduction	-	**Myself**
	-	**Aim of Research**
	-	**Collaboration Required**

- Can you relate the history of Occupational Therapy/Radiography education in Malta?
- What are your views regarding the changes between the diploma and degree courses?
- Can you identify the strong points of this course to a prospective applicant?
- As co-ordinator what aspects of your course, do you consider to be negative?
- Are there any changes in the administration of your course that you would like to see made?
- What is the actual origin of your course curriculum?
- To what extent would you say is your curriculum targeted towards local medical needs?
  *(Take Multiple Sclerosis and Diabetes, which is given the most prominence in your curriculum? Can you explain why?)
- Is your curriculum based on the medical model of education?
  *(Do you teach your course in medical specialities or in unrelated study-units?)
- Can you see different ways of teaching your curriculum – given a choice would you change the mode of teaching for your course?
- In principle, what are your views regarding the common core system of lectures?
- Are there any of your past students who have gone on to post-graduate study?
- When Malta joins the E.U., do you foresee any problems with your present level of qualifications?
- Do you have any remarks as to the way the course content is delivered to the students?
- Do the students provide feedback about the way the course is taught?
- Are you happy with the way your students are assessed during their course of studies?
  *(Can you elaborate about this situation?)
- If you were to look back at your undergraduate years would you note a difference between then and now?

CYCLE III

RESEARCH METHOD: COURSE COORDINATORS – FOCUS INTERVIEW
(August 2002)

<u>**Amended Questions**</u>

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- Tista tghidli dwar l-istorja tat-taghlim tal-Occupational Therapy f'Malta?
- X'inhuma l-opinjonijiet tieghek dwar it-tibdil li kien hemm bejn il-kors li kien iwassal ghal Diploma u dak li issa jwassal ghal Degree?
- Tista tohrog il-punti l-aktar posittivi tal-kors, ghal persuna li bi hsiebha tapplika ghall-kors?
- Bhala l-Koordinatur tal-kors tieghek, liema tahseb li huma l-aspetti negattivi tal-kors?
- Hemm xi tibdil amministrattiv fil-kors tieghek li tixtieq li tara jsehh?
- Fuq xhiex inhu mfassal il-kurrikulu tal-kors tieghek?
- Kemm tahseb li l-kurrikulu tal-kors huwa mmirrat biex jolqot il-htigijiet lokali fejn tidhol is-sahha?
  *(Niehdu per ezempju l-Multiple Sclerosis u d-Dijabete, liema hu mghoti l-aktar prominenza fil-kurrikulu? Tista tispjegali ghalfejn?)
- Il-kurrikulu tal-kors tieghek hu bbazzat fuq il-mudell ta' kif inhi mghallma l-medicina?
  *(L-istudenti huma mghallma fuq kondizzjonijiet medikali partikulari jew study-units li mhumiex relatati ma xulxin?)
- Tahseb li l-kurrikulu jista jigi mghallem b'modi differenti – kieku kellek tigi mghoti l-ghazla, tbiddel il-mod ta' kif inhu mghallem il-kors tieghek?
- Bhala principju, x'tahseb dwar is-sistema ta' kif jigu mghallma dawk li nsejhulhom 'common core' units?
- Kien hemm xi studenti minn tieghek li komplew javvanzaw fl-istudji taghhom?
- Tahseb li l-kwalifiki li ghandek fil-prezent jistghu joholqulek xi problemi meta Malta tissieheb mal-U.E?
- X'inhuma l-kummenti tieghek dwar dwar il-mod ta' kif inhu mghallem il-kors?
- Tiehu "feedback" minghand l-istudenti dwar il-mod ta' kif inhu mghallekm il-kors?
- Inti kuntent bil-mod ta' kif l-istudenti huma ezaminati matul il-kors taghhom?
  *(Tista telabora fuq din is-sitwazzjoni?)
- Kieku kellek thares lura lejn meta inti kont ghadek student, tara li hemm xi differenza bejn dak iz-zmien u issa?

575

CYCLE III

RESEARCH METHOD: FOCUS INTERVIEW (21.08.02)

Interview Design & Pre-piloted Questions

Introduction - **Myself**
- **Aim of the Study**
- **Collaboration Required**

- What made you choose to do physiotherapy?
- Looking back over these four years what is your overall view of the course that you have just done?
- If you had to meet a relative in the street and they would ask you 'look my daughter is thinking of starting the physiotherapy course', how would you reply to that?
- What in your opinion were the better points of this course?
- And in the same manner what do you think were the bad points of the course?
- In your opinion did you feel that the course gave you the skills necessary to treat patients?
- What are your comments regarding the clinical modular experience that you undertook in this course?
- Can you comment about the manner in which you were taught?
  (The teaching style, the content, how they were presented etc... talk to me.)
- Can you comment about the way the course was assessed – the credit tests, the clinical testing and the Final Comprehensive Examination?
- In your opinion how can the course be improved?
- If I had to show you this course programme (explanation of the term module and implications) can you give me your comments?
- If I had to tell you that students in future course would not have to undergo any Final Synoptic Examinations, what would your comments be and why?
- Finally, and I know that this is very hypothetical, and if time went back by four years and you were given a choice to choose from the two curricula which would you choose and why?
- What do you think about a full year of clinical practice as opposed to it being intermingled during the theoretical components of the course?

CYCLE III

RESEARCH METHOD: FOCUS INTERVIEW (21.08.02)

Interview Design and Pre-piloted Questions

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- X'gieghlek taghzel li tistudja l-pizjoterapija?
- Meta thares lejn dawn l-erba' snin, x'tahseb dwar dan il-kors li ghadek kif ghamilt?
- Kieku kellek tiltaqa' ma xi hadd jigi minnek u dan jistaqsik "binti qed tithajjar tibda l-kors tal-pizjoterapija", kif twiegeb ghal din il-mistoqsija?
- Fl-opinjoni tieghek, liema kienu l-aktar aspetti tajbin tal-kors?
- U la qeghdin nitkellmu fuq dan, liema kienu l-aktar punti negattivi tal-kors?
- Fl-opinjoni tieghek thoss li kellek tahrig bizzejjed matul il-kors sabiex tkun tista tittrata lill-pazjenti?
- X'inhuma l-kummenti tieghek dwar l-esperjenza klinika li kellek matul dan il-kors?
- Tista tikkummentali dwar l-mod ta' kif gejt mghallem (L-istil ta' taghlim, il-kontenut, kif gie prezentat il-materjal etc ... ghidli ftit)
- Tista tikkummentali dwar kif gie ezaminat il-kors, it-testijiet fl-ahhar ta' kull credit, it-testijiet klinici, u l-ezamijiet finali?
- Fl-opinjoni tieghek, il-kors jigi mtejjeb?
- Kieku kelli nurik dan il-programm ta' taghlim (spjegazzjoni tat-termini module u implikazzjonijiet), x'tikkummentali?
- Kieku kelli nurik dan il-programm ta' studju (spjegazjoni tat-termini modulu u l-implikazzjonijiet) tista taghtini ftit il-kummenti tieghek?
- Kieku kelli nghidlek li fil-futur l-istudenti mhux se jkollhom joqghodu ghall-ezamijiet finali, x'tghidli dwar dan, u ghaliex?
- Fl-ahharnett, u din naf li hi haga ipotetika hafna, u kieku kellna mmorru lura fiz-zmien b'erba' snin, u kieku kont mghoti l-ghazla bejn dawn iz-zewg programmi ta' taghlim, liema taghzel, u ghalfejn?
- X'tahseb inti dwar sena shiha ta' prattika clinika ghall-kuntrarju ta' dan jekk ikun flimkien mal-lezzjonijiet tat-teorija?

577

CYCLE III

RESEARCH METHOD: FOCUS INTERVIEW (21.08.02)

Interview Design & Amended Questions

Introduction - **Myself**
- **Aim of the Study**
- **Collaboration Required**

- Why did you choose to study physiotherapy?
- Looking back over these four years what is your overall view of the course that you have just completed?
- If you had to meet a relative in the street and they were to ask you 'look my daughter is thinking of starting the physiotherapy course', what would your reply be?
- What, in your opinion, were the better points of this course?
- And in the same manner, what do you think were the bad points of the course?
- Do you feel that the course gave you the skills necessary to treat patients?
- What are your comments regarding the clinical modular experience that you undertook in this course?
- Can you comment about the manner in which you were taught during the theory part of the course?
  (The teaching style, the content, how they were presented etc... talk to me.)
- Can you comment about the way the course was assessed – the credit tests, the clinical testing and the Final Comprehensive Examination?
- How can the course be improved?
- If I had to show you this course programme (explanation of the term module and implications) can you give me your comments?
- If I had to tell you that students in future course would not have to undergo any Final Comprehensive Examinations, what would your comments be and why?
- Finally, and I know that this is very hypothetical, and if time went back by four years and you were given a choice to choose from the two curricula which would you choose and why?
- What do you think about a full year of clinical practice as opposed to it being intermingled during the theoretical components of the course?

CYCLE III

RESEARCH METHOD: FOCUS INTERVIEW (21.08.02)

Interview Design and Amended Questions

Introduzzjoni	-	**Dwari**
	-	**L-ghan ta' l-istudju**
	-	**Kollaborazzjoni Mehtiega**

- X'gieghlek taghzel li tistudja l-pizjoterapija?
- Meta thares lejn dawn l-erba' snin, x'tahseb dwar dan il-kors li ghadek kif temmejt?
- Kieku kellek tiltaqa' ma xi hadd jigi minnek u dan jistaqsik "binti qed tithajjar tibda l-kors tal-pizjoterapija", xi tkun it-twegiba tieghek?
- Fl-opinjoni tieghek, liema kienu l-aktar aspetti tajbin tal-kors?
- U la qeghdin nitkellmu fuq dan, liema kienu l-aktar punti negattivi tal-kors?
- Tahseb li l-kors provdik bit-tahrig kollu mehtieg sabiex tkun tista tittrata lill-pazjenti?
- X'inhuma l-kummenti tieghek dwar l-esperjenza klinika li kellek matul dan il-kors?
- Tista tikkummentali dwar l-mod ta' kif gejt mghallem il-parti tejoretika tal-kors? (L-istil ta' taghlim, il-kontenut, kif gie prezentat il-materjal etc ... ghidli ftit)
- Tista tikkummentali dwar kif gie ezaminat il-kors, it-testijiet fl-ahhar ta' kull credit, it-testijiet klinici, u l-ezamijiet finali?
- Kif jista l-kors jigi mtejjeb?
- Kieku kelli nurik dan il-programm ta' taghlim (spjegazzjoni tat-termini module u implikazzjonijiet), x'tikkummentali?
- Kieku kelli nghidlek li fil-futur l-istudenti mhux se jkollhom joqghodu ghall-ezamijiet finali, x'tghidli dwar dan, u ghaliex?
- Fl-ahharnett, u din naf li hi haga ipotetika hafna, u kieku kellna mmorru lura fiz-zmien b'erba' snin u kont mghoti l-ghazla bejn dawn iz-zewg programmi ta' taghlim, liema taghzel, u ghalfejn?
- X'tahseb inti dwar sena shiha ta' prattika clinika ghall-kuntrarju ta' dan jekk ikun flimkien mal-lezzjonijiet tat-teorija?

Interview Summary

Interviewee: Co-ordinator – **F**

Key Points:

1. Course Design
2. Course Content
3. Curriculum Development

Themes

1. Course Design	Already Noted	New
Entry Qualifications		✓
Change in teaching staff		✓
Course not commencing yearly		✓
Study units all taught individually	✓	
Number of credits		✓
No longer tied down by rules and regulations		✓
Re-evaluate course content re: common core subjects	✓	
Teaching style	✓	
Over assessment	✓	

2. Course Content	Already Noted	New
Lecturers not familiar with health care professions		✓
Professional jealousy		✓

3. Curriculum Development	Already Noted	New
Acquisition of curriculum		✓
Professor Anne McRae – USA		✓

Key Quotes

Quote	Associated theme/code
"...we have amalgamated a lot of our approach with the American way of teaching... which is very well respected worldwide. A lot of our textbooks are American, the origins of the profession are basically American. So it's a hybrid	F33-35

basically of the British origins and the new-fangled American knowledge... Then it continued in the late nineties when we had a Fulbright Scholar (*Professor Anne McRae*) coming over, for seven months, who helped us design the curriculum for the current undergraduate course."	
"I am a bit wary of new-fangled approaches to teaching. I am a bit wary about that, I have to confess. I mean I may be a bit conservative. I believe that you should provide, you should interest the student, you should provide all the knowledge, available. These new-fangled things like problem based, et cetra, they have their pluses, and they have their minuses. The way that you do not intervene, you take a marginal role in teaching. I am a bit wary of that..."	F73
Re-assessment of students by various means – "... that can be very disruptive. And, it, you may not sort be eliciting the specific performance from the student. You may not be sort of actually appraising the validity of students like that. Em, you may have a combination of assessments, you may have a test combined to a group assignment, so that dilutes again, the specificity of an assessment.	F75

Reflections on interview

- Interviewee appeared to be very anxious about the prospect of being interviewed. He contacted me the day before and jokingly inquired whether any deep philosophical questions were going to be asked.
- The interviewee was sitting at the end of his chair for a large portion of the interview, obviously very uneasy.
- Non-verbal gestures were very forthcoming, particularly towards the end of the interview as the interviewee became more relaxed.
- Some questions were not answered directly, or avoided completely.

Implications

- Some of the points which arose from this interview contrast dramatically with the answers obtained from other interviewees.
- This transcript will be very useful for my discussion as this appears to be a very conservative view to teaching and resistant to change.

Interview Summary

Interviewee: Co-ordinator – **H**

Key Points:

1.   Course Content and Design

2.   Curriculum Development

3.   Qualities of newly qualified degree students

4.   Courses of different qualifications (Degree/Diploma) running concurrently

Themes

1. Course Content and Design	Already Noted	New
Lecturers not familiar with Allied Health Professions	✓	
Poor perceptions of IHC students by teaching staff at main campus		✓
Medical students to join the common core cohort of students		✓
Some common core subjects ought to be taught by people within the profession		✓
Has developed into a multi disciplinary team concept		✓
Previously contained a lot of Behavioural Sciences		✓
Staff employed by division qualified in different specialities, hence content taught by specialists		✓
Means of assessment	✓	
Study units taught individually	✓	

2. Curriculum Development	Already Noted	New
From institution where trained		✓
Other universities curriculum		✓
European guidelines		✓
Individual(foreign) with a lot of experience		✓
International Society		✓

3. Qualities of newly qualified degree students	Already Noted	New
Tend to question more		✓
More assertive		✓

	Already Noted	New
More receptive to patient's needs		✓
Capable of working on their own		✓
Have the communication skills needed to complete course		✓
Capable of doing research		✓
Have a concept of life long learning		✓

4. Courses of different qualifications (Diploma/Degree) running concurrently	Already Noted	New
High failure rate of diploma students		✓
On qualification both work as radiographers		✓
Diploma course has same standard as degree course		✓
Diploma students must learn same subjects as degree students		✓
Entry qualifications		✓
Pool learning qualities noted of diploma students		✓

Key Quotes

Quote	Associated theme/code
"...I think we looked at a number of different curriculums, em, certainly at the Ipswich School, Leeds, em, and some other places in the UK, and we basically developed our own course, em, in line with, okay, the historical tradition means that we look at the British systems..."	H32
"...Christine Dobson, she used to sit on the ... Board of CPSM ... So she was our first external examiner. So, this was also good because like she helped us to develop again the curriculum, to ensure that, you know, we wouldn't have problems with CPSM."	H55-57
"No, because it is very compartmental, it's very much placed into different compartments. If they are being tested in Anatomy, they have a test in Anatomy... It is only when they come in the final examination where they are asked to bring together all the different components"	H93/95
"Em, when we compare ourselves to some divisions, they have a lot, when we see four exam papers. Em, maybe we should be looking at restructuring the papers and reducing the amount of papers to a more realistic number... when especially if you consider that they've been through 80 theoretical credits, 40 clinical credits, I think we are...assessing and re-assessing".	H111

Reflections on interview

- Interviewee initially was a bit anxious, especially as another non-participating person was present for the interview.
- Very well prepared, answered most questions with ease.
- This was the first interview with Anne present, which also put me under a little pressure.

Implications

- A lot of the comments made during this interview are very similar to those that the physiotherapy division have, or are going through.
- The need to interview another co-ordinator to confirm a lot of these comments with another division has been established.

Interview Summary

Interviewee: Registrar's Representative (IHC) – **Y**

Key Points:

1. Academic equivalency of 1 European credit

2. The perception of the Registrar's Office is that the academic content of all the 11 divisions is of the same standard

3. The role of the IHC Board is to ensure that the standard is harmonised between the divisions

4. Registrar's Office is aware of some of the problems arising out of common core subjects

5. Shortage of staff

6. Amalgamation of study-units into chunks

7. Physiotherapy students perceived as better students

Themes

1. European Credit system	Already Noted	New
1 EC is equivalent to 25 hours of learning, 5 to 7 of which should be direct contact		✓
1 EC is equivalent to 25 hours of supervised clinical practice		✓
There is no provision for the amount of supervision required during clinical practice to get 1 EC		✓

2. Academic content of all the divisions should be of the same standard	Already Noted	New
The academic content of a study-unit at a particular level should be equivalent to the same level of a study-unit in a different division		✓

3. The IHC Board should regulate the academic standard of the courses offered	Already Noted	New
The IHC Board must ensure that certain standards and levels are being maintained		✓
The IHC Board has to rubberstamp what the individual Board of Studies propose, but the Board must be aware of content		✓
The IHC Board and the Board of Studies should look at course content		✓

4. Common core subjects	Already Noted	New
Timetabling problems		✓
Clashes between common lectures and clinical days		✓
Complaints from students regarding content	✓	

5. Shortage of staff	Already Noted	New
There are not enough lecturers to teach tailor-made courses		✓

6. Amalgamation of study-units into chunks	Already Noted	New
Course content at IHC appears to be too fragmented		✓
The amalgamation of study-units into modules is ideal	✓	
To reduce the number of assessments carried out	✓	

7. Physiotherapy students perceived as better students	Already Noted	New
Number clause	✓	
Entry requirements	✓	
Students' expectations	✓	

Key Quotes

Quote	Associated theme/code
"...acceptance has to be okayed by the IHC Board, 1. in terms of standards and to ensure conformity because at the end of the day we are issuing one degree, a B.Sc. in Health Science even though the areas are different."	Y56
"So from the Registrar's point of view, almost the standard of content, of academic content is the same throughout all the eleven courses offered at the IHC?... If you are offering them at the same level, they should be..."	Y63-64
"So when we talk about harmonisation, a B.Sc. in Nursing, a B.Sc. in Radiography, in Occupational Therapy and Physiotherapy will have the same amount of academic input for example?... They should do."	Y69-70
"...the IHC Board vets each and every page submitted carefully, one would know that the content is in actual fact up to standard."	Y102
"...we are saying that the Board of Studies has been delegated with this task, and the IHC Board has to rubber stamp what the Board of Studies have in fact. But the IHC Board has to be aware of what is happening in the course."	Y116

"...we get a lot of em... complaints even from the students. Even though they should not be addressing to the Registrar's Office really, that the content being covered does not always meet the students' requirements or sometimes the students complain that what they are being taught is not relevant to their courses. "	Y122
"It is more to do with, as we all know, not having enough people to teach tailor-made courses because ideally, I would imagine we would have somebody to teach em... You would have it custom-made."	Y134
"You are going to amalgamate most of your study-units into larger chunks when it comes to Physiotherapy. It is not without its problems because ... when it comes to ... My main concern is when it comes ... When it comes to the common core in the course programmes, it is difficult... it is very difficult to try and come up with a larger unit of learning."	Y156
"Maybe one gets the feeling that certain study-units have been... This exercise has been purely a cosmetic one..."	Y200
"Even the very fact students em... that you have a number clause for the students, and the entry requirements, the students will expect more. in my opinion, they are coming to the course, em... they come to the course, I think it is expecting a bit more than they would from other courses."	Y213
"We tend to think that the students in the Physiotherapy course are a bit better to be honest."	Y217

Reflections on interview

- The interview was carried out in a very large room in a friendly cordial atmosphere.
- The interviewee appeared to be a bit nervous during the initial stages of the interview.
- There was a conscious effort by the interviewee to slow down her rate of responding.
- There were certain instances when the interviewee expressed her 'gut feeling' and for academic/professional reasons these have not been quoted.

Implications

- For all intents and purposes, the Registrar's representative's perception is that the academic content of each degree course being offered at the Institute of Health Care is and should be of the same academic standard.
- The Registrar's representative believes that the IHC Board should be in a position to ensure that each individual division is offering a course of the same academic standard.

- It is highly unlikely that any proposed changes to the physiotherapy curriculum regarding common core subjects being amalgamated into professional modules will be accepted.

Curriculum Development II

Meeting – 22nd March 2004

Members present: Mr Tonio Agius
                     Ms Nadine Galea
                     Mr Stephen Lungaro-Mifsud
                     Mr Mark Sacco

Agenda

- To inform rest of group re: developments following meetings with the Registrar's Representative
- Changes to the course programme

Introduction given by Mr M. Sacco

Following a discussion, a decision was taken to remove all the common core study-units from the present modules and set up individual modules containing only common core study-units:

Year I
Physiology – To create a new module titled 'Biomedical Science – Physiology I' that will include study-units:

PHB1001	Body Fluids, Cells and Cardiovascular Physiology
PHB1002	Respiratory Physiology
PHB1003	Renal Physiology
PHB1004	Haematology

Anatomy – To create a new module titled 'Biomedical Science – Anatomy I'. This will include:

ANA1013	Anatomy of the Upper Limb
ANA1014	Anatomy of the Lower Limb
ANA1006	Anatomy of the Abdomen and Pelvis
ANA1008	Anatomy of the Thorax

Following a discussion, it was decided to introduce a new study-unit titled 'Thorax and Pelvis Dissection'.

Applied Sciences – To create a new module titled 'Applied Sciences'; this is to include the following study-units:

PAT2121	Pathology
CPH1019	Pharmacology I

The next meeting was set for the 29th March 2004 and the second and third year curriculum is to be discussed.

Meeting – 29th March 2004

Members present: Mr Tonio Agius
                   Ms Nadine Galea
                   Mr Stephen Lungaro-Mifsud
                   Mr Mark Sacco
                   Ms Carmen Farrugia (Secretary)

<u>Agenda</u>

- Changes to the Year II course programme

<u>Year II</u>
Following a brief introduction and discussion, it was decided that the changes to the second year ought to be similar to those carried out in the first year.

Physiology – The setting up of a new module titled 'Biomedical Science – Physiology II'. This was to include the following:
>   PHB1005   Gastrointestinal Physiology
>   PHB1006   The Endocrine System and Neurophysiology

Following a discussion, it was decided that the standard of Neurophysiology acquired by students at the end of these study-units was not considered to be enough for them to grasp the underlying principles of alterations to muscle tone; as a result the creation of a new further study-unit titled 'Neurophysiology' for physiotherapists was being proposed.

Anatomy – The setting up of a new module titled 'Biomedical Science – Anatomy I'. This was to include:
>   ANA1004   Anatomy of the Head, Neck and Vertebral Column I
>   ANA1005   Anatomy of the Head, Neck and Vertebral Column II
>   ANA1010   Neuroanatomy

It was decided following a lengthy discussion to create two new study-units titled:
>   ANA2005   Head, Neck, Upper and Lower Limb Dissection
>   ANA2010   Neuroanatomy and CNS Dissection

Social Sciences – It was decided to include the social sciences under one, module, this was to include the following study-units:
>   PSY2102   Health Psychology I
>   IHC2013   Health Promotion and Health Education
>   IHC2011   Social Aspects of Health Care
>   PSY2110   Helping Skills

Professional Issues – Following a discussion, it was decided that a module titled 'Professional Issues' be created and to include two study-units that were not considered to be included in the module 'Social Sciences'. This was to include:

PHT3018   Development of Critical and Reflective Practice
IHC2012   Ethics for Health Professions and Ethical Dilemmas

Research Methods – Following a discussion, it was decided that both study-units offered by the IHC in research ought to be included in the second year. This module titled 'Research Methods I' was to include:

IHC1005   Introduction to Research Methods
IHC3001   Research Methods

Due to the excessive amount of study-units in Year II, it was decided that another module titled 'Research Methods II' ought to be included in the Year III syllabus.

Year III
Research Methods – This new module titled 'Research Methods II' was to include the study-unit PHL1303 Health Information Science.

At the end of this meeting, it was decided to hold another meeting with the Registrar's Representative to discuss the new amended curriculum.

Meeting – 5th April 2004

Members present: Mr Tonio Agius
                    Ms Nadine Galea
                    Mr Stephen Lungaro-Mifsud
                    Mr Mark Sacco
                    Ms Jo-Anne Stivala
                    Ms Carmen Farrugia (Secretary)

Agenda

- Curriculum development

Following a suggestion by Ms Stivala and followed by a discussion regarding the amendments to be carried out to the curriculum, it was decided that some of the study-units forming modules could be amalgamated together into a larger study-unit. Assessment of these could only be carried out individually but on one occasion, i.e. Anatomy of the Upper and Lower Limb will be assessed on one occasion, not twice, but instead a two-hour test not a one-hour test.

Year I
Biomedical Science – Physiology I
Following a discussion, it was decided that the two study-units PHB1001 and PHB1002 could be amalgamated into a new study-unit titled PHB1101 Body Fluids, Cells, Cardiovascular and Respiratory Physiology.

It was also agreed that study-units PHB1003 and PHB1004 be amalgamated and titled PHB1102 Renal Physiology and Haematology.

Biomedical Science – Anatomy I
Following a discussion, it was decided that study-units ANA1013 and ANA1014 be amalgamated and titled ANA1016 Anatomy of the Upper and Lower Limb.

Year II
Biomedical Science – Physiology II
Following a discussion, it was agreed that the study-units PHB1005 and PHB1006 be amalgamated to be titled PHB2101 Gastrointestinal, The Endocrine System and Neurophysiology.

Biomedical Science – Anatomy II
It was decided that study-units ANA1004, ANA1005 and ANA1010 be amalgamated and titled ANA2011 Anatomy of the Head, Neck, Vertebral Column and Neuroanatomy.

to create two new study-units titled:

ANA2005   Head, Neck, Upper and Lower Limb Dissection
ANA2010   Neuroanatomy and CNS Dissection

Agenda – Optional Study-units

Having had a discussion, it was decided that 8 European Credits will be offered as optional credits. It was also agreed that the course programme should recommend that IHC2014 Communication Skills for Health Professionals, IHC1002 Introduction to First Aid, HSM3001 Introduction to Health Service Management be considered as recommended optional credits.

Agenda – Course Assessment

Following a discussion, it was agreed that modules will be assessed in one or more sittings, and in one or more modes of assessment, but that one mark will be issued. Should a student not pass one of the study-units featuring that module then the module result will read as 'Incomplete'. The student will be given the chance to resit the failed study-unit. Should a student fail the resit then the module is deemed as failed and the student will have to repeat the year as the number of credits obtained will not entitle the student to progress to the next year.

Agenda – Optional Study-units

Following a discussion, it was decided that the following study-units will be recommended as optional:

ANA1011   Histology
IHC1002   Introduction to First Aid
HSM3001   Introduction to Health Service Management

It was also agreed that the following study-units should enter the course programme as highly recommended:

IHC1001   Disability Issues
IHC2014   Communication Skills for Health Professions
PHT3019   Dermatology/Ultraviolet

Agenda – Compensatory Pass

In line with the University regulations on compensatory and non-compensatory passes, it was decided that all study-units directly pertaining to physiotherapy and subjects supportive to physiotherapy ought to be considered as non-compensatory. It was decided that nine study-units were to be entered as compensatory passes:

IHC2011   Social Aspects of Health Care
PSY1301   Introduction to Psychology for Health Carers
PSY2110   Helping Skills
IHC2013   Health Promotion and Health Education
PHL1303   Health Information Science
IHC2012   Ethics for Health Professions and Ethical Dilemmas

The last three compensatory pass study-units were to be taken as the optional study-units.

Conclusion:

Following these discussions, the amended course programme was handed over to Ms Stivala who was to present it to the next IHC Board Meeting to be accepted by the Institute of Health Care Board of Studies, and eventually to be accepted by Senate.

Field Notes

Meeting – 5th April 2004

Members present: Mr Tonio Agius
                          Ms Nadine Galea
                          Mr Stephen Lungaro-Mifsud
                          Mr Mark Sacco
                          Ms Jo-Anne Stivala
                          Ms Carmen Farrugia (Secretary)

Location: Physiotherapy Office, IHC

Time: 10.30am

- Photocopies of all new amended course programmes handed out

Seating arrangement:

Carmen Farrugia		Stephen Lungaro-Mifsud
Mark Sacco		Tonio Agius
Jo-Anne Stivala		Nadine Galea
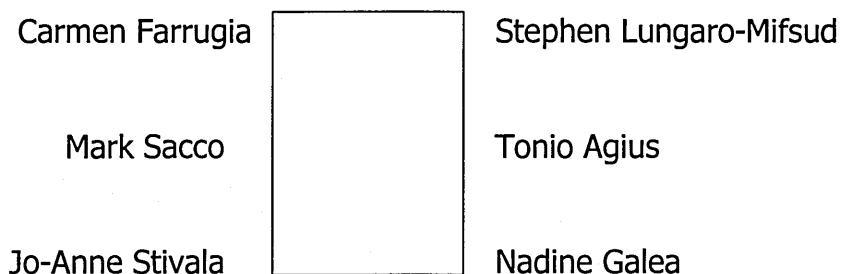
Introduction
- Explanation to Ms Stivala about the changes that the Board of Studies has carried out to the course programme.

- Explanation about the new Biomedical Science modules.

- Suggestion by Ms Stivala that one can decrease the number of study-units by joining them together – Good idea (appears to be approval by all, especially Stephen likes the idea).

- Each module read out and study-units that are related are amalgamated;
Anatomy of the Upper Limb & Lower Limb
Head, Neck, Vertebral Column & Neuroanatomy

- Nadine insisting that Neuroanatomy and Neurophysiology ought to be in the same module.

- Coffee break

- Everybody more relaxed now.

- Ms Stivala appears to approve of our assessment system.

- Carmen concerned re: weighting of study-units how to input into university marking programme.

- Tonio and Stephen appear to be discussing the complications of the new assessment procedure.

- Meeting ended cordially.

CYCLE IV

RESEARCH METHOD: PATIENTS FOCUS INTERVIEW (July 2003)

Pre-piloted Questions

Introduction - **Myself**
- **Aim of Research**
- **Collaboration Required**

- Have you ever had physiotherapy before?
  (N.B. If patient is attending state hospital go directly to question 3)
- Were you referred to physiotherapy by a doctor/specialist/self referral?
  (N.B. What made you opt for physiotherapy as opposed to any other type of treatment?)
- Having been referred to physiotherapy, was it what you expected?
- Were you informed about your condition by the physiotherapist?
- Do you feel that the explanation given to you was adequate?
- Was the physiotherapy treatment explained to you?
  (N.B. If no, what do you think was done to you? Example: Any electrotherapy applied?)
- Are you aware that there are certain dangers or complications associated with the treatment of physiotherapy?
- Were you aware of this, and were any of these discussed during the treatment session?
- What were your expectations of physiotherapy prior to treatment?
- Were you given an indication of the amount of treatment sessions required, and does this fit in with the time frame you expected?
- Were your expectations met following physiotherapy?
- In general, were you satisfied with the service offered to you?
- Did you think physiotherapy was necessary for your final rehabilitation?

CYCLE IV

RESEARCH METHOD: PATIENTS FOCUS INTERVIEW (July 2003)

Pre-piloted Questions

Introduzzjoni	-	**Dwari**
	-	**L-ghan ta' l-istudju**
	-	**Kollaborazzjoni Mehtiega**

- Kien hemm drabi ohra meta gejt riferut ghall-fizjoterapija?
  (Jekk il-pazjent qieghed jigi trattat fi sptar tal-gvern, aqbez ghall-mistoqsija nru. 3)
- Min irriferik? Tabib, specjalista jew gejt minn jeddek?
  (N.B. X'gieghlek taghzel li tigi ghall-fizjoterapija milli ghazilt xi tip ta' trattament iehor?)
- Issa li gejt riferut ghall-fizjoterapija, tahseb li t-trattament li qieghed jinghatalek huwa dak li kont qed tistenna?
- Kont infurmat dwar il-kundizzjoni li ghandek?
- Tahseb li l-ispjegazzjoni li nghatatlek kienet tajba bizzejjed?
- Gie spjegat xi trattament kellu jinghatalek?
  Jekk le, x'tip ta trattament tahseb li nghatalek? Ezempju: Giet applikata elettroterapija?
- Kont taf li hemm certi perikli u kumplikazzjonijiet li huma assocjati mat-trattament tal-fizjoterapija?
- Qatt kellek xi hjiel ta' dan, u kienu diskussi mieghek waqt is-sezzjonijiet tal-fizjoterapija?
- Qabel bdejt it-trattament, f'hiex kont tippretendi li kien se jkun jikkonsisti?
- Kellek xi ndikazzjoni ta' kemm - il sezzjoni kien se jkollok bzonn?
- Mit-trattament li nghatalek, hadt dak li kont qed tistenna?
- Kont sodisfatt bis-servizz moghti lilek?
- Tahseb li kien necessarju ghalik li tinghata trattament tal-fizjoterapija ghar-rijabilitazzjoni shiha tieghek?

CYCLE IV

RESEARCH METHOD: PATIENTS FOCUS INTERVIEW (July 2003)

Piloted Questions

Introduzzjoni	-	**Dwari**
	-	**L-ghan ta' l-istudju**
	-	**Kollaborazzjoni Mehtiega**

- Kien hemm drabi ohra meta gejt riferut ghall-fizjoterapija?
  (Jekk il-pazjent qieghed jigi trattat fi sptar tal-gvern, aqbez ghall-mistoqsija nru. 3)
- Min irriferik? Tabib, specjalista jew gejt minn jeddek?
  (N.B. X'gieghlek taghzel li tigi ghall-fizjoterapija milli ghazilt xi tip ta' trattament iehor?)
- Issa li gejt riferut ghall-fizjoterapija, tahseb li t-trattament li qieghed jinghatalek huwa dak li kont qed tistenna?
- Kont infurmat dwar il-kundizzjoni li ghandek?
- Tahseb li l-ispjegazzjoni li nghatatlek kienet tajba bizzejjed?
- Gie spjegat xi trattament kellu jinghatalek?
  Jekk le, x'tip ta trattament tahseb li nghatalek? Ezempju: Giet applikata elettroterapija?
- Kont taf li hemm certi perikli u kumplikazzjonijiet li huma assocjati mat-trattament tal-fizjoterapija?
- Qatt kellek xi hjiel ta' dan, u kienu diskussi mieghek waqt is-sezzjonijiet tal-fizjoterapija?
- Qabel bdejt it-trattament, x'kont tahseb li kien ser jinvolvi?
- Kellek xi ndikazzjoni ta' kemm - il sezzjoni kien se jkollok bzonn?
- Gejt moghti dak li kont qed tistenna mit-trattament li nghatalek?
- Kont sodisfatt bis-servizz moghti lilek?
- Tahseb li kien necessarju ghalik li tinghata trattament tal-fizjoterapija ghall-fejqan shiha tieghek?

CYCLE IV

RESEARCH METHOD: PATIENTS FOCUS INTERVIEW (July 2003)

Amended Questions

Introduction	-	**Myself**
	-	**Aim of Research**
	-	**Collaboration Required**

- Have you ever been referred to physiotherapy before?
- Did a doctor refer you for treatment, or did you go directly to the physiotherapist?
  *(Were you referred for physiotherapy straight away or did the doctor try to treat you, and later, were you referred for physiotherapy?)
- Prior to attending for treatment, what did you think physiotherapy consisted of?
- Now that you've been attending for treatment, was it what you expected?
- What do you think are the beneficial effects of physiotherapy?
- (What made you opt for private physiotherapy, as opposed to physiotherapy being offered free by the state?)
- Was the treatment carried out in a professional manner?
- Did the physiotherapist portray a professional image?
- When you attended for treatment was your condition explained to you by your physiotherapist?
- Were you satisfied by the explanation given?
- Was the treatment explained to you?
  *(Are you aware that physiotherapy treatment might involve some danger associated with it?)
- Were your expectations met following treatment?
  *(Did you expect anything more following your visit to the physiotherapist?)
- In general, were you satisfied with the physiotherapy service offered to you?
- Did you think physiotherapy was necessary for your final rehabilitation?
- What do you think are the beneficial effects of physiotherapy?
- Do you think there are any negative effects associated with physiotherapy?
- If you required physiotherapy in the future would you consider going straight to the physio or would you go via your G.P./Specialist?
- In your opinion do you think doctors or the medical profession appreciate the physiotherapy profession, or the work done by physiotherapists?

CYCLE IV

RESEARCH METHOD: PATIENTS FOCUS INTERVIEW (July 2003)

Amended Questions

Introduzzjoni - **Dwari**
- **L-ghan ta' l-istudju**
- **Kollaborazzjoni Mehtiega**

- Gieli gejt riferit ghall-fizjoterapija qabel illum?
- Kien tabib li rriferik, jew mort minn jeddek direttament ghand il-fizjoterapista? (Mill-ewwel gejt referit ghall-fizjoterapija, jew gejt mghoti xi tip ta' trattament iehor, umbaghad wara gejt referit ghall-fizjoterapija?)
- Qabel ma gejt ghat-terapija, f'hiex kont tahseb li tikonsisti l-fizjoterapija?
- Issa li qieghed tiehu t-terapija, tahseb li t-trattament li qieghed jinghatalek huwa dak li kont qed tistenna?
- X'tahseb li huma l-effetti benefici tal-fizjoterapija?
- (X'gieghlek taghzel li tmur ghand fizjoterapista privat, milli tinqeda b'xejn bis-servizz provdut mill-istat?)
- Inghatalek trattament professjonali?
- Il-fizjoterapista gab ruhu bhala bniedem professjonali?
- Meta mort ghat-terapija, il-fizjoterapista spjegali l-kundizzjoni li ghandek?
- Kont sodisfatt bl-ispjegazzjoni li nghatatlek?
- Gie spjegat xi trattament kellu jinghatalek?
  (Kont taf li hemm certi perikli u kumplikazzjonijiet li huma associjati mat-trattament tal-fizjoterapija?)
- Mit-trattament li nghatalek, hadt dak li kont qed tistenna?
  (Kont qed tistenna xi haga aktar wara li zort il-fizjoterapista?)
- B'mod generali, kont sodisfatt bis-servizz tal-fizjoterapija li gie mghoti lilek?
- Tahseb li kien necessarju ghalik li tinghata trattament tal-fizjoterapija ghar-riabilatazzjoni shiha tieghek?
- Tahseb li hemm xi effetti negattivi li huma associjati mal-fizjoterapija?
- Kieku fil-futur jerga jkollok bzonn il-fizjoterapija, taghzel li tmur direttament ghand il-fizjoterapista, jew tistenna li tigi riferut minn tabib jew specjalista?
- Fl-opinjoni tieghek, tahseb li l-professjoni tal-fizjoterapija, jew ix-xoghol tal-fizjoterapista, huma apprezzatti mit-tobba jew professjonisti ohra medici?

L-UNIVERSITÀ TA' MALTA

ISTITUT GHALL-HARSIEN TAS-SAHHA

GWARDAMANGIA - MALTA

UNIVERSITY OF MALTA

INSTITUTE OF HEALTH CARE

GWARDAMANGIA - MALTA

Institute of Health Care Board

Chairman: Professor John Rizzo Naudi

Director
Dr. Sandra Buttigieg

Members: Appointed by Council
Professor Frederick F. Fenech

Appointed by Senate
Professor J.M. Cacciattolo

The Director General Health

The Director, Human Resources, Health Division

Coordinators: Communication Therapy: Dr. Helen Grech
Environmental Health: Professor Victor Ferrito
Health Services Management: Dr. Natasha Azzopardi Muscat
Medical Laboratory Science: Professor Angela Xuereb
Nursing/Midwifery: Ms. Grace Ann Jaccarini
Occupational Therapy: Mr. Rene Mifsud
Physiotherapy: Mr. Mark Sacco
Radiography: Mr. Paul Bezzina

Member elected by and from the academic staff
Mr. Carmel J. Caruana

Elected by and from the students
Ms. Rebecca Felice
Ms. Andrea Spiteri Paris

The Registrar or his delegate

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR I								
	Biomedical Science - Physiology I							
PHB1101	Body Fluids, Cells, Cardiovascular and Respiratory Physiology	1	1	4	T	Written Test	C	NC
PHB1102	Renal Physiology and Haematology	2	1	4	T	Written Test	C	NC
	Biomedical Science - Anatomy I							
ANA1016	Anatomy of the Upper and Lower Limb	1&2	1	4	T	Written Test	C	NC
ANA1017	Thorax and Pelvis Dissection	2	1	2	T	Practical Test	C	NC
ANA2012	Anatomy of the Abdomen and Pelvis	1&2	2	4	T	Written Test	C	NC
ANA1008	Anatomy of the Thorax	2	1	2	T	Written Test	C	NC
PHT1011	**Cardiovascular/Respiratory Physiotherapy**	1&2	1	10	T/P	Assignment & Oral Test	C	NC
	Burns and Plastic Surgery			15%	T	Assignment		
	Respiratory Conditions			55%	T/P	Oral Test & Practical		
	Introduction to Surgery			15%	T	Assignment		
	Cardiac Rehabilitation			15%	T/P	Assignment		
PHT1041	**Manipulative Therapy I**	1&2	1	10	T/P	Oral Test & Practical	C	NC
	Living Anatomy			40%	T/P	Oral Test & Practical		
	Soft Tissue Manipulations			20%	T/P	Oral Test & Practical		
	Mobilisations - Upper Limb			20%	T/P	Oral Test & Practical		
	Mobilisations - Lower Limb			20%	T/P	Oral Test & Practical		
PHT1062	**Movement and Kinesiology**	1&2	1	12	T/P	Continuous Assessment	C	NC
	Movement and Kinesiology			25%	T/P	Assignment & Presentation		
	Exercise Therapy			25%	T/P	Assignment/Oral Test & Practical		
	PNFs			12%	T/P	Oral Test & Practical		
	Hydrotherapy			8%	T	Assignment		
	Patient Assessment			12%	T	Assignment		
	Moving and Handling			12%	T/P	Oral Test & Practical		
	Clinical Sciences			6%	P	Assignment & Presentation		
	Applied Sciences							
PAT2121	Pathology	1	2	4	T	Written Test	C	NC
CPH2401	Pharmacology for Health Care Professionals	1&2	2	4	T	Written Test	C	NC

	TOTAL CREDITS	60
	Level 1	*48*
	Level 2	*12*
	Optional	*-*

CP - Compensatable Pass
NC - Non-Compensatable

603

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR II								
	Biomedical Science - Physiology II							
PHB2101	Gastrointestinal, The Endocrine System and Neurophysiology		2	4	T	Written Test	C	NC
PHB2015	Neurophysiology		2	2	T		C	NC
	Biomedical Science - Anatomy II				-	-		
ANA2011	Anatomy of the Head, Neck and Vertebral Column and Neuroanatomy		2	4	T	Written Test	C	NC
ANA2005	Head, Neck, Upper and Lower Limb Dissection		2	2	T	Practical Test	C	NC
ANA2010	Neuroanatomy and CNS Dissection		2	4	T	Written Test	C	NC
	Social Sciences							
IHC2011	Social Aspects of Health Care		2	4	T	Written Test	C	CP
PSY1301	Introduction to Psychology for Health Carers		1	2	T	Written Test	C	CP
PSY2110	Helping Skills		2	4	T	Written Test	C	CP
IHC2013	Health Promotion and Health Education		2	4	T	Written Test	C	CP
PHT2042	**Musculoskeletal Physiotherapy**	1&2	2	14	T/P	Continuous Assessment	C	NC
	Musculoskeletal Physiotherapy I				T	Oral Test & Assignment		
	Musculoskeletal Physiotherapy II			72%	T	Oral Test & Assignment		
	Peripheral Nerve Injuries				T	Oral Test & Assignment		
	Women's Health			22%	T/P	Assignment/Oral Test & Practical		
	Obstetrics and Gynaecology				T/P	Assignment/Oral Test & Practical		
	Clinical Sciences			6%	P	Continuous Assessment		
	Professional Issues				-	-		
PHT3018	Development of Critical and Reflective Practice		3	2	T	Assignment	C	NC
IHC2012	Ethics for Health Professions and Ethical Dilemmas		2	4	T	Assignment & Writtent Test	C	CP
	Research Methods I				-	-		
IHC1005	Introduction to Research Methods	1	1	2	T	Written Test	C	NC
IHC3001	Research Methods	2	3	2	T	Written Test	C	NC
	Optional Study-units (6 credits) *			6			C	CP

TOTAL CREDITS	**60**
Level 1	*4*
Level 2	*46*
Level 3	*4*
Optional	*6*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR III								
PHT3021	**Physical and Electrotherapeutic Agents**	1&2	3	10	T/P	Oral Test & Practical	C	NP
	Low Frequency Currents			20%	T/P	Oral Test & Practical		
	Peripheral Heating			20%	T/P	Oral Test & Practical		
	Ultrasound			20%	T/P	Oral Test & Practical		
	Interferential - TNS - Laser			20%	T/P	Oral Test & Practical		
	Electrotherapy - Thermal Applications			20%	T/P	Oral Test & Practical		
PHT3032	**Neurological Rehabilitation**	1&2	3	12	T/P	Written Test & Practical	C	NP
	Introduction to Neurological Rehabilitation							
	Neuro Rehabilitation I			100%	T/P	Written Test & Practical		
	Neuro Rehabilitation II							
PHT3042	**Manipulative Therapy II**	1&2	3	10	T/P	Oral Test & Practical	C	NP
	Living Anatomy (Back and Neck)							
	Mobilisations - Back and Neck			100%	T/P	Oral Test & Practical		
	Advanced Mobilisation Techniques							
PHT3062	**Rehabilitation of the Older Adult**	1&2	3	8	T	Continuous Assessment	C	NP
	Physiotherapy for the Older Adult			60	T	Oral Test & Assignment		
	Rehabilitation of the Amputee			20	T	Written Test		
	Physiotherapy in Mental Health			20	T	Assignment		
PHT3082	**Care of the Child**	1&2	3	6	T	Oral/Written Test	C	NP
	Paediatrics I			100%	T	Oral/Written Test		
	Paediatrics II							
PHT3101	**Clinical Sciences**	1&2	3	8	P	Oral Test/ Assignment	C	NP
	Research Methods II				-	-	C	CP
PHL1303	Health Information Science		2	4	T	Writtent Test		
	Optional Study-units (2 credits) **			2	T		C	CP

TOTAL CREDITS   60
Level 1   0
Level 2   4
Level 3   54
Optional   2

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR IV								
PHT4101	**Clinical Sciences**	1&2	4	50	P	Continuous Assessment	C	NC
PHT4200	**Dissertation**	1&2	4	10	T	Project	C	NC

	TOTAL CREDITS	**60**
	Level 4	*60*

CP - Compensatable Pass
NC - Non-Compensatable

606

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

RECOMMENDED LIST OF OPTIONAL STUDY UNITS

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	CP/NC
ANA1011	Histology		1	2			
IHC1001	Disability Issues*		1	2			
HSM3001	Introduction to Health Service Management (Recommended Extra)		3	4			
IHC1002	Introduction to First Aid (Recommended Extra)		1	2			
PHT3019	Dermatology/Ultraviolet **		3	2			
IHC2014	Comunication Skills for Health Professions*		2	4			

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR I								
	Biomedical Science - Physiology I							
PHB1101	Body Fluids, Cells, Cardiovascular and Respiratory Physiology	1	1	4	T	Written Test	C	NC
PHB1102	Renal Physiology and Haematology	2	1	4	T	Written Test	C	NC
	Biomedical Science - Anatomy I							
ANA1016	Anatomy of the Upper and Lower Limb	1&2	1	4	T	Written Test	C	NC
ANA1017	Thorax and Pelvis Dissection	2	1	2	T	Practical Test	C	NC
ANA2012	Anatomy of the Abdomen and Pelvis	1&2	2	4	T	Written Test	C	NC
ANA1008	Anatomy of the Thorax	2	1	2	T	Written Test	C	NC
PHT1011	**Cardiovascular/Respiratory Physiotherapy**	1&2	1	10	T/P	Assignment & Oral Test	C	NC
PHT1041	**Manipulative Therapy I**	1&2	1	10	T/P	Oral Test & Practical	C	NC
PHT1062	**Movement and Kinesiology**	1&2	1	12	T/P	Continuous Assessment	C	NC
	Applied Sciences							
PAT2121	Pathology	1	2	4	T	Written Test	C	NC
CPH2401	Pharmacology for Health Care Professionals	1&2	2	4	T	Written Test	C	NC

TOTAL CREDITS   **60**
Level 1   *48*
Level 2   *12*
Optional   *-*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR II								
	Biomedical Science - Physiology II							
PHB2101	Gastrointestinal, The Endocrine System and Neurophysiology		2	4	T	Written Test	C	NC
PHB2015	Neurophysiology		2	2	T		C	NC
	Biomedical Science - Anatomy II					-	-	
ANA2011	Anatomy of the Head, Neck and Vertebral Column and Neuroanatomy		2	4	T	Written Test	C	NC
ANA2005	Head, Neck, Upper and Lower Limb Dissection		2	2	T	Practical Test	C	NC
ANA2010	Neuroanatomy and CNS Dissection		2	4	T	Written Test	C	NC
	Social Sciences							
IHC2011	Social Aspects of Health Care		2	4	T	Written Test	C	CP
PSY1301	Introduction to Psychology for Health Carers		1	2	T	Written Test	C	CP
PSY2110	Helping Skills		2	4	T	Written Test	C	CP
IHC2013	Health Promotion and Health Education		2	4	T	Written Test	C	CP
PHT2042	**Musculoskeletal Physiotherapy**	1&2	2	14	T/P	Continuous Assessment	C	NC
	Professional Issues					-	-	
PHT3018	Development of Critical and Reflective Practice		3	2	T	Assignment	C	NC
IHC2012	Ethics for Health Professions and Ethical Dilemmas		2	4	T	Assignment & Writtent Test	C	CP
	Research Methods I					-	-	
IHC1005	Introduction to Research Methods	1	1	2	T	Written Test	C	NC
IHC3001	Research Methods	2	3	2	T	Written Test	C	NC
	Optional Study-units (6 credits) *			6			C	CP

TOTAL CREDITS	**60**
Level 1	*4*
Level 2	*46*
Level 3	*4*
Optional	*6*

CP - Compensatable Pass
NC - Non-Compensatable

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR III								
PHT3021	**Physical and Electrotherapeutic Agents**	1&2	3	10	T/P	Oral Test & Practical	C	NC
PHT3032	**Neurological Rehabilitation**	1&2	3	12	T/P	Written Test & Practical	C	NC
PHT3042	**Manipulative Therapy II**	1&2	3	10	T/P	Oral Test & Practical	C	NC
PHT3062	**Rehabilitation of the Older Adult**	1&2	3	8	T	Continuous Assessment	C	NC
PHT3082	**Care of the Child**	1&2	3	6	T	Oral/Written Test	C	NC
PHT3101	**Clinical Sciences**	1&2	3	8	P	Oral Test/ Assignment	C	NC
	Research Methods II							
PHL1303	Health Information Science		2	4	T	Written Test	C	CP
	Optional Study-units (2 credits) **			2	T		C	CP

TOTAL CREDITS	**60**
Level 1	*0*
Level 2	*4*
Level 3	*54*
Optional	*2*

CP - Compensatable Pass
NC - Non-Compensatable

610

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	C/O/E	CP/NC
YEAR IV								
PHT4101	**Clinical Sciences**	1&2	4	50	P	Continuous Assessment	C	NC
PHT4200	**Dissertation**	1&2	4	10	T	Project	C	NC

TOTAL CREDITS	**60**
Level 4	*60*

CP - Compensatable Pass
NC - Non-Compensatable

611

UNIVERSITY OF MALTA
Institute of Health Care
B.Sc.(Hons) Physiotherapy
Course Programme
(applicable for courses commencing in October 2004)

RECOMMENDED LIST OF OPTIONAL STUDY UNITS

Code	Title of Study-Unit	Sem	Level	Credit Value	Type	Method of Assessment	CP/NC
ANA1011	Histology		1	2			
IHC1001	Disability Issues*		1	2			
HSM3001	Introduction to Health Service Management (Recommended Extra)		3	4			
IHC1002	Introduction to First Aid (Recommended Extra)		1	2			
PHT3019	Dermatology/Ultraviolet **		3	2			
IHC2014	Comunication Skills for Health Professions*		2	4			

PhD Q Methodology
Q-Set 'A' – Course Design

Table 1. Correlation Matrix Between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.59	.47	.49	.32	.31	.37	.11	.27	.53
2 Participant 2	.59	1	.44	.26	.43	.18	.40	.29	.48	.60
3 Participant 3	.47	.44	1	.59	.06	.42	.49	.24	.49	.58
4 Participant 4	.49	.26	.59	1	-.06	.55	.33	.30	.36	.44
5 Participant 5	.32	.43	.06	-.06	1	.27	.24	.31	.31	.31
6 Participant 6	.31	.18	.42	.55	.27	1	.39	.17	.35	.45
7 Participant 7	.37	.40	.49	.33	.24	.39	1	.23	.34	.60
8 Participant 8	.11	.29	.24	.30	.31	.17	.23	1	.42	.41
9 Participant 9	.27	.48	.49	.36	.31	.35	.34	.42	1	.61
10 Participant 10	.53	.60	.58	.44	.31	.45	.60	.41	.61	1

Table 2. Unrotated Factor Matrix

SORTS	Factors							
	1	2	3	4	5	6	7	8
1 Participant1	0.6877	-0.0185	-0.5450	-0.0269	-0.3382	0.1372	-0.0676	-0.2221
2 Participant2	0.7121	0.3626	-0.3186	-0.2815	-0.0960	-0.0727	-0.0687	0.3338
3 Participant3	0.7502	-0.3571	-0.0286	-0.2106	0.0837	-0.1039	0.4738	0.0768
4 Participant4	0.6587	-0.5742	0.1202	0.0130	-0.3353	0.1142	-0.0522	-0.0843
5 Participant5	0.4330	0.7174	-0.0664	0.4475	-0.1054	-0.0062	0.2220	-0.0974
6 Participant6	0.6091	-0.3088	0.1353	0.6558	-0.0306	-0.1245	-0.0828	0.2053
7 Participant7	0.6748	-0.0494	-0.1088	0.0827	0.6050	0.3327	-0.0106	-0.1121
8 Participant8	0.4904	0.3009	0.6552	-0.1660	-0.2038	0.3923	0.0211	0.0445
9 Participant9	0.7067	0.1516	0.3347	-0.1570	0.0687	-0.5060	-0.0784	-0.2342
10 Participant10	0.8573	0.0662	0.0068	-0.1029	0.1942	-0.0240	-0.2557	0.0577
Eigenvalues	4.4653	1.3193	0.9896	0.8244	0.7050	0.5847	0.3647	0.2982
% expl.Var.	45	13	10	8	7	6	4	3

PhD Q Methodology
Q-Set 'A' – Course Design

Table 3.   Cumulative Communalities Matrix

Factors 1 Thru .....

SORTS	1	2	3	4	5	6	7	8
1 Participant1	0.4729	0.4733	0.7703	0.7710	0.8854	0.9042	0.9088	0.9581
2 Participant2	0.5070	0.6385	0.7400	0.8193	0.8285	0.8338	0.8385	0.9499
3 Participant3	0.5628	0.6904	0.6912	0.7355	0.7425	0.7533	0.9778	0.9837
4 Participant4	0.4339	0.7635	0.7780	0.7782	0.8906	0.9036	0.9063	0.9135
5 Participant5	0.1875	0.7021	0.7065	0.9067	0.9178	0.9179	0.9672	0.9767
6 Participant6	0.3710	0.4663	0.4847	0.9147	0.9157	0.9312	0.9380	0.9802
7 Participant7	0.4553	0.4578	0.4696	0.4764	0.8424	0.9531	0.9532	0.9658
8 Participant8	0.2405	0.3310	0.7602	0.7878	0.8293	0.9833	0.9837	0.9857
9 Participant9	0.4995	0.5225	0.6345	0.6591	0.6638	0.9199	0.9260	0.9809
10 Participant10	0.7349	0.7393	0.7393	0.7499	0.7876	0.7882	0.8536	0.8569
cum% expl.Var.	45	58	68	76	83	89	93	96

Table 4.   Rotated Factor Matrix with an X Indicating a Defining Sort

QSORT	Loadings 1	2
1 Participant1	0.5405X	0.4256
2 Participant2	0.3155	0.7341X
3 Participant3	0.8051X	0.2053
4 Participant4	0.8736X	-0.0201
5 Participant5	-0.1259	0.8284X
6 Participant6	0.6657X	0.1521
7 Participant7	0.5503X	0.3936
8 Participant8	0.1846	0.5449X
9 Participant9	0.4463	0.5686X
10 Participant10	0.6167X	0.5992
% expl.Var.	32	26

PhD Q Methodology
Q-Set 'A' – Course Design

Table 5.   Free Distribution Data Results

QSORT	MEAN	ST.DEV.
1 Participant1	0.000	1.789
2 Participant2	0.000	1.789
3 Participant3	0.000	1.789
4 Participant4	0.000	1.789
5 Participant5	0.000	1.789
6 Participant6	0.000	1.789
7 Participant7	0.000	1.789
8 Participant8	0.000	1.789
9 Participant9	0.000	1.789
10 Participant10	0.000	1.789

PhD Q Methodology
Q-Set 'A' - Course Design

Table 6. Rank Statement Totals with Each Factor

No.	Statement	Factors 1	No.	Factors 2	No.
1	Change in sequence when subjects are taught	1.75	2	-0.14	17
2	Coordination	1.96	1	2.11	2
3	Ratio	-0.14	18	-0.40	21
4	Weighting	0.59	10	0.10	14
5	Layout	0.59	9	-1.40	29
6	Exposure	1.44	3	2.12	1
7	Observation	0.60	8	1.20	3
8	Ambiguous	0.33	12	-0.54	23
9	No stimulation	-0.79	25	-0.81	27
10	Assessment	0.62	7	-0.22	19
11	Amalgamation	-1.85	30	0.46	9
12	Link	0.13	15	-0.60	24
13	PBL	-1.04	27	-0.73	25
14	FCE	-0.49	21	0.07	15
15	UOM No FCE	-0.35	20	1.17	4
16	Change necessary	-0.18	19	-0.32	20
17	Students	-2.08	31	-1.88	30
18	Small number of students	0.27	14	-0.75	26
19	Entry qualifications	0.30	13	0.98	5
20	Teaching staff	-0.53	22	-0.05	16
21	Not commencing annually	-1.53	29	0.93	6
22	Study-units	-1.12	28	0.12	13
23	Credits	-0.75	24	0.33	12
24	Rules & Regulations	0.13	16	-1.28	28
25	Clinical modules	-0.62	23	-0.21	18
26	Earlier parts	1.34	4	0.84	7
27	More time FCE	0.42	11	0.64	8
28	Gap	0.83	6	0.42	11
29	Perception	-0.01	17	0.42	10
30	Common core	1.07	5	-0.47	22
31	Sex	-0.88	26	-2.12	31

Correlation between Factor Scores

	1	2
1	1.0000	0.4008
2	0.4008	1.0000

616

PhD Q Methodology
Q-Set 'A' – Course Design

Table 7.   Normalized Factor Scores -- For Factor   1

No.	Statement	No.	Z-SCORES
2	Coordination	2	1.964
1	Change in sequence when subjects are taught	1	1.745
6	Exposure	6	1.444
26	Earlier parts	26	1.335
30	Common core	30	1.070
28	Gap	28	0.827
10	Assessment	10	0.617
7	Observation	7	0.605
5	Layout	5	0.587
4	Weighting	4	0.587
27	More time FCE	27	0.423
8	Ambiguous	8	0.332
19	Entry qualifications	19	0.297
18	Small number of students	18	0.269
12	Link	12	0.132
24	Rules & Regulations	24	0.131
29	Perception	29	-0.006
3	Ratio	3	-0.144
16	Change necessary	16	-0.177
15	UOM No FCE	15	-0.347
14	FCE	14	-0.490
20	Teaching staff	20	-0.528
25	Clinical modules	25	-0.621
23	Credits	23	-0.755
9	No stimulation	9	-0.793
31	Sex	31	-0.884
13	PBL	13	-1.038
22	Study-units	22	-1.117
21	Not commencing annually	21	-1.532
11	Amalgamation	11	-1.850
17	Students	17	-2.081

617

PhD Q Methodology
Q-Set 'A' - Course Design

Table 8. Normalized Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
6	Exposure	6	2.117
2	Coordination	2	2.108
7	Observation	7	1.198
15	UOM No FCE	15	1.169
19	Entry qualifications	19	0.985
21	Not commencing annually	21	0.934
26	Earlier parts	26	0.839
27	More time FCE	27	0.640
11	Amalgamation	11	0.457
29	Perception	29	0.418
28	Gap	28	0.416
23	Credits	23	0.333
22	Study-units	22	0.121
4	Weighting	4	0.098
14	FCE	14	0.072
20	Teaching staff	20	-0.045
1	Change in sequence when subjects are taught	1	-0.138
25	Clinical modules	25	-0.210
10	Assessment	10	-0.219
16	Change necessary	16	-0.315
3	Ratio	3	-0.402
30	Common core	30	-0.465
8	Ambiguous	8	-0.542
12	Link	12	-0.598
13	PBL	13	-0.730
18	Small number of students	18	-0.750
9	No stimulation	9	-0.807
24	Rules & Regulations	24	-1.281
5	Layout	5	-1.405
17	Students	17	-1.881
31	Sex	31	-2.117

PhD Q Methodology
Q-Set 'A' – Course Design

Table 9.   Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Factor 1	Factor 2	Difference Score
5	Layout	5	0.587	-1.405	1.992
1	Change in sequence when subjects are taught	1	1.745	-0.138	1.883
30	Common core	30	1.070	-0.465	1.535
24	Rules & Regulations	24	0.131	-1.281	1.411
31	Sex	31	-0.884	-2.117	1.232
18	Small number of students	18	0.269	-0.750	1.019
8	Ambiguous	8	0.332	-0.542	0.874
10	Assessment	10	0.617	-0.219	0.836
12	Link	12	0.132	-0.598	0.730
26	Earlier parts	26	1.335	0.839	0.496
4	Weighting	4	0.587	0.098	0.489
28	Gap	28	0.827	0.416	0.411
3	Ratio	3	-0.144	-0.402	0.258
16	Change necessary	16	-0.177	-0.315	0.138
9	No stimulation	9	-0.793	-0.807	0.014
2	Coordination	2	1.964	2.108	-0.145
17	Students	17	-2.081	-1.881	-0.200
27	More time FCE	27	0.423	0.640	-0.217
13	PBL	13	-1.038	-0.730	-0.309
25	Clinical modules	25	-0.621	-0.210	-0.411
29	Perception	29	-0.006	0.418	-0.424
20	Teaching staff	20	-0.528	-0.045	-0.483
14	FCE	14	-0.490	0.072	-0.562
7	Observation	7	0.605	1.198	-0.593
6	Exposure	6	1.444	2.117	-0.673
19	Entry qualifications	19	0.297	0.985	-0.688
23	Credits	23	-0.755	0.333	-1.088
22	Study-units	22	-1.117	0.121	-1.238
15	UOM No FCE	15	-0.347	1.169	-1.516
11	Amalgamation	11	-1.850	0.457	-2.307
21	Not commencing annually	21	-1.532	0.934	-2.466

PhD Q Methodology
Q-Set 'A' – Course Design

Table 10. Factor Q-Sort Values for Each Statement

No.	Statement	Factor Arrays 1	2
1	Change in sequence when subjects are taught	3	0
2	Coordination	3	3
3	Ratio	0	-1
4	Weighting	1	0
5	Layout	1	-3
6	Exposure	3	3
7	Observation	1	3
8	Ambiguous	1	-1
9	No stimulation	-2	-2
10	Assessment	2	0
11	Amalgamation	-3	1
12	Link	0	-1
13	PBL	-2	-2
14	FCE	-1	0
15	UOM No FCE	-1	2
16	Change necessary	0	-1
17	Students	-3	-3
18	Small number of students	0	-2
19	Entry qualifications	0	2
20	Teaching staff	-1	0
21	Not commencing annually	-3	2
22	Study-units	-2	0
23	Credits	-1	1
24	Rules & Regulations	0	-2
25	Clinical modules	-1	0
26	Earlier parts	2	2
27	More time FCE	1	1
28	Gap	2	1
29	Perception	0	1
30	Common core	2	-1
31	Sex	-2	-3

Variance = 3.097

St. Dev. = 1.760

PhD Q Methodology
Q-Set 'A' - Course Design

Table 11. Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

			Factor Arrays	
			1	**2**
No.	**Statement**	**No.**		
9	No stimulation	9	-2	-2
16	Change necessary	16	0	-1
2	Coordination	2	3	3
17	Students	17	-3	-3
27	More time FCE	27	1	1
3	Ratio	3	0	-1
13	PBL	13	-2	-2
28	Gap	28	2	1
25	Clinical modules	25	-1	0
29	Perception	29	0	1
20	Teaching staff	20	-1	0
4	Weighting	4	1	0
26	Earlier parts	26	2	2
14	FCE	14	-1	0
7	Observation	7	1	3
6	Exposure	6	3	3
19	Entry qualifications	19	0	2
12	Link	12	0	-1
10	Assessment	10	2	0
8	Ambiguous	8	1	-1
18	Small number of students	18	0	-2
23	Credits	23	-1	1
31	Sex	31	-2	-3
22	Study-units	22	-2	0
24	Rules & Regulations	24	0	-2
15	UOM No FCE	15	-1	2
30	Common core	30	2	-1
1	Change in sequence when subjects are taught	1	3	0
5	Layout	5	1	-3
11	Amalgamation	11	-3	1
21	Not commencing annually	21	-3	2

PhD Q Methodology
Q-Set 'A' - Course Design

Table 12. Factor Characteristics

	Factors	
	1	2
No. of Defining Variables	6	4
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.960	0.941
S.E. of Factor Scores	0.200	0.243

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.283	0.314
2	0.314	0.343

622

PhD Q Methodology
Q-Set 'A' – Course Design

Table 13. Distinguishing Statements for Factor 1

(P < .05; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
No. Statement	No.	RNK	SCORE	RNK	SCORE
1 Change in sequence when subjects are taught	1	3	1.75*	0	-0.14
6 Exposure	6	3	1.44	3	2.12
30 Common core	30	2	1.07*	-1	-0.47
10 Assessment	10	2	0.62*	0	-0.22
5 Layout	5	1	0.59*	-3	-1.40
8 Ambiguous	8	1	0.33*	-1	-0.54
19 Entry qualifications	19	0	0.30	2	0.98
18 Small number of students	18	0	0.27*	-2	-0.75
12 Link	12	0	0.13	-1	-0.60
24 Rules & Regulations	24	0	0.13*	-2	-1.28
15 UOM No FCE	15	-1	-0.35*	2	1.17
23 Credits	23	-1	-0.75*	1	0.33
31 Sex	31	-2	-0.88*	-3	-2.12
22 Study-units	22	-2	-1.12*	0	0.12
21 Not commencing annually	21	-3	-1.53*	2	0.93
11 Amalgamation	11	-3	-1.85*	1	0.46

PhD Q Methodology
Q-Set 'A' – Course Design

Table 14. Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

		1		2	
No.	Statement	RNK	SCORE	RNK	SCORE
2*	Coordination	3	1.96	3	2.11
3*	Ratio	0	-0.14	-1	-0.40
4*	Weighting	1	0.59	0	0.10
6	Exposure	3	1.44	3	2.12
7*	Observation	1	0.60	3	1.20
9*	No stimulation	-2	-0.79	-2	-0.81
12	Link	0	0.13	-1	-0.60
13*	PBL	-2	-1.04	-2	-0.73
14*	FCE	-1	-0.49	0	0.07
16*	Change necessary	0	-0.18	-1	-0.32
17*	Students	-3	-2.08	-3	-1.88
19	Entry qualifications	0	0.30	2	0.98
20*	Teaching staff	-1	-0.53	0	-0.05
25*	Clinical modules	-1	-0.62	0	-0.21
26*	Earlier parts	2	1.34	2	0.84
27*	More time FCE	1	0.42	1	0.64
28*	Gap	2	0.83	1	0.42
29*	Perception	0	-0.01	1	0.42

624

PhD Q Methodology
Q-Set 'B' – Course Content

Table 1.   Correlation Matrix Between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.96	.54	-.07	.82	.14	.14	.50	.29	.25
2 Participant 2	.96	1	.57	-.11	.82	.32	.11	.50	.46	.21
3 Participant 3	.54	.57	1	.39	.14	.54	.54	.29	.50	.21
4 Participant 4	-.07	-.11	.39	1	-.21	-.14	.57	-.50	.11	.54
5 Participant 5	.82	.82	.14	-.21	1	.11	0	.54	.11	.54
6 Participant 6	.14	.32	.54	-.14	.11	1	.07	.25	.36	0
7 Participant 7	.14	.11	.54	.57	0	.07	1	.29	.50	-.54
8 Participant 8	.50	.50	.29	-.50	.54	.25	.29	1	.46	-.25
9 Participant 9	.29	.46	.50	.11	.36	.50	.46	.50	1	.14
10 Participant 10	.25	.21	.21	.54	0	-.54	.25	-.25	.14	1

Table 2.   Unrotated Factor Matrix

SORTS	Factors							
	1	2	3	4	5	6	7	8
1 Participant1	0.8636	-0.0555	-0.4309	-0.1681	-0.1864	-0.0295	-0.0400	0.0000
2 Participant2	0.9179	-0.0876	-0.2985	-0.2284	0.0239	-0.0273	-0.0850	-0.0001
3 Participant3	0.7054	0.4439	0.3166	-0.2835	-0.1973	-0.2679	0.1184	0.0001
4 Participant4	-0.0336	0.9310	0.0339	-0.1562	-0.0612	0.2944	0.1272	-0.0001
5 Participant5	0.7508	-0.3129	-0.4211	0.0274	0.0392	0.3945	0.0557	0.0001
6 Participant6	0.4597	-0.2281	0.7435	-0.4089	0.0921	0.0402	-0.0816	0.0001
7 Participant7	0.3889	0.6545	0.3129	0.4501	-0.2749	0.1322	-0.1640	0.0000
8 Participant8	0.6900	-0.3950	0.1235	0.5383	-0.1353	-0.1771	0.1149	0.0000
9 Participant9	0.6917	0.1830	0.3659	0.2395	0.5419	0.0501	0.0269	-0.0001
10 Participant10	0.1084	0.7167	-0.5684	0.0439	0.2747	-0.2681	-0.0475	0.0001
Eigenvalues	3.9797	2.3560	1.6762	0.9048	0.5509	0.4405	0.0919	0.0000
% expl.Var.	40	24	17	9	6	4	1	0

PhD Q Methodology
Q-Set 'B' – Course Content

Table 3.   Cumulative Communalities Matrix

| | Factors 1 Thru ..... | | | | | | | |
SORTS	1	2	3	4	5	6	7	8
1 Participant1	0.7458	0.7488	0.9345	0.9628	0.9975	0.9984	1.0000	1.0000
2 Participant2	0.8425	0.8502	0.9393	0.9915	0.9920	0.9928	1.0000	1.0000
3 Participant3	0.4977	0.6947	0.7949	0.8753	0.9142	0.9860	1.0000	1.0000
4 Participant4	0.0011	0.8679	0.8690	0.8934	0.8972	0.9838	1.0000	1.0000
5 Participant5	0.5638	0.6617	0.8390	0.8397	0.8413	0.9969	1.0000	1.0000
6 Participant6	0.2113	0.2633	0.8161	0.9833	0.9917	0.9934	1.0000	1.0000
7 Participant7	0.1512	0.5796	0.6775	0.8801	0.9557	0.9731	1.0000	1.0000
8 Participant8	0.4762	0.6321	0.6474	0.9371	0.9555	0.9868	1.0000	1.0000
9 Participant9	0.4785	0.5120	0.6458	0.7032	0.9968	0.9993	1.0000	1.0000
10 Participant10	0.0118	0.5255	0.8485	0.8504	0.9259	0.9977	1.0000	1.0000
cum% expl.Var.	40	63	80	89	95	99	100	100

Table 4.   Rotated Factor Matrix with an X Indicating a Defining Sort

| | Loadings | |
QSORT	1	2
1 Participant1	0.8470X	0.1773
2 Participant2	0.9079X	0.1610
3 Participant3	0.5611	0.6163
4 Participant4	-0.2812	0.8881X
5 Participant5	0.8072X	-0.1008
6 Participant6	0.5039	-0.0969
7 Participant7	0.1998	0.7346X
8 Participant8	0.7705X	-0.1961
9 Participant9	0.6176	0.3613
10 Participant10	-0.0871	0.7196X
% expl.Var.	39	25

PhD Q Methodology
Q-Set 'B' – Course Content

Table 5.   Free Distribution Data Results

QSORT	MEAN	ST.DEV.
1 Participant1	0.000	2.000
2 Participant2	0.000	2.000
3 Participant3	0.000	2.000
4 Participant4	0.000	2.000
5 Participant5	0.000	2.000
6 Participant6	0.000	2.000
7 Participant7	0.000	2.000
8 Participant8	0.000	2.000
9 Participant9	0.000	2.000
10 Participant10	0.000	2.000

Table 6.   Rank Statement Totals with Each Factor

		Factors			
No.	Statement	1		2	
1	Irrevelant	-0.55	6	-1.77	8
2	Excessive data	0.38	4	-0.68	7
3	Discrepancy	0.59	2	0.24	4
4	Omitted	0.50	3	0.83	2
5	Not suitable	-0.15	5	0.54	3
6	More supervision	1.66	1	0.02	5
7	Not applicable	-0.85	7	-0.59	6
8	Waste of time	-1.57	8	1.41	1

Correlation between Factor Scores	1	2
1	1.0000	-0.0695
2	-0.0695	1.0000

627

PhD Q Methodology
Q-Set 'B' - Course Content

Table 7.   Normalized Factor Scores -- For Factor   1

No.	Statement	No.	Z-SCORES
6	More supervision	6	1.655
3	Discrepancy	3	0.594
4	Omitted	4	0.498
2	Excessive data	2	0.376
5	Not suitable	5	-0.150
1	Irrevelant	1	-0.552
7	Not applicable	7	-0.850
8	Waste of time	8	-1.571

Table 8.   Normalized Factor Scores -- For Factor   2

No.	Statement	No.	Z-SCORES
8	Waste of time	8	1.411
4	Omitted	4	0.833
5	Not suitable	5	0.544
3	Discrepancy	3	0.242
6	More supervision	6	0.017
7	Not applicable	7	-0.591
2	Excessive data	2	-0.682
1	Irrevelant	1	-1.774

PhD Q Methodology
Q-Set 'B' – Course Content

Table 9.   Descending Array of Differences Between Factors   1 and   2

No.	Statement	No.	Factor 1	Factor 2	Difference Score
6	More supervision	6	1.655	0.017	1.639
1	Irrevelant	1	-0.552	-1.774	1.222
2	Excessive data	2	0.376	-0.682	1.057
3	Discrepancy	3	0.594	0.242	0.352
7	Not applicable	7	-0.850	-0.591	-0.259
4	Omitted	4	0.498	0.833	-0.336
5	Not suitable	5	-0.150	0.544	-0.694
8	Waste of time	8	-1.571	1.411	-2.982

629

PhD Q Methodology
Q-Set 'B' – Course Content

Table 10. Factor Q-Sort Values for Each Statement

			Factor Arrays	
No.	**Statement**	**No.**	**1**	**2**
1	Irrevelant	1	-1	-3
2	Excessive data	2	0	-2
3	Discrepancy	3	2	0
4	Omitted	4	1	2
5	Not suitable	5	0	1
6	More supervision	6	3	0
7	Not applicable	7	-2	-1
8	Waste of time	8	-3	3

Variance = 3.500   St. Dev. = 1.871

Table 11. Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

			Factor Arrays	
No.	**Statement**	**No.**	**1**	**2**
7	Not applicable	7	-2	-1
4	Omitted	4	1	2
3	Discrepancy	3	2	0
5	Not suitable	5	0	1
2	Excessive data	2	0	-2
1	Irrevelant	1	-1	-3
6	More supervision	6	3	0
8	Waste of time	8	-3	3

PhD Q Methodology
Q-Set 'B' - Course Content

Table 12. Factor Characteristics

Factors

	1	2
No. of Defining Variables	4	3
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.941	0.923
S.E. of Factor Scores	0.243	0.277

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.343	0.368
2	0.368	0.392

PhD Q Methodology
Q-Set 'B' - Course Content

Table 13. Distinguishing Statements for Factor 1

(P < .05; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors		
		1		2
No.	Statement	RNK SCORE	RNK	SCORE
6	More supervision	3 1.66*	0	0.02
2	Excessive data	0 0.38*	-2	-0.68
1	Irrevelant	-1 -0.55*	-3	-1.77
8	Waste of time	-3 -1.57*	3	1.41

Table 14. Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

		Factors		
		1		2
No.	Statement	RNK SCORE	RNK	SCORE
3*	Discrepancy	2 0.59	0	0.24
4*	Omitted	1 0.50	2	0.83
5*	Not suitable	0 -0.15	1	0.54
7*	Not applicable	-2 -0.85	-1	-0.59

Table 1.   Correlation Matrix Between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.43	.37	.17	-.47	-.05	.20	.28	.50	.37
2 Participant 2	.43	1	.25	.62	-.20	-.10	-.25	.08	.65	0
3 Participant 3	.37	.25	1	-.10	-.50	0	.35	.45	.50	.20
4 Participant 4	.17	.62	-.10	1	0	.10	.03	-.12	.37	.32
5 Participant 5	-.47	-.20	-.50	0	1	.20	-.37	-.28	-.30	.03
6 Participant 6	-.05	-.10	0	.10	.20	1	.45	.28	.32	.43
7 Participant 7	.20	-.25	.35	.03	-.37	.45	1	.73	.28	.35
8 Participant 8	.28	.08	.45	-.12	-.28	.28	.73	1	.50	.10
9 Participant 9	.50	.65	.50	.37	-.30	.32	.28	.50	1	.32
10 Participant 10	.37	0	.20	.32	.03	.43	.35	.10	.32	1

Table 2.   Unrotated Factor Matrix

SORTS	Factors							
	1	2	3	4	5	6	7	8
1 Participant1	0.6848	0.2592	-0.1786	0.4194	-0.1102	0.4553	-0.0645	0.1659
2 Participant2	0.4850	0.7999	0.0161	-0.2939	-0.0303	0.0179	-0.0086	0.0706
3 Participant3	0.6783	-0.0978	-0.4055	0.0039	-0.3577	-0.4398	0.1210	0.1684
4 Participant4	0.3232	0.6098	0.5123	0.0035	0.4446	-0.1639	0.1472	0.0831
5 Participant5	-0.5540	-0.0177	0.6059	-0.2253	-0.3510	0.1511	0.3260	0.1173
6 Participant6	0.3183	-0.4280	0.6892	-0.1874	-0.1080	-0.0286	-0.4141	0.1341
7 Participant7	0.6139	-0.6626	0.0754	0.0198	0.3814	-0.0259	0.0950	0.0723
8 Participant8	0.6726	-0.4701	-0.1383	-0.3908	0.0554	0.2478	0.2609	-0.0401
9 Participant9	0.8392	0.2432	0.1341	-0.2846	-0.1876	0.0194	-0.0953	-0.2517
10 Participant10	0.4808	-0.1061	0.5710	0.5739	-0.1767	-0.0904	0.1609	-0.1515
Eigenvalues	3.4415	2.0023	1.6701	0.9117	0.6886	0.5222	0.4304	0.1926
% expl.Var.	34	20	17	9	7	5	4	2

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 3. Cumulative Communalities Matrix

Factors 1 Thru ....

SORTS	1	2	3	4	5	6	7	8
1 Participant1	0.4689	0.5361	0.5680	0.7439	0.7561	0.9634	0.9676	0.9951
2 Participant2	0.2352	0.8750	0.8752	0.9616	0.9625	0.9629	0.9629	0.9679
3 Participant3	0.4601	0.4696	0.6341	0.6341	0.7621	0.9555	0.9701	0.9985
4 Participant4	0.1045	0.4763	0.7388	0.7388	0.9365	0.9634	0.9850	0.9919
5 Participant5	0.3069	0.3073	0.6744	0.7252	0.8484	0.8712	0.9774	0.9912
6 Participant6	0.1013	0.2845	0.7595	0.7946	0.8063	0.8071	0.9786	0.9966
7 Participant7	0.3769	0.8159	0.8216	0.8220	0.9675	0.9681	0.9772	0.9824
8 Participant8	0.4524	0.6733	0.6925	0.8452	0.8483	0.9097	0.9777	0.9793
9 Participant9	0.7043	0.7635	0.7814	0.8624	0.8976	0.8980	0.9071	0.9704
10 Participant10	0.2311	0.2424	0.5684	0.8978	0.9290	0.9372	0.9631	0.9860
cum% expl.Var.	34	54	71	80	87	92	97	99

Table 4. Rotated Factor Matrix with an X Indicating a Defining Sort

QSORT	Loadings 1	2
1 Participant1	0.3541	0.6409X
2 Participant2	-0.1482	0.9236X
3 Participant3	0.5803X	0.3646
4 Participant4	-0.1484	0.6740X
5 Participant5	-0.4108	-0.3721
6 Participant6	0.5196X	-0.1202
7 Participant7	0.8968X	-0.1076
8 Participant8	0.8169X	0.0771
9 Participant9	0.4822	0.7287X
10 Participant10	0.4351	0.2303
% expl.Var.	28	26

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 5.   Free Distribution Data Results

QSORT	MEAN	ST.DEV.
1 Participant1	0.000	1.690
2 Participant2	0.000	1.690
3 Participant3	0.000	1.690
4 Participant4	0.000	1.690
5 Participant5	0.000	1.690
6 Participant6	0.000	1.690
7 Participant7	0.000	1.690
8 Participant8	0.000	1.690
9 Participant9	0.000	1.690
10 Participant10	0.000	1.690

Table 6.   Rank Statement Totals with Each Factor

No.	Statement	Factors			
		1		2	
1	Real patient	0.86	3	-1.62	15
2	No clinical experience	0.11	8	-1.24	13
3	Not specific to physiotherapy	0.53	5	-0.46	11
4	Video	-1.27	14	0.58	5
5	Patient to IHC	0.37	6	0.51	6
6	Evidence Based	1.06	2	0.84	4
7	Problem based teaching	2.04	1	-0.05	9
8	CCS taught by physiotherapist	-0.04	10	1.09	2
9	Unprepared lecturers	0.19	7	-1.53	14
10	Punctuality	-1.70	15	-0.88	12
11	Self-directed learning	-0.81	12	0.10	7
12	Teaching style	-1.26	13	-0.11	10
13	Cancelled lectures	0.54	4	1.00	3
14	Good quality	-0.70	11	0.02	8
15	Specialised lecturers	0.08	9	1.73	1

Correlation between Factor Scores		1	2
	1	1.0000	0.0248
	2	0.0248	1.0000

635

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 7.   Normalized Factor Scores -- For Factor   1

No.	Statement	No.	Z-SCORES
7	Problem based teaching	7	2.040
6	Evidence Based	6	1.057
1	Real patient	1	0.858
13	Cancelled lectures	13	0.540
3	Not specific to physiotherapy	3	0.526
5	Patient to IHC	5	0.371
9	Unprepared lecturers	9	0.186
2	No clinical experience	2	0.115
15	Specialised lecturers	15	0.084
8	CCS taught by physiotherapist	8	-0.044
14	Good quality	14	-0.699
11	Self-directed learning	11	-0.809
12	Teaching style	12	-1.257
4	Video	4	-1.269
10	Punctuality	10	-1.699

PhD Q Methodology

Q-Set 'C' -- Teaching/Delivery of Course 2

Table 8.   Normalized Factor Scores -- For Factor 2

No.	Statement	No.	Z-SCORES
15	Specialised lecturers	15	1.727
8	CCS taught by physiotherapist	8	1.093
13	Cancelled lectures	13	0.997
6	Evidence Based	6	0.845
4	Video	4	0.582
5	Patient to IHC	5	0.509
11	Self-directed learning	11	0.104
14	Good quality	14	0.022
7	Problem based teaching	7	-0.046
12	Teaching style	12	-0.105
3	Not specific to physiotherapy	3	-0.457
10	Punctuality	10	-0.876
2	No clinical experience	2	-1.240
9	Unprepared lecturers	9	-1.532
1	Real patient	1	-1.622

PhD Q Methodology
Q-Set 'C' – Teaching/Delivery of Course

Table 9.   Descending Array of Differences Between Factors   1 and   2

No.	Statement	No.	Factor 1	Factor 2	Difference Score
1	Real patient	1	0.858	-1.622	2.480
7	Problem based teaching	7	2.040	-0.046	2.086
9	Unprepared lecturers	9	0.186	-1.532	1.718
2	No clinical experience	2	0.115	-1.240	1.354
3	Not specific to physiotherapy	3	0.526	-0.457	0.983
6	Evidence Based	6	1.057	0.845	0.212
5	Patient to IHC	5	0.371	0.509	-0.137
13	Cancelled lectures	13	0.540	0.997	-0.457
14	Good quality	14	-0.699	0.022	-0.721
10	Punctuality	10	-1.699	-0.876	-0.823
11	Self-directed learning	11	-0.809	0.104	-0.913
8	CCS taught by physiotherapist	8	-0.044	1.093	-1.137
12	Teaching style	12	-1.257	-0.105	-1.152
15	Specialised lecturers	15	0.084	1.727	-1.643
4	Video	4	-1.269	0.582	-1.852

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 10.   Factor Q-Sort Values for Each Statement

No.	Statement	No.	Factor Arrays	
			1	2
1	Real patient	1	2	-3
2	No clinical experience	2	0	-2
3	Not specific to physiotherapy	3	1	-1
4	Video	4	-2	1
5	Patient to IHC	5	1	1
6	Evidence Based	6	2	1
7	Problem based teaching	7	3	0
8	CCS taught by physiotherapist	8	-1	2
9	Unprepared lecturers	9	0	-2
10	Punctuality	10	-3	-1
11	Self-directed learning	11	-1	0
12	Teaching style	12	-2	-1
13	Cancelled lectures	13	1	2
14	Good quality	14	-1	0
15	Specialised lecturers	15	0	3

Variance = 2.667   St. Dev. = 1.633

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 11. Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

No.	Statement	No.	Factor Arrays 1	2
5	Patient to IHC	5	1	1
6	Evidence Based	6	2	1
13	Cancelled lectures	13	1	2
14	Good quality	14	-1	0
10	Punctuality	10	-3	-1
11	Self-directed learning	11	-1	0
3	Not specific to physiotherapy	3	1	-1
8	CCS taught by physiotherapist	8	-1	2
12	Teaching style	12	-2	-1
2	No clinical experience	2	0	-2
15	Specialised lecturers	15	0	3
9	Unprepared lecturers	9	0	-2
4	Video	4	-2	1
7	Problem based teaching	7	3	0
1	Real patient	1	2	-3

PhD Q Methodology

Q-Set 'C' - Teaching/Delivery of Course

Table 12.   Factor Characteristics

	Factors	
	1	2
No. of Defining Variables	4	4
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.941	0.941
S.E. of Factor Scores	0.243	0.243

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.343	0.343
2	0.343	0.343

PhD Q Methodology
Q-Set 'C' – Teaching/Delivery of Course

Table 13. Distinguishing Statements for Factor .1

(P < .05; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
			1		2
No.	Statement	No.	RNK SCORE	RNK	SCORE
7	Problem based teaching	7	3 2.04*	0	-0.05
1	Real patient	1	2 0.86*	-3	-1.62
3	Not specific to physiotherapy	3	1 0.53*	-1	-0.46
9	Unprepared lecturers	9	0 0.19*	-2	-1.53
2	No clinical experience	2	0 0.11*	-2	-1.24
15	Specialised lecturers	15	0 0.08*	3	1.73
8	CCS taught by physiotherapist	8	-1 -0.04*	2	1.09
14	Good quality	14	-1 -0.70	0	0.02
11	Self-directed learning	11	-1 -0.81*	0	0.10
12	Teaching style	12	-2 -1.26*	-1	-0.11
4	Video	4	-2 -1.27*	1	0.58
10	Punctuality	10	-3 -1.70	-1	-0.88

642

PhD Q Methodology

Q-Set 'C' – Teaching/Delivery of Course

Table 14. Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

No.	Statement		1		2	
			RNK	SCORE	RNK	SCORE
5*	Patient to IHC	5	1	0.37	1	0.51
6*	Evidence Based	6	2	1.06	1	0.84
10	Punctuality	10	-3	-1.70	-1	-0.88
13*	Cancelled lectures	13	1	0.54	2	1.00
14	Good quality	14	-1	-0.70	0	0.02

Table 1.   Correlation Matrix Between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.17	-.17	.02	.04	.27	-.29	.31	.33	.48
2 Participant 2	.17	1	.33	.56	-.42	.17	.33	.17	.48	.12
3 Participant 3	-.17	.33	1	.27	.04	-.04	.29	-.17	.35	-.25
4 Participant 4	.02	.56	.27	1	-.48	.29	.40	-.25	.35	.31
5 Participant 5	.04	-.42	.04	-.48	1	-.21	-.42	.17	.06	-.46
6 Participant 6	.27	.17	-.04	.29	-.21	1	.21	-.27	-.04	.08
7 Participant 7	-.29	.33	.29	.40	-.42	.21	1	.06	-.02	-.19
8 Participant 8	.31	.17	-.17	-.25	.17	-.27	.06	1	-.10	-.06
9 Participant 9	.33	.48	.35	.35	.06	-.04	-.02	-.10	1	.08
10 Participant 10	.48	.12	-.25	.31	-.46	.08	-.19	-.06	.08	1

Table 2.   Unrotated Factor Matrix

SORTS	Factors							
	1	2	3	4	5	6	7	8
1 Participant1	0.1561	0.8293	0.3183	0.0239	0.3024	0.1834	0.0779	-0.0987
2 Participant2	0.7812	0.0079	0.3301	0.2761	-0.0016	-0.1924	-0.3648	0.0553
3 Participant3	0.3857	-0.5434	0.4720	-0.1937	-0.0123	0.5282	-0.1134	0.0381
4 Participant4	0.8531	-0.0417	-0.0692	-0.1060	-0.0939	-0.1218	0.2158	0.4063
5 Participant5	-0.6631	-0.0815	0.5346	-0.2237	0.2751	-0.0383	0.1859	0.2550
6 Participant6	0.4025	0.1500	-0.3496	-0.2296	0.7832	0.0000	-0.0951	0.0213
7 Participant7	0.5255	-0.5254	-0.1948	0.4385	0.1905	0.0674	0.3522	-0.1910
8 Participant8	-0.2004	0.2389	0.3640	0.8467	0.1010	0.0480	0.0273	0.1282
9 Participant9	0.4751	0.1207	0.6988	-0.3088	-0.0916	-0.2468	0.1660	-0.2529
10 Participant10	0.3557	0.7359	-0.2589	-0.0681	-0.3660	0.2472	0.0999	0.0492
Eigenvalues	2.7814	1.9032	1.5716	1.2374	0.9784	0.4948	0.4045	0.3641
% expl.Var.	28	19	16	12	10	5	4	4

PhD Q Methodology

Q-Set 'D' – Clinical Practice

Table 3.   Cumulative Communalities Matrix
           Factors 1 Thru ....

SORTS	1	2	3	4	5	6	7	8
1 Participant1	0.0244	0.7120	0.8133	0.8139	0.9053	0.9390	0.9451	0.9548
2 Participant2	0.6103	0.6104	0.7193	0.7955	0.7955	0.8326	0.9656	0.9687
3 Participant3	0.1487	0.4441	0.6668	0.7044	0.7045	0.9835	0.9963	0.9978
4 Participant4	0.7278	0.7296	0.7343	0.7456	0.7544	0.7692	0.8158	0.9809
5 Participant5	0.4397	0.4463	0.7321	0.7821	0.8578	0.8593	0.8939	0.9589
6 Participant6	0.1620	0.1845	0.3067	0.3595	0.9729	0.9729	0.9819	0.9824
7 Participant7	0.2761	0.5522	0.5901	0.7824	0.8187	0.8232	0.9473	0.9838
8 Participant8	0.0402	0.0973	0.2298	0.9466	0.9568	0.9591	0.9599	0.9763
9 Participant9	0.2258	0.2403	0.7286	0.8240	0.8324	0.8933	0.9208	0.9848
10 Participant10	0.1265	0.6681	0.7351	0.7398	0.8737	0.9348	0.9448	0.9472
cum% expl.Var.	28	47	63	75	85	90	94	97

Table 4.   Rotated Factor Matrix with an X Indicating a Defining Sort

QSORT	Loadings 1	2
1 Participant1	0.3895	0.7486X
2 Participant2	0.7500X	-0.2186
3 Participant3	0.2118	-0.6318X
4 Participant4	0.8045X	-0.2869
5 Participant5	-0.6583X	0.1139
6 Participant6	0.4287	0.0271
7 Participant7	0.3508	-0.6550X
8 Participant8	-0.1226	0.2867
9 Participant9	0.4897X	-0.0220
10 Participant10	0.5535	0.6014X
% expl.Var.	27	20

Table 5.   Free Distribution Data Results

QSORT	MEAN	ST.DEV.
1 Participant1	0.000	1.680
2 Participant2	0.000	1.680
3 Participant3	0.000	1.680
4 Participant4	0.000	1.680
5 Participant5	0.000	1.680
6 Participant6	0.000	1.680
7 Participant7	0.000	1.680
8 Participant8	0.000	1.680
9 Participant9	0.000	1.680
10 Participant10	0.000	1.680

Table 6.   Rank Statement Totals with Each Factor

			Factors		
No.	Statement	1		2	
1	Clinical reasoning	0.00	10	0.46	7
2	Reasoning skills	0.09	9	-0.05	9
3	Communication skills	-0.21	11	0.49	5
4	Quality of supervision	-0.41	13	-1.27	17
5	Inadequate supervision	-0.32	12	-1.53	18
6	Feedback	1.59	2	-1.17	16
7	Payback	0.54	5	-0.48	12
8	Amount	-1.26	17	-0.81	14
9	Assessment	0.30	8	-0.87	15
10	Emphasis	1.06	3	-0.71	13
11	Complacency	-1.22	16	0.17	8
12	Time management	0.61	4	-0.24	11
13	Clinical problem solving skills	0.53	6	-0.07	10
14	Action learning	0.44	7	1.34	3
15	M.D.T. discussion	1.98	1	1.52	2
16	Left unsupervised	-1.59	18	0.47	6
17	No-Few patients	-1.13	15	0.72	4
18	Not coordinated	-0.99	14	2.04	1

Correlations between Factor Scores

	1	2
1	1.0000	-0.0925
2	-0.0925	1.0000

647

Table 7.   Normalized Factor Scores -- For Factor   1

No.	Statement	No.	Z-SCORES
15	M.D.T. discussion	15	1.982
6	Feedback	6	1.593
10	Emphasis	10	1.056
12	Time management	12	0.605
7	Payback	7	0.541
13	Clinical problem solving skills	13	0.527
14	Action learning	14	0.442
9	Assessment	9	0.300
2	Reasoning skills	2	0.089
1	Clinical reasoning	1	0.005
3	Communication skills	3	-0.210
5	Inadequate supervision	5	-0.322
4	Quality of supervision	4	-0.407
18	Not coordinated	18	-0.994
17	No-Few patients	17	-1.135
11	Complacency	11	-1.219
8	Amount	8	-1.264
16	Left unsupervised	16	-1.587

PhD Q Methodology
Q-Set 'D' - Clinical Practice

Table 8.   Normalized Factor Scores -- For Factor   2

No.	Statement	No.	Z-SCORES
18	Not coordinated	18	2.036
15	M.D.T. discussion	15	1.524
14	Action learning	14	1.338
17	No-Few patients	17	0.719
3	Communication skills	3	0.492
16	Left unsupervised	16	0.469
1	Clinical reasoning	1	0.457
11	Complacency	11	0.168
2	Reasoning skills	2	-0.052
13	Clinical problem solving skills	13	-0.071
12	Time management	12	-0.242
7	Payback	7	-0.482
10	Emphasis	10	-0.714
8	Amount	8	-0.812
9	Assessment	9	-0.868
6	Feedback	6	-1.170
4	Quality of supervision	4	-1.267
5	Inadequate supervision	5	-1.526

649

Table 9.   Descending Array of Differences Between Factors   1 and   2

No.	Statement	No.	Factor 1	Factor 2	Difference Score
6	Feedback	6	1.593	-1.170	2.763
10	Emphasis	10	1.056	-0.714	1.770
5	Inadequate supervision	5	-0.322	-1.526	1.204
9	Assessment	9	0.300	-0.868	1.168
7	Payback	7	0.541	-0.482	1.023
4	Quality of supervision	4	-0.407	-1.267	0.860
12	Time management	12	0.605	-0.242	0.847
13	Clinical problem solving skills	13	0.527	-0.071	0.598
15	M.D.T. discussion	15	1.982	1.524	0.458
2	Reasoning skills	2	0.089	-0.052	0.141
8	Amount	8	-1.264	-0.812	-0.452
1	Clinical reasoning	1	0.005	0.457	-0.453
3	Communication skills	3	-0.210	0.492	-0.703
14	Action learning	14	0.442	1.338	-0.896
11	Complacency	11	-1.219	0.168	-1.388
17	No-Few patients	17	-1.135	0.719	-1.854
16	Left unsupervised	16	-1.587	0.469	-2.056
18	Not coordinated	18	-0.994	2.036	-3.030

PhD Q Methodology
Q-Set 'D' – Clinical Practice

Table 10. Factor Q-Sort Values for Each Statement

No.	Statement	Factor Arrays 1	2
1	Clinical reasoning	0	1
2	Reasoning skills	0	0
3	Communication skills	0	1
4	Quality of supervision	-1	-2
5	Inadequate supervision	-1	-3
6	Feedback	2	-2
7	Payback	1	-1
8	Amount	-2	-1
9	Assessment	0	-2
10	Emphasis	2	-1
11	Complacency	-2	0
12	Time management	2	0
13	Clinical problem solving skills	1	0
14	Action learning	1	2
15	M.D.T. discussion	3	2
16	Left unsupervised	-3	1
17	No-Few patients	-2	2
18	Not coordinated	-1	3

Variance = 2.667   St. Dev. = 1.633

651

PhD Q Methodology

Q-Set 'D' – Clinical Practice

Table 11. Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

		Factor Arrays	
		1	**2**
No.	**Statement**		
2	Reasoning skills	0	0
8	Amount	-2	-1
1	Clinical reasoning	0	1
15	M.D.T. discussion	3	2
13	Clinical problem solving skills	1	0
3	Communication skills	0	1
12	Time management	2	0
4	Quality of supervision	-1	-2
14	Action learning	1	2
7	Payback	1	-1
9	Assessment	0	-2
5	Inadequate supervision	-1	-3
11	Complacency	-2	0
10	Emphasis	2	-1
17	No-Few patients	-2	2
16	Left unsupervised	-3	1
6	Feedback	2	-2
18	Not coordinated	-1	3

PhD Q Methodology
Q-Set 'D' - Clinical Practice

Table 12. Factor Characteristics

	Factors	
	1	2
No. of Defining Variables	4	4
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.941	0.941
S.E. of Factor Scores	0.243	0.243

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.343	0.343
2	0.343	0.343

PhD Q Methodology

Q-Set 'D' - Clinical Practice

Table 13. Distinguishing Statements for Factor 1

(P < .05; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

		Factors			
		1		2	
No. Statement	No.	RNK	SCORE	RNK	SCORE
6 Feedback	6	2	1.59*	-2	-1.17
10 Emphasis	10	2	1.06*	-1	-0.71
12 Time management	12	2	0.61	0	-0.24
7 Payback	7	1	0.54*	-1	-0.48
14 Action learning	14	1	0.44*	2	1.34
9 Assessment	9	0	0.30*	-2	-0.87
3 Communication skills	3	0	-0.21	1	0.49
5 Inadequate supervision	5	-1	-0.32*	-3	-1.53
4 Quality of supervision	4	-1	-0.41	-2	-1.27
18 Not coordinated	18	-1	-0.99*	3	2.04
17 No-Few patients	17	-2	-1.13*	2	0.72
11 Complacency	11	-2	-1.22*	0	0.17
16 Left unsupervised	16	-3	-1.59*	1	0.47

654

Table 14.   Consensus Statements   --   Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

		1		2
No.	Statement	RNK SCORE	RNK	SCORE
1*	Clinical reasoning	0 0.00	1	0.46
2*	Reasoning skills	0 0.09	0	-0.05
3	Communication skills	0 -0.21	1	0.49
4	Quality of supervision	-1 -0.41	-2	-1.27
8*	Amount	-2 -1.26	-1	-0.81
12	Time management	2 0.61	0	-0.24
13*	Clinical problem solving skills	1 0.53	0	-0.07
15*	M.D.T. discussion	3 1.98	2	1.52

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Table 1. Correlation Matrix Between Sorts

Sorts	1	2	3	4	5	6	7	8	9	10
1 Participant 1	1	.22	-.05	0	-.03	.39	.20	.17	.36	.03
2 Participant 2	.22	1	.33	.46	.14	.32	.36	.16	.36	-.03
3 Participant 3	-.05	.33	1	.29	.39	-.07	.13	.17	.04	.09
4 Participant 4	0	.46	.29	1	.07	.09	.28	0	.25	.17
5 Participant 5	-.03	.14	.39	.07	1	-.34	-.36	.08	-.22	-.13
6 Participant 6	.39	.32	-.07	.09	-.34	1	.46	.30	.54	-.14
7 Participant 7	.20	.36	.13	.28	-.36	.46	1	.28	.49	.45
8 Participant 8	.17	.16	.17	0	.08	.30	.28	1	.39	.18
9 Participant 9	.36	.36	.04	.25	-.22	.54	.49	.39	1	.16
10 Participant 10	.03	-.03	.09	.17	-.13	-.14	.45	.18	.16	1

Table 2. Unrotated Factor Matrix

SORTS	Factors 1	2	3	4	5	6	7	8
1 Participant1	0.4779	-0.1833	-0.4167	0.1854	0.6922	0.0947	-0.1009	-0.1238
2 Participant2	0.6037	0.4624	-0.2499	-0.3093	0.0260	0.0300	0.4475	0.1311
3 Participant3	0.2013	0.7746	0.0281	0.1347	-0.1468	0.4501	-0.3161	0.0280
4 Participant4	0.4316	0.5036	0.1890	-0.5086	0.0553	-0.3784	-0.2038	-0.2758
5 Participant5	-0.2609	0.7370	-0.3094	0.3150	0.1649	-0.1291	0.1003	0.0567
6 Participant6	0.7071	-0.3526	-0.3752	-0.0937	-0.2086	0.1418	-0.0572	-0.1819
7 Participant7	0.7787	-0.0919	0.3863	-0.0566	-0.0460	0.2723	0.1587	-0.0305
8 Participant8	0.5025	0.0728	-0.0598	0.7008	-0.3262	-0.2401	0.0943	-0.2165
9 Participant9	0.7951	-0.1325	-0.0844	0.0618	-0.0550	-0.2613	-0.2430	0.4558
10 Participant10	0.2986	0.0572	0.8164	0.2738	0.3123	-0.0277	0.0620	0.0234
Eigenvalues	2.9678	1.8030	1.3356	1.0879	0.7842	0.5933	0.4622	0.4018
% expl.Var.	30	18	13	11	8	6	5	4

PhD Q Methodology - Statistical Data
Q-Set 'E' - Course Assessment

Table 3.   Cumulative Communalities Matrix

Factors 1 Thru .....

SORTS	1	2	3	4	5	6	7	8
1 Participant1	0.2284	0.2620	0.4356	0.4700	0.9491	0.9581	0.9683	0.9836
2 Participant2	0.3645	0.5783	0.6407	0.7364	0.7371	0.7380	0.9382	0.9554
3 Participant3	0.0405	0.6405	0.6413	0.6595	0.6810	0.8836	0.9836	0.9844
4 Participant4	0.1863	0.4399	0.4756	0.7343	0.7374	0.8806	0.9221	0.9981
5 Participant5	0.0680	0.6112	0.7069	0.8061	0.8333	0.8500	0.8600	0.8632
6 Participant6	0.5000	0.6243	0.7650	0.7738	0.8174	0.8375	0.8407	0.8738
7 Participant7	0.6064	0.6148	0.7640	0.7672	0.7694	0.8435	0.8687	0.8697
8 Participant8	0.2525	0.2578	0.2614	0.7525	0.8589	0.9166	0.9255	0.9724
9 Participant9	0.6321	0.6497	0.6568	0.6606	0.6636	0.7319	0.7910	0.9987
10 Participant10	0.0891	0.0924	0.7590	0.8340	0.9315	0.9322	0.9361	0.9366
cum% expl.Var.	30	48	61	72	80	86	90	94

Table 4.   Rotated Factor Matrix with an X Indicating a Defining Sort

Loadings

QSORT	1	2
1 Participant1	0.5106X	-0.0350
2 Participant2	0.4415	0.6191X
3 Participant3	-0.0347	0.7996X
4 Participant4	0.2649	0.6081X
5 Participant5	-0.4656	0.6280X
6 Participant6	0.7794X	-0.1296
7 Participant7	0.7714X	0.1405
8 Participant8	0.4591X	0.2170
9 Participant9	0.7990X	0.1065
10 Participant10	0.2687	0.1422
% expl.Var.	29	19

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Free Distribution Data Results

QSORT		MEAN	ST.DEV.
1	Participant1	0.000	1.780
2	Participant2	0.000	1.780
3	Participant3	0.000	1.780
4	Participant4	0.000	1.780
5	Participant5	0.000	1.780
6	Participant6	0.000	1.780
7	Participant7	0.000	1.780
8	Participant8	0.000	1.780
9	Participant9	0.000	1.780
10	Participant10	0.000	1.780

PhD Q Methodology - Statistical Data
Q-Set 'E' - Course Assessment

Rank Statement Totals with Each Factor

No.	Statement	Factors 1		2	
1	Final Comprehensive Examination	-1.84	25	-1.41	22
2	Stagger FCE	-0.83	21	0.29	10
3	Stress	1.75	1	0.89	7
4	Repeat all	1.27	4	-1.62	24
5	More student-friendly	0.53	8	-0.25	17
6	Unjust	0.01	11	-0.81	20
7	More than two papers	-1.61	24	-1.26	21
8	Commenced earlier	1.67	3	-1.44	23
9	Specialisation	-0.18	15	0.16	12
10	Number of scenarios	0.75	6	0.02	13
11	Not a failing exam	1.70	2	-0.65	19
12	Viva unjust	-0.33	17	0.55	8
13	Adjusting treatment to please examiner	-0.48	18	1.47	2
14	Time consuming	-1.57	23	0.28	11
15	Complying to please supervisor	-0.06	12	-0.50	18
16	Standardised assessment sheet	0.93	5	0.95	6
17	Emphasis on test	0.02	10	-0.04	15
18	Clinical assessment ought to contribute to FCE	0.43	9	1.10	3
19	C.A. carried out by I.H.C. staff	-0.10	14	0.99	4
20	Assessment following study-unit	-0.24	16	0.96	5
21	Variety in mode of assessment	-0.59	19	0.39	9
22	Seen papers	0.54	7	1.89	1
23	Assessing modules not study-units	-1.01	22	-1.76	25
24	Students over-assessed	-0.70	20	-0.17	16
25	Change in means of assessment	-0.06	13	-0.01	14

Correlation between Factor Scores

	1	2
1	1.0000	0.1104
2	0.1104	1.0000

PhD Q Methodology - Statistical Data
Q-Set 'E' - Course Assessment

Table 7.   Normalized Factor Scores -- For Factor   1

No.	Statement	No.	Z-SCORES
3	Stress	3	1.749
11	Not a failing exam	11	1.699
8	Commenced earlier	8	1.671
4	Repeat all	4	1.273
16	Standardised assessment sheet	16	0.934
10	Number of scenarios	10	0.753
22	Seen papers	22	0.541
5	More student-friendly	5	0.529
18	Clinical assessment ought to contribute to FCE	18	0.429
17	Emphasis on test	17	0.022
6	Unjust	6	0.010
15	Complying to please supervisor	15	-0.057
25	Change in means of assessment	25	-0.059
19	C.A. carried out by I.H.C. staff	19	-0.101
9	Specialisation	9	-0.184
20	Assessment following study-unit	20	-0.243
12	Viva unjust	12	-0.333
13	Adjusting treatment to please examiner	13	-0.479
21	Variety in mode of assessment	21	-0.590
24	Students over-assessed	24	-0.700
2	Stagger FCE	2	-0.834
23	Assessing modules not study-units	23	-1.013
14	Time consuming	14	-1.567
7	More than two papers	7	-1.609
1	Final Comprehensive Examination	1	-1.841

Table 8.   Normalized Factor Scores -- For Factor   2

No.	Statement	No.	Z-SCORES
22	Seen papers	22	1.891
13	Adjusting treatment to please examiner	13	1.468
18	Clinical assessment ought to contribute to FCE	18	1.100
19	C.A. carried out by I.H.C. staff	19	0.991
20	Assessment following study-unit	20	0.959
16	Standardised assessment sheet	16	0.948
3	Stress	3	0.894
12	Viva unjust	12	0.547
21	Variety in mode of assessment	21	0.394
2	Stagger FCE	2	0.286
14	Time consuming	14	0.282
9	Specialisation	9	0.157
10	Number of scenarios	10	0.022
25	Change in means of assessment	25	-0.012
17	Emphasis on test	17	-0.043
24	Students over-assessed	24	-0.169
5	More student-friendly	5	-0.255
15	Complying to please supervisor	15	-0.504
11	Not a failing exam	11	-0.650
6	Unjust	6	-0.812
7	More than two papers	7	-1.263
1	Final Comprehensive Examination	1	-1.414
8	Commenced earlier	8	-1.441
4	Repeat all	4	-1.618
23	Assessing modules not study-units	23	-1.760

661

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Table 9.   Descending Array of Differences Between Factors 1 and 2

No.	Statement	No.	Factor 1	Factor 2	Difference Score
8	Commenced earlier	8	1.671	-1.441	3.111
4	Repeat all	4	1.273	-1.618	2.891
11	Not a failing exam	11	1.699	-0.650	2.349
3	Stress	3	1.749	0.894	0.855
6	Unjust	6	0.010	-0.812	0.823
5	More student-friendly	5	0.529	-0.255	0.784
23	Assessing modules not study-units	23	-1.013	-1.760	0.747
10	Number of scenarios	10	0.753	0.022	0.731
15	Complying to please supervisor	15	-0.057	-0.504	0.447
17	Emphasis on test	17	0.022	-0.043	0.065
16	Standardised assessment sheet	16	0.934	0.948	-0.014
25	Change in means of assessment	25	-0.059	-0.012	-0.047
9	Specialisation	9	-0.184	0.157	-0.341
7	More than two papers	7	-1.609	-1.263	-0.346
1	Final Comprehensive Examination	1	-1.841	-1.414	-0.427
24	Students over-assessed	24	-0.700	-0.169	-0.531
18	Clinical assessment ought to contribute to FCE	18	0.429	1.100	-0.671
12	Viva unjust	12	-0.333	0.547	-0.880
21	Variety in mode of assessment	21	-0.590	0.394	-0.984
19	C.A. carried out by I.H.C. staff	19	-0.101	0.991	-1.092
2	Stagger FCE	2	-0.834	0.286	-1.120
20	Assessment following study-unit	20	-0.243	0.959	-1.202
22	Seen papers	22	0.541	1.891	-1.350
14	Time consuming	14	-1.567	0.282	-1.850
13	Adjusting treatment to please examiner	13	-0.479	1.468	-1.947

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Table 10. Factor Q-Sort Values for Each Statement

No.	Statement	Factor Arrays	
		1	2
1	Final Comprehensive Examination	-3	-2
2	Stagger FCE	-2	1
3	Stress	3	1
4	Repeat all	2	-3
5	More student-friendly	1	-1
6	Unjust	0	-2
7	More than two papers	-3	-2
8	Commenced earlier	2	-2
9	Specialisation	0	0
10	Number of scenarios	2	0
11	Not a failing exam	3	-1
12	Viva unjust	-1	1
13	Adjusting treatment to please examiner	-1	3
14	Time consuming	-2	0
15	Complying to please supervisor	0	-1
16	Standardised assessment sheet	2	2
17	Emphasis on test	1	0
18	Clinical assessment ought to contribute to FCE	1	2
19	C.A. carried out by I.H.C. staff	0	2
20	Assessment following study-unit	-1	2
21	Variety in mode of assessment	-1	1
22	Seen papers	1	3
23	Assessing modules not study-units	-2	-3
24	Students over-assessed	-2	-1
25	Change in means of assessment	0	0

Variance = 3.040 St. Dev. = 1.744

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Table 11. Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalized Factor Scores)

No.	Statement	Factor Arrays	
		1	2
16	Standardised assessment sheet	2	2
25	Change in means of assessment	0	0
17	Emphasis on test	1	0
9	Specialisation	0	0
7	More than two papers	-3	-2
1	Final Comprehensive Examination	-3	-2
15	Complying to please supervisor	0	-1
24	Students over-assessed	-2	-1
18	Clinical assessment ought to contribute to FCE	1	2
10	Number of scenarios	2	0
23	Assessing modules not study-units	-2	-3
5	More student-friendly	1	-1
6	Unjust	0	-2
3	Stress	3	1
12	Viva unjust	-1	1
21	Variety in mode of assessment	-1	1
19	C.A. carried out by I.H.C. staff	0	2
2	Stagger FCE	-2	1
20	Assessment following study-unit	-1	2
22	Seen papers	1	3
14	Time consuming	-2	0
13	Adjusting treatment to please examiner	-1	3
11	Not a failing exam	3	-1
4	Repeat all	2	-3
8	Commenced earlier	2	-2

PhD Q Methodology - Statistical Data
Q-Set 'E' - Course Assessment

Table 12.   Factor Characteristics

	Factors	
	1	2
No. of Defining Variables	5	4
Average Rel. Coef.	0.800	0.800
Composite Reliability	0.952	0.941
S.E. of Factor Scores	0.218	0.243

Standard Errors for Differences in Normalized Factor Scores

(Diagonal Entries Are S.E. Within Factors)

Factors	1	2
1	0.309	0.326
2	0.326	0.343

PhD Q Methodology - Statistical Data
Q-Set 'E' - Course Assessment

Table 13. Distinguishing Statements for Factor 1

(P < .05; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalized Score are Shown.

No. Statement	No.	Factors 1 RNK	SCORE	2 RNK	SCORE
3 Stress	3	3	1.75*	1	0.89
11 Not a failing exam	11	3	1.70*	-1	-0.65
8 Commenced earlier	8	2	1.67*	-2	-1.44
4 Repeat all	4	2	1.27*	-3	-1.62
10 Number of scenarios	10	2	0.75	0	0.02
22 Seen papers	22	1	0.54*	3	1.89
5 More student-friendly	5	1	0.53	-1	-0.25
18 Clinical assessment ought to contribute to FCE	18	1	0.43	2	1.10
6 Unjust	6	0	0.01	-2	-0.81
19 C.A. carried out by I.H.C. staff	19	0	-0.10*	2	0.99
20 Assessment following study-unit	20	-1	-0.24*	2	0.96
12 Viva unjust	12	-1	-0.33*	1	0.55
13 Adjusting treatment to please examiner	13	-1	-0.48*	3	1.47
21 Variety in mode of assessment	21	-1	-0.59*	1	0.39
2 Stagger FCE	2	-2	-0.83*	1	0.29
23 Assessing modules not study-units	23	-2	-1.01	-3	-1.76
14 Time consuming	14	-2	-1.57*	0	0.28

666

PhD Q Methodology – Statistical Data
Q-Set 'E' – Course Assessment

Table 14. Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

		Factors			
		1		2	
No.	Statement	RNK	SCORE	RNK	SCORE
1*	Final Comprehensive Examination	-3	-1.84	-2	-1.41
5	More student-friendly	1	0.53	-1	-0.25
6	Unjust	0	0.01	-2	-0.81
7*	More than two papers	-3	-1.61	-2	-1.26
9*	Specialisation	0	-0.18	0	0.16
10	Number of scenarios	2	0.75	0	0.02
15*	Complying to please supervisor	0	-0.06	-1	-0.50
16*	Standardised assessment sheet	2	0.93	2	0.95
17*	Emphasis on test	1	0.02	0	-0.04
18	Clinical assessment ought to contribute to FCE	1	0.43	2	1.10
23	Assessing modules not study-units	-2	-1.01	-3	-1.76
24*	Students over-assessed	-2	-0.70	-1	-0.17
25*	Change in means of assessment	0	-0.06	0	-0.01

PhD titled 'Modernising the Maltese Physiotherapy Curriculum – An Empirical Study'

Condition of Instruction:

Thank you for agreeing to participate in this data collection yet again.

Kindly find enclosed 5 sheets of paper, each containing a number of themes and 2 highlighters. These themes have been collected from a number of previously held interviews regarding the Physiotherapy curriculum held at the Institute of Health Care.

Please commence this survey by reading all the statements provided. Next, note the number of statements beneath the grid provided that informs you of the number of statements that the answer grid permits. Then, highlight the statements that you agree with in yellow, and those that you disagree in blue. Any statements that you are uncertain or impartial to, do not highlight.

Complete the grid according to the Likert scale provided, that varies from -3 to +3, in which -3 is associated to Strongly Disagree, 0 being Uncertain or Impartial and +3 Strongly Agree.

The survey is **anonymous**, your participation is **entirely voluntary**, and all **information** derived from it **will be used** by the author of this study solely for **academic purposes.**

Please provide truthful and considered replies.

Please do not write your names or give any further information than that that is required. Following completion, kindly enclose in the attached envelope and forward to Ms Carmen Farrugia at Room 105 at the Institute of Health Care.

CATEGORY	THEMES

A. Course Design

- i. Change in sequence when subjects are taught
- ii. Theory coordinated with practical
- iii. Ratio between theory and practical components wrong
- iv. Weighting between different subjects
- v. Change in layout of course
- vi. Students should get exposure to all clinical areas
- vii. Spend time observing
- viii. Course too ambiguous
- ix. Not stimulated to think
- x. Method of assessment should change
- xi. Amalgamating study-units into modules
- xii. Course not designed to help students link knowledge to clinical reasoning and skills
- xiii. Course designed/ geared towards Problem Based Learning
- xiv. Course designed around F.C.E.
- xv. University does not set F.C.E. at all
- xvi. Change to course must take place
- xvii. Too many students
- xviii. A small number of students
- xix. Entry qualifications
- xx. Change in teaching staff
- xxi. Course not commencing annually
- xxii. Study-units all taught individually
- xxiii. Number of credits
- xxiv. No longer tied down by Rules & Regulations
- xxv. Clinical modules not coordinated re: length of time
- xxvi. Subject not directly related to physiotherapy, done in the earlier parts of the course
- xxvii. More time required to prepare for FCE
- xxviii. To narrow the gap between staff and students
- xxix. Not perceived as an easy course
- xxx. Common core lectures with other students – different opinions
- xxxi. Could not attend clinical placement due to sex

-3	-2	-1	0	1	2	3

Disagree – 12 statements
Uncertain/Impartial – 7 statements
Agree – 12 statements

Kindly score all the shaded areas.

Answer Key:

-3 – Strongly Disagree	0 – Uncertain	3 – Strongly Agree

CATEGORY	THEMES	SUB-THEMES

B. Course Content

1. Theory

2. Practical

i. Irrelevant

ii. Too much detail

iii. Discrepancy

iv. Omitted

v. Not suitable

vi. More supervision

vii. Not applicable

viii. Subjects perceived by students as a waste of time

-3	-2	-1	0	1	2	3

Kindly score all the shaded areas.

Answer Key:

-3 – Strongly Disagree	0 – Uncertain	3 – Strongly Agree

670

CATEGORY	THEMES	SUB-THEMES

C. Teaching/ Delivery of Course

i. Applied Teaching
- a. On a real patient
- b. Difficult as early students will not have clinical experience
- c. Referring to physiotherapy

ii. Use of Video

iii. Getting Patient to I.H.C.

iv. Evidence Based

v. Problem Based Teaching

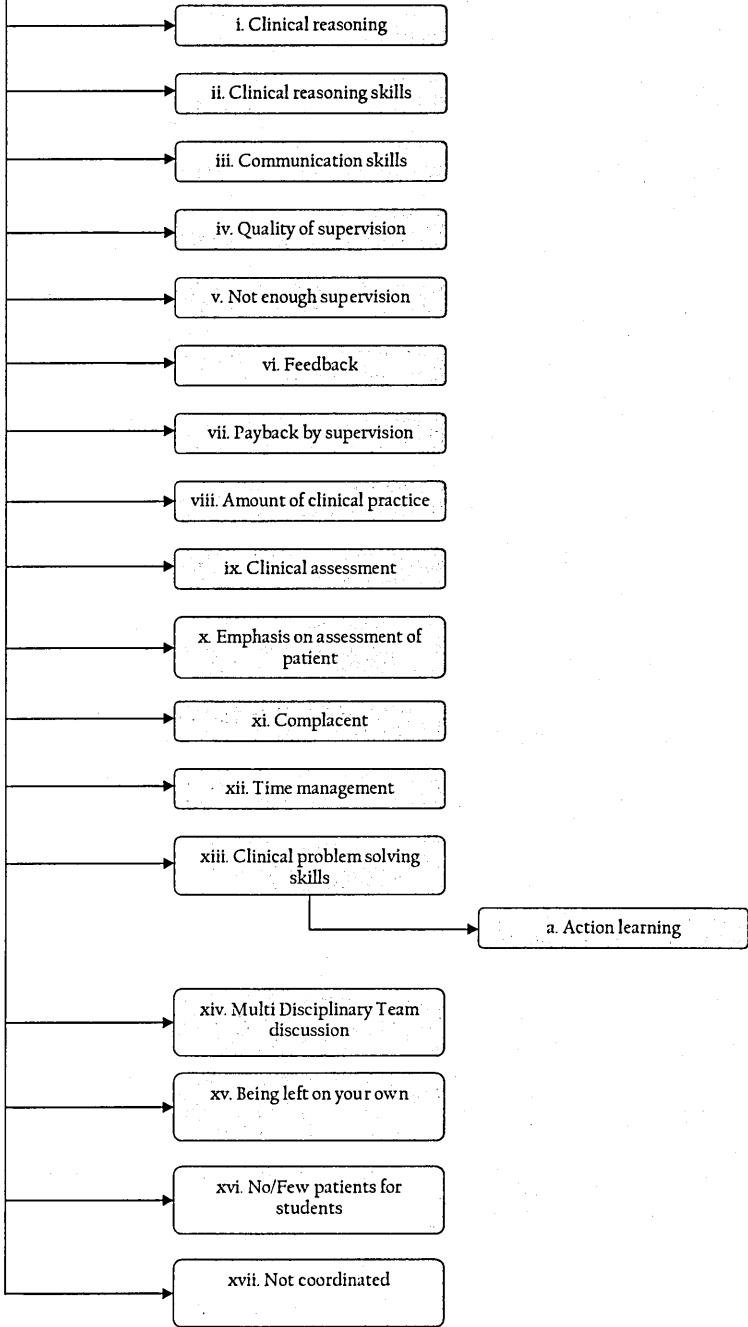**vi. Delivery of some subjects especially common core subjects by a physiotherapist**

vii. Lecturers unprepared

viii. Punctuality

ix. Self-directed Learning → Not guided enough

x. Teaching Style

xi. Cancelled Lectures

xii. Good Quality

xiii. Specialised Lecturers

-3	-2	-1	0	1	2	3

Kindly score all the shaded areas.

Answer Key:

-3 – Strongly Disagree	0 – Uncertain	3 – Strongly Agree

671

| CATEGORY | THEMES |

D. Clinical Practice

- i. Clinical reasoning
- ii. Clinical reasoning skills
- iii. Communication skills
- iv. Quality of supervision
- v. Not enough supervision
- vi. Feedback
- vii. Payback by supervision
- viii. Amount of clinical practice
- ix. Clinical assessment
- x. Emphasis on assessment of patient
- xi. Complacent
- xii. Time management
- xiii. Clinical problem solving skills
  - a. Action learning
- xiv. Multi Disciplinary Team discussion
- xv. Being left on your own
- xvi. No/Few patients for students
- xvii. Not coordinated

-3	-2	-1	0	1	2	3

Kindly score all the shaded areas.

Answer Key:
| -3 – Strongly Disagree | 0 – Uncertain | 3 – Strongly Agree |

672

CATEGORY	SUB-CATEGORY	THEMES	SUB-THEMES

E. Course Assessment

1. Final Comprehensive Examination

a. Written
- i. Stagger Final exams throughout course
- ii. Causes stress (Not happy with)
- iii. Everything all over again
- iv. More student-friendly
- v. Unjust
- vi. More than 2 papers

b. Dissertation
- i. Started earlier
- ii. Specialisation

c. Practical/Viva
- i. A number of scenarios/patients not one
- ii. Will not be a failing exam
- iii. Unjust
- iv. Adjusting treatment and reasoning to please examiner
- v. Time consuming

2. Clinical Assessment
- i. Complying to please supervisor
- ii. Standardized assessment sheet
- iii. Too much emphasis on test rather than on the learning process
- iv. Should contribute to F.C.E.
- v. Done by IHC staff not clinicians

3. Theory Assessment
- i. Finals after particular subjects
- ii. More than one method of assessment per study-unit
- iii. Seen papers
- iv. Assessing modules not individual study-units
- v. Students over assessed
- vi. Change in means of assessment

-3	-2	-1	0	1	2	3

Kindly score all the shaded areas.

Answer Key:

-3 – Strongly Disagree	0 – Uncertain	3 – Strongly Agree

673

GUIDELINES FOR THE ADOPTION OF UNIT/CREDIT SYSTEM AND ASSESSMENT PROCEDURES FOR UNDERGRADUATE COURSES

Academic Calendar

1.1 The University's academic year is organised on the basis of two semesters each of fifteen weeks, fourteen of which are devoted to teaching and one to private study and credit tests.

1.2 The Autumn Semester starts on 1st October and ends on 31st January; the Spring Semester starts on 1st February and ends on 31st May.

Tests

2.1 Credit tests are held in the last week of each semester. Students will normally not be required to take more than two tests on the same day. Students required to sit for their final examination will not be required to sit for any credit tests in the last two weeks prior to the final examination. Supplementary tests (re-sits) are held during the next scheduled test-week, or in September, whichever occasion is the earlier.

Examinations

3.1 Written Final Examinations, (end of course), or Intermediate Examinations (end of part of a course when the course is divided into parts by regulations) are held in June; oral examinations may be held up to mid-July; supplementary examinations are held in September.

Field-work / Practical Placements

4.1 Where appropriate, assessed field-work or practical placements may be carried out during course-time as well as during the vacation periods.

Attendance during Lectures

5.1 Unless exempted through written permission by the Dean, following consultations with the Head of Department, or by the Director of an Institute, students are required to attend classes throughout each semester.

Study-Units

6.1 Courses are articulated into study-units. Each study-unit may be made up of a combination of lectures, seminars, tutorials, laboratory work, field-

674

work and private study. One credit is assigned for a study unit, (or part thereof) which altogether requires approximately 50 hours of study, of which 14 are normally student/staff contact.

6.2 Each study-unit is assigned a title and a code number. Every effort should be made to publish, and make available to the students, information regarding course descriptions and which courses are to be given in each semester, by the end of June of the preceding academic year. Course descriptions should include:

(a) the learning objectives,
(b) the content covered,
(c) a selected bibliography,
(d) the mode or modes of assessment,
(e) the lecturer/s responsible for it.

6.3 Once students satisfy the assessment requirements for a study-unit, the study-unit is credited to their academic record or transcript. The students' academic transcript will record all the study-units for which they register, including "failed" or "incomplete" study-units.

6.4 In any year of the course, students may register for study-units to which not more than 30 credits are assigned, and must obtain not less than 16 credits

6.5 Credits may be obtained through assigned course-work, and/or set tests.

6.6 Regulations for three-year degree courses shall require students to obtain not less than 64 credits, and the total number of credits required for the award of the degree shall include not less than 8 optional/elective credits, of which 3 shall be offered for optional extracurricular activities approved by Senate by means of regulations for the purpose. In any year, a student cannot be awarded more than one credit for extracurricular activities.

Final Synoptic Examination

7.1 Each course shall include a final synoptic examination, covering that part of the course since the last formal examination.

7.2 The synoptic examination shall normally carry 50% (and in any case not more than 70% and not less than 30%) of the weighting for the award of the degree.

7.3 The synoptic examination shall consist of not more than 8 three-hour papers.

7.4 Students shall have the possibility to re-sit any failed paper and shall not be obliged to re-sit papers in which they have obtained a pass grade.

Assessment Criteria

8.1 (Applicable for courses that commenced prior to October 1996 only) Students' course-work, tests and examinations are graded and marked on the following scale and criteria:

A: 80% - 100% = work of exceptional quality
B: 70% - 79% = work of above average quality
C: 55% - 69% = work of average quality
D: 45% - 54% = work of below average quality
F: 0 - 44% = work which does not reach the minimum standard required
I: = incomplete study-unit.

Results

9.1 Credit test results are communicated to students and published in grades and/or percentage marks within 30 days of the end of the semester. Results of end-of-year end of final examinations are published in July.

9.2 Course-work which is graded as "failed" may be re-submitted during the academic year by arrangement with the lecturer/tutor concerned. The maximum grade/mark that may be awarded for re-submitted work, or for a re-sat test/examination is the minimum pass, i.e. D/45%.

Revision of Papers

10.1 Revision of papers can be requested for failed examinations, tests or assignments and as provided by regulations approved by Senate for the purpose.

Classification of Degrees

11.1 Classification of degrees is based on the minimum number of credits required to obtain the degree, and on the results of final examinations according to clear criteria set by each Faculty. (*Vide* also 7.2 above)

Assessment Procedures

12.1 Each Faculty or Institute will publish a clear statement on the assessment procedures adopted in its courses.

12.2 Each Faculty or Institute will appoint an academic member of staff and a non-academic senior official to co-ordinate the assessment procedures in that Faculty / Institute, and to act as a point of reference for staff and students on matters of assessment.

Academic Advisors

13.1 First-year students are assigned academic advisors. The function of academic advisors is to act as a point of reference to a maximum of twelve students, to provide general advice on all matters relevant to their academic progress and assist where necessary.

General

14.1 Examination procedures should follow the regulations of the University.

14.2 All faculties and institutes are to endeavour to adopt these guidelines, as much as possible as from the academic year 1995/96 and, in any case, must have adopted them in full by the end of the academic year 1996/97, after which time any course regulation or faculty practice which is not in line with these guidelines will need the explicit permission of Senate for it to remain in force.

Approved by Senate on 23rd March 1994

676