How podiatry may inform the United Kingdom's
inter-professional education agenda

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CONVENTIONS USED WITHIN THIS

ELECTRONIC THESIS

This thesis has been prepared with electronic publication in mind, distributed as a single PDF[1] format file with hyperlinks. As such, the reader may jump immediately to chapter headings and sub-headings by clicking upon them in the Contents list, or using the Bookmarks list shown in the PDF Viewer program (View, Navigation Panels - select Bookmarks, Dock). Further, all cross references to sections or figures in other chapters may also be clicked upon, to give immediate access (note your current page number, or use the ALT - LEFT ARROW two-key combination to return equally quickly). This is signified by the underlining of this document's cross reference text. For example, Appendix A: Literature Findings indicates the first chapter of the appendices, within which one can find a sub-section IPE lead semi-structured interview schedule.

With the advent of cost effective colour printing at the desktop, colour coding is also used to draw out differing points of interest or sources of information. For example, within the mind-maps used by the author in the 2nd analysis: thematic overviews using mind maps colour coding is used to represent findings from the seven interview participants:

Int001
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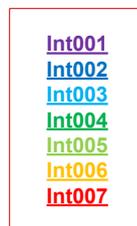
Links to web-based sources are shown as blue underlined text, in accordance with developing web conventions. These may be found in the bibliography, when referring to electronic sources (also in the footnote below for Adobe).

Seven interviews were performed which used electronic data recording (six with direct intercept of the telephone hand piece), with resultant WAV audio files transferred onto a

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[1] Invented by Adobe Systems and perfected over 15 years, Portable Document Format (PDF) allows you to capture and view a wide range of information on any computer system. It is now an open standard known as ISO 3200. www.adobe.com

Windows PC for play-back and transcription. As a consequence, accurate time notation of participant utterances is possible (rather than a nominal magnetic tape position).

For example, text followed by (Int7-13:00) indicates a précis of discussions with the seventh participant or interviewee, commencing 13 minutes into the interview; *'cos there's a synergy between physiotherapy and podiatry! (Int4-02:30)'* indicates a verbatim quotation from the fourth participant, commencing two and a half minutes into the interview. Whilst this may be viewed as pedantic, its accuracy facilitates rapid referral to source to check context and meaning.

Other bracketed references adhere to Harvard guidelines (Holland 2005), with the electronic bibliography being automatically generated by EndNote[2] utilising its cite-while-you-write facilities.

These documents were prepared using Microsoft Office 2007[3], with master and subdocuments and a common template to allow conformity between chapters. All was installed within a Microsoft Vista operating system. This was a stressful experience, with Microsoft file corruptions causing mal-formatted cross-references between chapters, along with corruptions to the field codes used by EndNote. Open source technology may provide future students with system stability at less cost and with less personal effort.

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[2] EndNote X3 is a references manager supported by Thompson: www.endnote.com. This now supports Open Office 3 technology and a full cite-while-you-write interface.

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ABSTRACT

The impetus for Inter-Professional Education (IPE) amongst the health and social care professions within higher education has been gaining pace over the past fifteen years. This exploratory research adds to the understanding of podiatry as a health profession involved with IPE. It comprises three studies which identify IPE stakeholders and policies, its delivery to undergraduate health and social care students, and its application to and perception by final year podiatry students. It uses mixed methods and a critical realist perspective to inform understanding of the different societal levels involved with IPE. A literature search of IPE stakeholders and policies directed semi-structured interviews with course developers, subsequently contrasted with the IPE attitudes and concerns of podiatry students.

A convenience sample of seven lead developers of IPE was recruited from the thirteen UK universities that teach podiatry. Semi-structured telephone interviews were performed, with the transcripts undergoing a detailed content analysis. Q Methodology was utilised to reveal the views of forty-one podiatry students about IPE: their attitudes towards the subject and their concerns over its implementation.

Findings indicate that IPE implementation is pragmatic and atheoretical with regards to best practice, though uses of educational theory and two frameworks are identified. Principles of Adult Education and experiential learning are common, facilitated within small groups of mixed health and social care students. Whilst some podiatry students are appreciative of IPE, others have more critical viewpoints, in particular of its professional relevance and facilitation. The research suggests further research into staff and student preparation for IPE, and exploration of the contrasting medical and social models of care implicit within IPE endeavours.

ACKNOWLEDGEMENTS

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1 INTRODUCTION

This section provides an overview of the research, introduces Inter-Professional Education (IPE) as coming into the mainstream of the undergraduate student curriculum, then introduces the podiatry profession as a relatively small player within IPE, whose attitudes and responses towards IPE may frequently be overlooked.

1.1   RESEARCH OVERVIEW

The context of Inter-Professional Education (IPE)

As patient care becomes more complex, effective collaboration between health and social care professionals is required (Egan-Lee et al. 2008). However, evidence suggests that these professionals do not collaborate well together (Zwarenstein and Reeves 2000). It was the very public failure of various healthcare teams that triggered the calls for healthcare reform in the UK, for example child mortality at the Bristol Royal Infirmary within the Kennedy Report (Department of Health 2001b) and the breakdowns of communication within and between agencies in the Victoria Climbié Report (Laming 2003). These healthcare reforms have led to professional regulation (Saks 2006) and IPE for pre-registration, undergraduate students. IPE aims to improve patient care through improved team collaboration, through IPE endeavours prior to graduation and professional registration. This includes the many types of therapists working alongside doctors and nurses, expanding the roles they play in health and social care *'to ensure they can use their skills flexibly and creatively to the benefit of patients (Department of Health 2000a, 1.2)'.* Two major debilitating diseases which increasingly require podiatrists as part of a multi-professional team are diabetes and rheumatoid arthritis (Craddock and O'Halloran 2004), each with major consequences for the foot (McGee and Ashford 1996).

The Centre for the Advancement of Interprofessional Education (CAIPE) in the United Kingdom has provided various definitions for IPE, for example:-

> *Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care (CAIPE 2006a)*

The argument being that those who learn together will work together more readily than if they learned in separate professional groups, and consequently will deliver better care (Miller et al. 1999). IPE may be considered a preparation of students for collaborative

practice after graduation. However, whilst the above IPE definition is simple, its outworking within the undergraduate curriculum is complex.

IPE has an international aspect, with Barr *et al.* considering that the genesis of IPE may have been a report by the World Health Organisation (WHO) entitled 'Learning to work together' (World Health Organization 1988), with its definitions of multi-professional education closely resembling those of CAIPE's definition of IPE (Barr et al. 2005). This involvement continues to the current day, with the WHO regarding collaborative, multi-professional team working as a means to overcome a world shortage of healthcare professionals (World Health Organization 2009).

IPE research

Early systematic literature searches found that many IPE endeavours lacked the methodological rigour needed to begin to convincingly understand the impact of IPE on professional practice or healthcare outcomes (Zwarenstein et al. 2001). After an extensive search of published and 'grey' literature, Oandasan and her team concluded *'there is little in the literature to help educators understand how to facilitate interprofessional education in a successful manner and hence there is an urgent need for faculty development in this area (Oandasan et al. 2005)'*.

As a Director for Interprofessional Education involved with pre-registration curriculum development for fifteen years, Hazel Colyer put it:

> *There is more of a sense now that it is important that people learn together for more collaborative practice, but that quite what the connection is between those things has still, for me, yet to be explained (Helme et al. 2006, podcast 03:00).*

More recently, Hammick et al (2007) have updated these systematic searches to locate 21 best quality IPE publications, ranging from 1981 to 2005, with the majority since the turn of the century. Of these, thirteen studies included delivery of IPE to undergraduate medical students and thirteen studies included delivery to nurses. Physiotherapy students were involved in seven of the studies, with pharmacy, occupational therapy, dentistry, social work and midwifery appearing less often. Podiatry students received no explicit mention. A similar undergraduate medical-nursing focus was found by Davidson et al (2008) in their literature review of clinical IPE up to April 2006, with only one of their 25 better studies referring to podiatry.

Podiatry is a minor player within the health professions allied to medicine and nursing, comprising 14,000 practitioners compared to 39,000 physiotherapists and 0.5 million nurses (Bowen 2008). Its involvement and influence in the area of IPE and its research is correspondingly limited. Thus this research aims to add to the understanding of podiatry as a

profession involved in IPE, to highlight issues associated with its participation as a minority profession whose practitioners operate with relative independence and in isolation.

Barr et al (2006) suggest that a key question for future IPE evaluations should be the relative effects of discrete interprofessional learning components embedded within pre-qualifying uni-professional programmes, compared with those that permeate the culture and content of such programmes throughout. With a concept of individual preparation (collaborative skills, knowledge and attitudes) driving effective teamwork (learning to collaborate with and between professions, within and between organisations, with service users, their carers and with communities), in-turn driving changes of service and patient care, Barr claims that his reviewed evidence points to the need of five IPE developments:-

1. Closer integration of IPE into pre-qualifying culture and curricula.

2. Further development of competency or capability-based models designed to change behaviour as well as attitudes and knowledge, to improve on the reported outcomes.

3. Provide positive and well-supervised experiences of collaborative practice for recently qualified practitioners, to enable testing and re-enforcement of IPE.

4. Advanced IPE learning opportunities to equip and motivate practitioners to lead collaborative endeavours towards change and improved practices.

5. A career-long continuum of integrated uni- and inter-professional learning that is subject to a systematic and robust evaluation.

(Barr et al. 2006, revised)

Thus this research addresses points 1 and 2, keeping a focus upon the culture surrounding IPE curricula development and its implementation for undergraduate healthcare courses. Whilst post-qualified practice is beyond the scope of this research, opportunity is taken to note the experiences of collaborative practice being offered to pre-qualification students as part of their clinical placements.

Position statement of the researcher

For twenty years the author was a computer systems analyst developing and designing systems for rugged hand-held computers, specialising in outdoor data collection. As a radical career change, he was amongst the first cohort of podiatry students (2002 – 2005) at the University of Northampton (University College Northampton) to receive IPE as part of a re-validated podiatry syllabus.

It was evident to the podiatry students that the course was in its infancy, with some demonstrating a lack of engagement through their attitudes and their non-attendance. However, the same spurned an interest within the author on how this novel component of the curricula might better engage the interest of podiatry students. Thus the author's highly analytical background and more recent studies in a healthcare profession with a quite mechanistic viewpoint are being applied to the area of higher education. Thus additional qualitative analytical skills have been developed, with various approaches to subjectivity and objectivity being utilised to comprehend this complex educational arena.

During his undergraduate podiatry education, the author encountered four instances of multi-professional working on clinical placements within the National Health Service:-

- A hospital-based podiatry team which went on ward rounds to patients.
- A hospital-based diabetes team where diabetic specialist nurses worked in partnership with podiatrists in the treatment of chronic leg ulcers.
- A home-visiting podiatrist with her own section in a client's 'big red book' whereby her treatment notes were available to visiting nurses and GPs and vice versa.
- A home-visiting podiatrist who was instrumental in re-admitting one of her bed-ridden stroke patients back into hospital with necrotic, infected bedsores (the frequent dressing changes of the visiting nurse being deemed ineffective).

In subsequent private podiatry practice, some of the taught physiotherapy skills have been brought into play, but no occasions for multi-disciplinary team working have so far presented themselves. Thus the researcher is aware of circumstances where podiatrists can lend their unique specialist skills to the more general care of a patient. However, in some podiatry set-ups such opportunities can be limited.

1.2   INTERPROFESSIONAL EDUCATION COMES OF AGE

IPE is a relatively new adjunct to the health and social care curricula. This section considers how IPE is becoming more widely adopted in the UK.

> *Interprofessional education (IPE) is being built into the mainstream of professional education for all health and social care professions throughout the United Kingdom (UK) driven by the Labour Government elected in 1997...(Barr and Ross 2006)*

So start Barr and Ross in their position paper on the mainstreaming of IPE, written for the Journal of Interprofessional Education for which they were joint editors-in-chief. This identifies the UK government as a clear driving force for the rapid changes within heath care student education, one component of their ongoing health reforms.

The NHS Plan (Secretary of State for Health 2000b) is regarded by many as the start of the most major reforms to the UK health service since its inception in 1948. The plan announces a sustained increase in government funding over the following five years, alongside the steps needed to transform the health service so that it is designed around the needs of patients. It proposes joint training across professions (para. 9.18) to provide patient communications skills and familiarity with NHS principles and organisation, with reforms to the core health curricula endeavouring to break down the barriers between professions, to enable more flexible team working and even allow switching between career paths.

Barr and Ross view 'Mainstreaming' as a catchword to capture diverse meanings and motives driving the promotion of IPE. To some, they say, it means making IPE more effective as a means of improving collaborative practice, and thereby improving the quality of patient care. To others, the IPE agenda has also been overlaid by a more radical one to modernise the health and social care workforce by 'educational engineering', with IPE being the chief agent. Thus IPE should not only contribute to the modernisation of the service, but also to modernisation of the professional education systems by the back door. Hence there are the considerations about professionalisation and regulation within this thesis.

The NHS Plan was augmented by *Meeting the Challenge: a strategy for the allied health professions* (Secretary of State for Health 2000a) which includes Podiatrists amongst the 50,000 members in 14 professions working alongside doctors, nurses and scientists. It recognises that the Allied Health Professions (AHPs) are in the forefront of interprofessional education (para. 4.12) and that "learning together" can deliver added value for practitioners, through developing an understanding of the roles of other professionals and in building team-working skills from an early stage in the curriculum. Further, the Government intends to build upon successful initiatives to make IPE a key feature of NHS education over the next few years (para. 4.13), when all health professions should expect their education and training to include common learning with other professions (Department of Health 2001d).

Terminology within Interprofessional Education (IPE)

In their examination of the development, delivery and evaluation of effective Interprofessional Education, Freeth, *et al* use the following definition for interprofessional education:-

>*Occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care (Freeth et al. 2005, p.11).*

They emphasise learning *with* each other to acknowledge the potential for generating new personal knowledge when issues are explored by two or more students from different professions. IPE is an initiative to secure interprofessional learning and promote gains through interprofessional collaboration in professional practice. The gains referred to go beyond improved patient care, but also include improvements to stakeholders' perceptions of care and to the practitioners' working lives (Freeth et al. 2005).

Similarly, based upon six case studies of interdisciplinary teams, Miller *et al* identified numerous patient benefits from integrated multi-professional working:-

- o Continuity in care between the professionals

- o Development of 'team knowledge' that reduced ambiguity and conflicting messages to the patient

- o Appropriate and timely referral between team members

- o Actions and decisions based upon a holistic perspective, encompassing all aspects of the patient – social, physical and psychological

- o Actions and decisions based upon problem-solving, with the team approach providing a wider source of ideas about possible causes and likely actions to be taken

(Miller et al. 2001)

The NHS Plan set out the Government's plans for inter-professional education and training. These include:

- • *joint training in [patient] communication skills, and NHS principles and organisation, as a prerequisite to qualification*

- • *and a new common foundation learning programme to enable students and qualified health professionals to switch careers and training paths more easily.*

(Department of Health 2000a, 4.10)

Thus this UK government commitment to IPE is narrower than the preceding definition by Freeth *et al*, being limited to communication skills and knowledge of the NHS as an institution, with an objective of improved career pathways. These contrasting emphases for IPE become evident within the Study 2 interviews.

'Interprofessional Learning' should be clearly differentiated from 'Common Learning', the latter being introduced within *Investment and reform for NHS staff - taking forward the NHS plan (Department of Health 2001a)*. This proposes to develop and introduce common learning programmes for all health professionals, based on core skills. They are designed on a more flexible basis, providing easier routes and opportunities for individuals to transfer between education and training programmes and maximise future career pathways. However, Coyler et al (2005) explain that interprofessional learning is

more than simply the bringing together of different professionals for common learning, which is now described as multi-professional education. Rather, there is a synergy between individuals that seems to generate situated experiential learning different from the propositional and practical knowledge of the different professions. Thus the literature review considers the range of teaching methods utilised by different IPE courses.

The NHS chose four sites in 2003 to take forward common learning, as part of reforming pre-registration health and social care education (Craddock and O'Halloran 2004), including the New Generation project as a joint initiative between the Universities of Southampton and Portsmouth. This project has two distinct curriculum strands, where 'learning in common' encompasses those subjects that are common to all programmes but which are be taught and assessed within the profession specific programmes, whilst 'interprofessional learning' focuses on preparing students to work collaboratively.

1.3   PODIATRY AS AN ALLIED HEALTH PROFESSION

Podiatry in the UK is regulated by the Health Professions Council (HPC), an independent body instigated by the Health Professions Order 2001. Its main function is:

> *to establish standards of education and training, conduct and performance for*
> *members of the relevant professions and to ensure the maintenance of these*
> *standards (Health Professions Council 2008)*

Its aim is patient safety and in return for maintaining a publicly accessible register of qualified chiropody and podiatry practitioners, the council protects the use of the titles 'chiropodist' and 'podiatrist'. It also maintains a register of twelve other Allied Health professions (AHPs):-

Figure 1: Professions registered with the HPC[4] (Oct 2008)

Profession	Description	Registrants
Arts therapists	An art, music or drama therapist encourages people to express their feelings and emotions through art, such as painting and drawing, music or drama.	2,480
Biomedical scientists	A biomedical scientist analyses specimens from patients to provide data to help doctors diagnose and treat disease.	22,120
Chiropodists / podiatrists	A chiropodist / podiatrist diagnoses and treats disorders, diseases and deformities of the feet	**12,519**
Clinical scientists	A clinical scientist oversees specialist tests for diagnosing and managing disease. They advise doctors on using tests and interpreting data and they also carry out research to understand diseases and	4,332

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[4] Statistics from http://www.hpc-uk.org/aboutregistration/theregister/stats/ Accessed 6 Feb 2009

	devise new therapies	
Dietitians	A dietitian uses the science of nutrition to devise eating plans for patients to treat medical conditions They also work to promote good health by helping to facilitate a positive change in food choices amongst individuals, groups and communities.	6,582
Occupational therapists	An occupational therapist uses specific activities to limit the effects of disability and promote independence in all aspects of daily life.	29,701
Operating department practitioners	Operating department practitioners participate in the assessment of the patient prior to surgery and provide individualised care.	9,772
Orthoptists	An orthoptist specialises in diagnosing and treating visual problems involving eye movement and alignment	1,267
Paramedics	Paramedics provide specialist care and treatment to patients who are either acutely ill or injured. They can administer a range of drugs and carry out certain surgical techniques.	14,562
Physiotherapists	Physiotherapists deal with human function and movement and help people to achieve their full physical potential. They use physical approaches to promote, maintain and restore wellbeing.	42,095
Prosthetists / orthotists	Prosthetists and orthotists are responsible for all aspects of supplying prostheses and orthoses for patients. A prosthesis is a device that replaces a missing body part. An orthosis is a device fitted to an existing body part in order to improve its function or reduce pain	869
Radiographers	Therapeutic radiographers plan and deliver treatment using radiation. Diagnostic radiographers produce and interpret high-quality images of the body to diagnose injuries and diseases. For example, x-rays, ultrasound or CT scans carried out in hospital.	25,173
Speech and language therapists	A speech and language therapist assesses, treats and helps to prevent speech, language and swallowing difficulties	12,038

Thus podiatrists comprise nearly 7% of the 183,000 registered AHPs. It can be seen that Arts Therapists, Clinical Scientists, Dietitians, Orthoptists and Orthotists are in significantly smaller numbers, with Paramedics of similar numbers and Occupational Therapists and Radiographers having double the number of Podiatrists. Thus podiatry is not alone in being considered a minority medical profession, particularly when compared to the near 700,000 registered nurses and midwives (Nursing and Midwifery Council 2007) and the 233,000 registered medical practitioners (General Medical Council 2008).

The HPC approves and monitors programmes offered by UK education providers. Their standards encompass admissions, resources, the curriculum, placements and assessment, with one London podiatry institution being inspected in 2007 (Health Professions Council 2007).   HPC assessment includes evaluation against the QAA benchmark statements for the associated profession and may be a part of a course's validation process.

From its 396 respondents representing 42 countries, the World Health Organisation has more recently recognised a broader range of learners involved with IPE, of which Podiatrists have a smaller representation of 1.6% in the figure below:-

Figure 2: Learners receiving IPE (World Health Organization 2009, Fig.4)
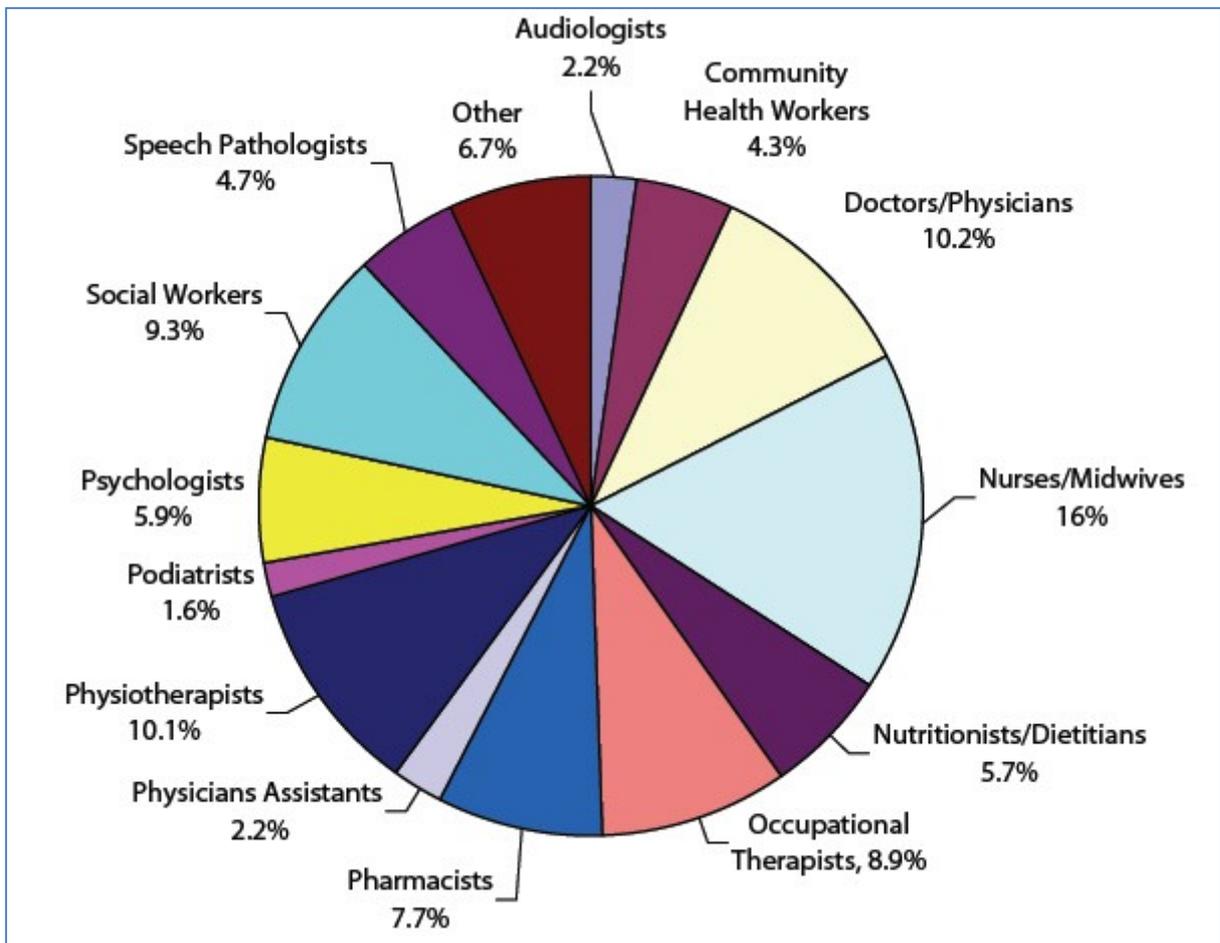
Thus it is reasonable that podiatry should be included within interprofessional education. However, there is a paucity of evidence to suggest why and how this should be the case, or to determine the attitudes held by podiatry students which may impinge upon IPE and subsequent inter-professional collaboration.

1.4 RESEARCH AIMS AND OBJECTIVES

This research explores podiatry as an Allied Health Profession (AHP) participating in IPE. It considers the driving forces behind IPE in relation to podiatry, issues arising when IPE includes podiatry students, and the responses of podiatry students towards IPE. The research objectives are:

1. To identify the stakeholders and participants of IPE in health and social care; to distinguish the associated policies, motivations, intended benefits and concerns about collaborative health care.

2. To appreciate how IPE is delivered by the thirteen UK higher education institutions which are educating podiatry students alongside other AHP students, nurses and

social work students at undergraduate level. This encompasses methods of student assessment together with underlying educational theory, to develop an understanding of how IPE is presently being facilitated and the issues surrounding the implementation of IPE courses.

3. To explore the attitudes and concerns of final year podiatry students towards their IPE course as they approach their final examinations.

This research will aid the ongoing development of IPE curricula for podiatry students and may also inform the IPE of other minority health and social care professions.

1.5   CHAPTER SUMMARY

The Introduction has introduced interprofessional education as being a government initiative which is far reaching in its implementation, though with a simple premise of improved patient care. Podiatry was established as a minor player within the affected health and social care professions, with little research evidence available to inform its effective incorporation into inter-professional learning and multi-professional practice. This thesis seeks to inform the IPE agenda using mixed methods to explore the IPE stakeholders, the experiences of IPE developers (including undergraduate podiatry students within their catchment) and the attitudes and concerns of one institution's final year podiatry students.

2 LITERATURE REVIEWS

2.1   INTRODUCTION

In their Scoping Review to identify organisational and educational theories relevant to IPE and to inter-professional practice, Reeves et al identified literature which called upon thirty four differing theories, from six different perspectives:-

Table 1: Theories used in IPE (Reeves et al. 2007b, Box 1)

Perspective	Theories / Theorist
Social Psychology	Contact theory (Allport) Groupthink (Janis) Group development (Tuckman & Jensen) Social exchange theory (Challis et al) Cooperation theory (Axelrod) Relational awareness theory (Drinka et al) Team reflexivity (West) Realistic conflict theory (Brown et al) Social identity theory (Ellemers et al) Social learning theory (Bandura & Cervone) Self-categorisation theory (Turner) Transformation/transactional leadership (Bass)
Sociology	Discourse theory (Foucault) Surveillance theory (Foucault) Self presentation theory (Goffman) Negotiated order perspective (Strauss) Professionalisation theory (Freidson) Practice theory (Almas) Power and influence theory (French & Raven)
Adult learning	Reflective learning (Schön) Problem-based learning (Barrows & Tamblyn) Experiential learning (Kolb) Situated learning (Lave & Wenger)
Systems	Systems theory (Von Bertalanffy) Presage-process-product (Biggs) Chaos (Krippner) Complexity (Cooper) Activity theory (Engestrom)
Psychodynamic	Loss and change (Marris) Social defence (Menzies) Work-group mentality (Bion)
Organisational	Organizational learning (Argyris & Schön) Punctuated equilibrium (Gersick) Institutional theory (DiMaggio & Powell)

They also identified a further thirty three theories having potential to inform IPE, including Mind Mapping, Case Based Learning and Virtual Learning. They suggest that the use of such theories to underpin IPE will strengthen the evidence base for interprofessional practice and education – a common need for its varied stakeholders.

This review considers some of the above IPE theories, as a basis for the studies described later in the thesis.   This chapter is divided into five sections:-

1. Professionalism within health and social care

2. Adult education of health and social care students

3. Critical reflection

4. IPE within Higher Education

5. Stakeholder and drivers behind IPE

A key aim of IPE is to facilitate the collaborative working of differing health and social care professions (World Health Organization 2009, CAIPE 2006b). Hence the first section considers how students are inducted into their respective professions and how this may be leading to some issues that IPE seeks to overcome. The second section considers some adult education approaches that may be pertinent to mixed-professions teaching, with the next section considering critical reflection in particular. The fourth considers how this is being applied within UK higher education, whilst the final section reviews some of driving forces behind IPE, associated with a wide variety of stakeholders.

2.2   PROFESSIONALISM WITHIN HEALTH AND SOCIAL CARE

In their questionnaire survey of 933 undergraduate students within the first six weeks of five health related courses (medicine, nursing, pharmacy, physiotherapy and dietetic students), Hind *et al* (2003) tested various hypothesised relationships between stereotypes, professional identity and readiness for interprofessional learning. Unexpectedly, they found that all the students identified strongly with their professional group, even at the start of pre-registration training. That the professional identity should be formed so early in the career of an aspiring health professional may be one reason that IPE is pursued at undergraduate and pre-registration level, rather than after graduation. It may also reflect the adult motivations of the students for entering into the course they have chosen.

Professionalism – what does it mean?

Becher (1994) looked at the research norms and practices of 12 widely contrasting disciplinary fields (biology, chemistry, economics, engineering, geography, history, law, mathematics, modern languages, pharmacy, physics and sociology) over the period 1980 to 1988 and then in more detail 1988 to 1993, performing some 350 in-depth interviews with academics and research students. He cites Bailey (1977) as noting that even though universities are composed of different professions which he labels tribes, they nevertheless operate as a "community culture":

Each tribe has a name and a territory, settles its own affairs, goes to war with others, has a distinct language or at least dialect and a variety of symbolic ways of demonstrating apartness from others. Nevertheless the whole set of tribes possess a common culture: their ways of construing the world and the people who live in it are sufficiently similar for them to be able to understand, more or less, each other's culture and even, when necessary, to communicate with members of other tribes. Universities possess a single culture which directs interaction between the many distinct and often mutually hostile groups (Bailey 1977).

Similarly, Pietroni considers whether professions with their common occupational culture might also include tribe-like aspects with regards to some of their activities:-

In her 1987 paper, Huntingdon suggests that an occupational culture is made up of: a sense of mission, aim and tasks; the focus and orientation of the profession; its ideological knowledge base and its technology; its status and prestige; its orientation to clients and patients and to other professionals. Bligh (1979) goes further and concludes that each profession acts in a sense like a tribe. Members are nurtured in distinctive ways; they develop their concepts in exclusive gatherings. They have their own leaders and pecking orders. Like all tribal societies, they impose sanctions on non-conforming members. If a member takes on the reality constructs of another tribe, they may even be threatened with exclusion (Pietroni 1994).

Thus with these early views of professions, the tribal aspect encompasses autonomy of operation, a sense of belonging and exclusivity.

Becher (1994) suggests that four different levels of generality may be used to categorise knowledge communities, the broadest level being disciplinary groupings of the natural sciences, humanities & social sciences, science-based professions and social professions. These comprise four intellectual clusters credited to Biglan (1973), which labels hard pure, soft pure, hard applied and soft applied, as illustrated in [Figure 3: Broad disciplinary groupings derived from Becher (1994, Table 1)](). In considering educational goals, Neumann (2001) cites Braxton (1995) in considering that hard disciplines place greater importance on student career preparation and emphasise cognitive goals such as learning facts, principles and concepts. Soft areas place greater importance on broad general knowledge, on student character development and on effective thinking skills such as critical thinking.

Figure 3: Broad disciplinary groupings derived from Becher (1994, Table 1)


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                              Pure

  HARD-PURE                           SOFT-PURE
  Natural sciences             Humanities & Social sciences
  E.g.: Physics, Chemistry      E.g.: History, Anthrapology


  Hard       DISCIPLINES          Soft


  HARD-APPLIED                      SOFT-APPLIED
  Science-based professions         Social professions
  E.g.: Engineering                 E.g.: Education,
                                    Management Studies
                            Applied
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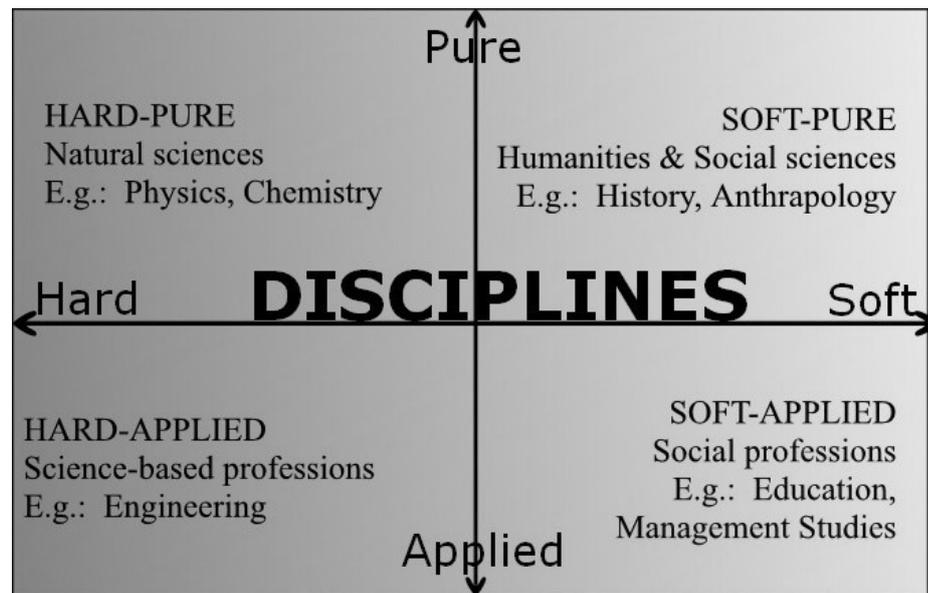
In reporting on a project with the Higher Education Academy's Subject Centres, Jenkins et al (2007) continue to use Biglan's distinctions between hard and soft, pure and applied disciplinary types, in their choice of case studies that represent the wide range of disciplines in the contemporary university. Of pertinence to this research, is the observation that the health and social care sciences may be considered as applied sciences and as representing a range of hard-applied disciplines and soft-applied disciplines, for example:-

> *Applied hard sciences (e.g. medicine): Purposive, pragmatic (know-how via hard knowledge), concerned with mastery of physical environment, resulting in products / techniques; dominated by professional values, role oriented.*
>
> *Applied social sciences (e.g. social work): Functional, utilitarian (know-how via soft knowledge), concerned with enhancement of [semi-] professional practice, resulting in protocols / procedures.; Outward-looking, uncertain in status, dominated by intellectual fashions, power-oriented.*
>
> (Becher 1994, Table 2, adapted)

In his first primer on *The Reflective Practitioner* (1983) Schön introduces the 'triumphant professions' of the 1960's, where professionals in the labour force had risen from 4% in 1900, to 8% in 1950, to 13% in 1966. This was followed by scepticism and unease in the 1970's and early 1980's where professional practitioners are frequently embroiled in conflicts of values, goals, purposes and interests. This has led to increasing statutory regulation of the professions and the intervention of government policy to direct and control the professions (Saks 2006, Department of Health 2007).

Evetts (2005) declares that 'profession' is an anglo-american concept representing a category of privileged, high status, high income occupational groups. She argues for a shift of analytical focus away from profession (a generic category of occupational work)

and professionalisation (the process to pursue, develop and maintain the closure of the occupational group) to a concept of 'Professionalism' and how it is being used as a discourse in marketing, organisational aims and objectives, even training manuals and occupational regulation and control. Evettes cites Larson (1977) in declaring that professionalism is that of market closure and monopolistic control of work, promoting own occupational self interest in terms of salary, status, power and occupational jurisdiction.

Hall (2005) considers that each health care profession has its own culture, which includes values, beliefs, attitudes, customs and behaviours. Whilst the professional culture may have historical artefacts with social and gender influences, it is the educational and socialisation experiences which reinforce common values, problem solving approaches and distinct technical jargon. Increasing specialisation may have led to even further immersion [and isolation] of the student into the knowledge and culture of their own particular group, contributing to the challenges of effective interprofessional teamwork. Thus we can already see some of the early themes which will be later explored within IPE: ideas of competencies, control, standards and shared identity.

Jones and Joss (1995) suggest that a premium on consumerism, consumer power through quality of service and the citizen's charter initiatives, have all placed firmer limits on professional discretion and professional autonomy. There is a new and external definition of professions, based upon the idea of consumer-led definitions of quality of service and 'wants', rather than professionally-led definitions of 'needs'. This may be the seeds of a patient or client focus developed later within IPE.

Jones and Joss (1995) also suggest that occupation control gives a perspective of professionalisation seeking to control its own area of work. Work is underpinned by exclusive expert kind of knowledge (rather than service- or vocationally-based) with a variety of gate-keeping methods use to ensure exclusive control of that knowledge. Restricted entry, socialisation through training and professional ethics is meant to ensure self-regulation.   These restrictions maintain shared professional value sets, seen necessary for internal control, are derived from deep rules and meanings of the occupational culture. Thus there are different value sets for professions overlapping in their practice, each claiming legitimacy for its paradigms or methods of working. This may explain some of the defensiveness apparent between professions involved in IPE.

Limits upon professional discretion are increasingly being applied through external regulation of the health care professions. This is epitomised by the formation of the Health Professions Council (HPC 2002, para 3.4), overseeing the UK allied health professions. Its function is to safeguard the health and wellbeing of persons using or needing the services of registrants, achieved through the establishment [with

consultation] of standards of education and training (HPC 2004, HPC 2005), conduct and performance for registered members of the professions and to ensure the maintenance of those standards (HPC 2006).

Changes to the way professionals work

In its recommendations following the abuse, neglect and murder of Victoria Climbié, the Laming Report (2003) declares that the future lies with those (professional) managers who can demonstrate the capacity to work effectively across organisational boundaries, which will always exist. Those able to operate flexibly need encouragement, in contrast to those who persist in working in isolation and making decisions alone. The joint training of staff and the sharing of budgets are likely to ensure an equality of desire and effort to make them work effectively (Laming 2003). It favours collaborative working in partnership instead of isolated working, with joint training to bring it about across all professions representing social service, the police and health agencies.

In its White Paper acting as a precursor to the NHS Plan in 2000, the UK government made clear its intent to spread best practice and drive clinical and cost-effectiveness by working with the professions to strengthen the existing systems of professional self-regulation (Department of Health 1997, 7.6). The NHS Plan itself (Department of Health 2000b) introduced the National Institute for Clinical Excellence (NICE) to ensure the costs effectiveness of drugs and patient-friendly versions of its clinical guidelines (10.2), alongside the need for strengthening the regulation of clinical professions (10.13).

In his keynote speech on Professional Regulation given to the PIPE conference in Oxford, Saks (2006) suggests a spectrum of professionalism with autonomous self-regulation on the one end (with its potentially damaging silo mentalities) and State / Employer forced regulation on the other end (with potential growth in bureaucracy, cost and loss of buffer between state and professionals). Saks suggested a third way, by which health and social care professions in the UK might become leaders: moving to a variant of the autonomous self-regulatory end of the spectrum to one more protective of the public:

- Moderating the negatives of professionalism such as the closed shop mindset

- Strengthening the positives of professionalism such as joined-up ethical codes and high level expertise

Whilst it remains unclear what will actually happen in terms of professional regulation in health and social care in the UK, Saks is clear that both strategy and leadership are critical to the future of interprofessional education and practice – *at all levels from the heady heights of national / international policy on the professions, to grassroots issues in education and the workplace linked to the alluring interprofessional agenda (Saks 2006).*

The government's target-setting culture also appears as a valuable impetus to interdisciplinary working amongst the Allied Health Professions (AHPs). This is demonstrated in a 2008 report by the NHS Confederation of Employers which illustrates how the 18 week target for patient care is being met through *'the development of effective partnerships that cross health, education and social services' (NHS Confederation (Employers) Company Ltd 2008, p.2).* It recognises that AHPs have a central role in the development of multidisciplinary CATS (Clinical Assessment and Treatment Services), which appear as first-contact services such as NHS walk-in centres. As such, this expansion of AHP services with opportunities for newly qualified practitioners is in-line with policies that embody the patient choice agenda, since facilitating fewer healthcare interventions, with more patient autonomy and lower personal cost. The shifting of the healthcare model from secondary (hospital) to primary (community) care is also allowing for greater efficiency for healthcare services, with improved staff recruitment and retention.

Thus it may be seen that in the UK, pressures from the failures of professional collaboration and the ascendance of patient choice is leading towards changes in the way health professionals are viewed and the way they are now expected to work. These changes are being brought about through regulatory changes and as this research explores, the way health and social care students are taught.

2.3   ADULT EDUCATION OF HEALTH AND SOCIAL CARE STUDENTS

In their review of the inter-professional evidence base over eight years, Barr et al (2005) located 107 quality studies, thirteen of which (12%) made explicit use of adult learning theory, with Barr declaring that *'Interprofessional education is grounded in adult learning theory (Barr 2005, p.17)'.* Just over half the studies used this theory implicitly. This section therefore considers what principles of adult education may be effectively applied within the IPE arena. Knowles et al (2005) summarise Lindeman's key assumptions about adult education and developed a foundation for adult learning theory:

1. *Adults are motivated to learn as they experience needs and interests that learning will satisfy; therefore, these are the appropriate starting points for organizing adult learning activities.*

2. *Adults' orientation to learning is life-centered; therefore, the appropriate units for organizing adult learning are life situations, not subjects.*

3. *Experience is the richest resource for adults' learning; therefore, the core methodology of adult education is the analysis of experience.*

4. Adults have a deep need to be self-directing; therefore, the role of the teacher is to engage in a process of mutual inquiry with them rather than to transmit his or her knowledge to them and then evaluate their conformity to it.

5. *Individual differences among people increase with age; therefore, adult education must make optimal provision for differences in style, time, place, and pace of learning.*

(Knowles et al. 2005, p.40)

From the above, it may be seen that adult learning is not about the imparting of facts, as might be the case with didactic or received teaching of the young. Whilst received teaching comprised 39% of Barr's studies, on its own it does not qualify as IPE (Barr et al. 2005). However, when educating adult learners within IPE, consideration needs to be given to their motivation and particular professional needs, to utilise their autonomy and prior experience, and to relate these back to problems encountered in practice. At undergraduate level, the latter may be achieved through student IPE placements or through pertinent IPE case studies.

In his comprehensive analysis of adult learning Brookfield identifies six principles for effective facilitation of adult learning:-

- *the voluntary participation of the adult learners*
- *mutual respect between participants as well as with the facilitator*
- *a collaborative spirit*
- *praxis (a continual process of activity, reflection on activity, collaborative analysis of activity, new activity, further reflection.. set within a context of the learner's experience)*
- *critical reflection (allows skill acquisition to be placed in a broader context)*
- *self-direction*   *(Brookfield 1986)*

Brookfield's concept of praxis has similarities with the four stages of Kolb's experiential learning cycle (Kolb 1984): *initial experience, observation and reflection, formation of abstract concepts, testing concepts in new situations*. The principles of collaboration, mutual respect and voluntary participation give rise to the notion that the students are learning from each other, that it is a joint venture.

IPE is grounded in adult learning theories, in particular those which prepare individuals for collaborative practice, those cultivating collaboration in groups and teams and those aimed at improving services and the quality of care (Barr et al. 2005). They consider that IPE may draw upon perspectives from:-

- ➢ Social Psychology, particularly with regards to contact theory (Hean and Dickinson 2005) and professional stereotyping which contact theory intends to change.

➢ Dynamic Psychology, in particular social defence theory (Obholzer 1994) and its explication of stress or times of anxiety as the cause for withholding team collaboration.

➢ Sociology, looking especially at 'common learning' amongst entrants to health professions as providing a collective professional identity (Bourdieu and Passeron 1990), together and how individuals behave within groups.

As Colyer et al remark in their occasional paper on interprofessional education, *'the most challenging theoretical perspectives neither come from mainstream education nor are they generated within interprofessional education.   They come, rather, from the behavioural and social sciences (Colyer et al. 2005, p.5)'.*

With the foundation of the American Association for Adult Education in 1926, Knowles considers that there were two discernable streams of enquiry:

1) the *scientific stream* launched by Edward L. Thorndike who demonstrated that adults <u>can</u> in fact learn;

2) the *artistic or intuitive / reflective stream* which was concerned with <u>how</u> adults learn, launched by Eduard C. Lindeman under the strong influence of John Dewey's educational philosophy (discussed within the later section on <u>Critical Reflection</u>).

Adult learning was subsequently developed into learning contracts, with a diagnosis of learning needs, objectives, resources required, evidence of accomplishment, validation of that evidence and subsequent review (Knowles et al. 2005). This is not necessarily the focus of IPE within the health care arena, which is constrained by the requirements of professional and regulating bodies and their influence on the curricula (Saks 2006). Much more, IPE is concerned with motivating students to learn and to utilise their self-directed nature to achieve desired ends (for both the educator and the educated).

Knowles contrasts the assumptions about learners made between Pedagogy and Andragogy (Knowles et al. 2005, p.43 exhibit 4):

➢ Pedagogy relates to the learning model where knowledge and skills are passed from the experienced teacher to the child (a spoon-fed approach), requiring the learning of facts, figures and routines, deemed to be appropriate by the educators and curriculum developers. The group will generally be of the same age group and ready to learn in a uniform step-by-step progression in the allocated subjects.

➢ Andragogy means the science and art of helping a more mature person to learn. This draws upon their existing life skills and experiences to learn in a much more self-directed fashion. Adult learners are generally much more goal-orientated and are motivated to learn when they appreciate the relevance of it. Adults expect to participate more fully in their education, thus experiential approaches such as group discussions, laboratory experiments and simulation exercises are more effective.

Another view of pedagogy is represented by the behaviourists such as Watson and Thorndyke of the late 19th century, who based their considerations of the learning phenomenon upon animal behaviour. They considered inexperienced (young) learners as empty organisms who more or less responded to stimuli randomly and automatically. Knowles cites the three laws which Thorndyke believed governed the learning of animals and human beings:

1. *The law of readiness, describing the circumstances under which the learner tends to be satisfied or annoyed, to welcome or reject*

2. *The law of exercise, with the strengthening of connections through practice*

3. *The law of effect, with the strengthening or weakening of connections as a result of its consequences.*

(Knowles et al. 2005, p.25)

Within these one can appreciate the importance attributed to the learning environment, repetitious learning and a reward / punishment system for appropriate behaviour.

In contrast to behaviourism is the notion of insight learning within the gestalt German theorists of the early twentieth century: Wertheimer, Koffka, and Kohler. According to Knowles, their work can be summarised as four laws which explain how the learner organises their personal, perceptual field:-

1. *The law of proximity, where the parts of a stimulus pattern that are close together or near each other (in time and space) tend to be perceived in groups.*

2. *The law of similarity and familiarity, where objects similar in form, shape, colour, or size tend to be grouped in perception; familiarity with an object facilitates the establishing of a figure-ground pattern. (Related to this law is the gestaltists' view of memory as the persistence of traces in the brain that allows a carryover from previous to present experiences.)*

3. *The law of closure, where learners try to achieve a satisfying endstate of equilibrium; incomplete shapes, missing parts, and gaps in information are filled in by the perceiver.*

4. *The law of continuation. Organization in perception tends to occur in such a manner that a straight line appears to continue as a straight line, a part circle as a circle, and a three-sided square as a complete square.*

(Knowles et al. 2005, p.29 précis)

It is possible that these gestalt laws can relate to the professional stereotypes within IPE: Humans like to categorise people within certain settings, putting them into 'boxes' which feel comfortable, filling-in gaps of knowledge with assumptions (not necessarily correct) which complete the pattern. Professional stereotypes may be encompassed within Meaning Perspectives: *'a habitual set of expectations that constitutes an orientating frame of reference (Mezirow 1991, p.42)'.* These may be acquired uncritically from experience and may be limited, distorted and arbitrarily selective. Transformative adult learning theory suggests they may be re-interpreted through critical self-reflection, with the educator bringing conventional learners *'to define and elaborate all the factors that sustain their unquestioned meaning perspectives' (Mezirow 1991, p.218)'.*

The difference in the approach to learners, between pedagogy and andragogy, is accompanied by change to the role of teachers in the learning-teaching relationship:

> *Teachers can no longer see their role as primarily as transmitters of knowledge, attitudes and skills. Their role is now defined as facilitators and resources in the process of self-directed inquiry by the learners (Knowles 1980, p.156).*

Knowles recognised that this facilitator role is one that few lecturers are familiar with, with a natural inclination to teach as they have been taught according to the principles of pedagogy. That IPE can *'take facilitators outside of their disciplinary comfort zone'* was also reported by staff facilitating a Common Learning Unit at London South Bank University (Forte and Fowler 2009).

Pre-registration education versus post-registration training

There are debates on when is the most 'effective' time to implement IPE within educational and clinical organisations (Reeves et al. 2007a), either before or after graduation of the health and social care students.

In favour of post-qualification IPE, professionals have a strong sense of professional identity, their own culture and norms. These can be incorporated within Continuous Professional Development (CPD) courses with a focus on service improvement (Wilcock and Janes 2009), relating directly to practice. NHS reforms support such life-long learning of staff and require ongoing CPD as part of re-registration (Department of Health 2001a). However, as Hayes concludes with regards to multi-disciplinary approaches for management of the lower limb with diabetes:-

> *Parameters of professional practice mean that, as healthcare professionals, we are all still often territorial and insular regarding our own designated fields of clinical practice, where self-promotion and promotion of our individual professions can often unknowingly supersede our will to improve patient centred care.*
>
> *(Hayes 2009, p.807).*

This exemplifies the 'silo approach' to healthcare, which IPE seeks to overcome through developing multi-professional collaboration (Allen et al. 2006).

Hean et al (2006b) found that students entering their first year of undergraduate professional training already have an established and consistent set of stereotypes about other health and social care professional groups. Hind *et al* (2003) found that if entry level students had a positive stereotype about themselves, they tended to view other groups favourably, and vice versa. They consider this may have been because the students also considered themselves as also belonging to larger groups such as 'first year students' and 'health care students', with limited contact thus far between the professional groups. Thus they suggest that teachers of IPE might capitalise on this potential by introducing active IPE at an early stage of professional education.

Interprofessional rivalry, tribalism and stereotypes are known to exist within healthcare professions and detract from effective health delivery. Therefore Mandy et al (2004) used the Health Teams Stereotype Scale to investigate undergraduate physiotherapy and podiatry students' stereotypes of each other's professions. Their opportunistic sample of 85 physiotherapy and 45 podiatry students found that both groups had prior stereotypical perceptions of each other, which were reinforced after a semester of interprofessional education. They considered the results support the Social Identity Theory, which explains intergroup discrimination and describes an interpersonal-intergroup continuum. The timing of IPE may be crucial to reducing such an effect. Nisbett et al (2008) had similar findings from their evaluation of final year students undergoing IPE in clinical placements, that challenges persist in overcoming pre-existing role stereotypes.

The New Generation project delivers IPE to 1,200 IPE health and social care students. Hean et al (2006a) published detailed figures about the stereotypical views of their entry-level students for 10 different health and social care professions, with each mean rating represented by nearly 300 students (except for nurses, which were rated by only 154 students). The figure below adapts the published data and line drawing comparisons, retaining a subset of data relating to nurses, doctors and podiatrists and re-sequencing the x axis to more closely reflect underpinning social and rational philosophies (the originating Student Stereotype Rating Questionnaire having a more random sequence):-

Figure 4: Stereotypical views of nurses, doctors and podiatrists
(Hean et al. 2006a, adapted)
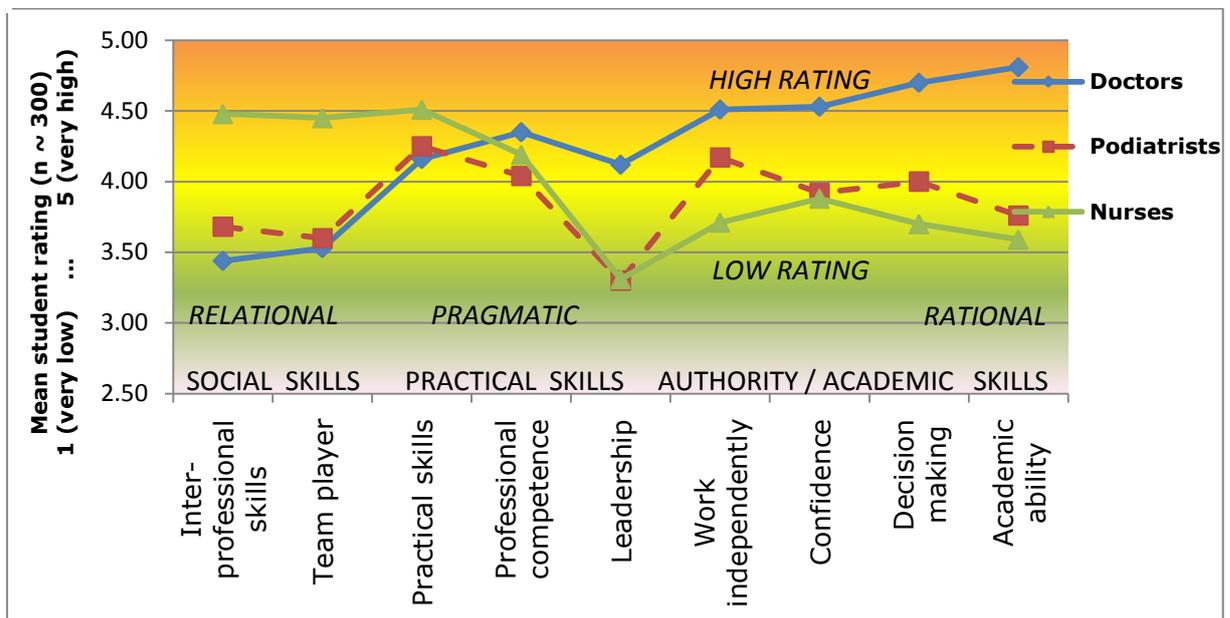
The research demonstrated that the profiles for occupational therapists, physiotherapists, podiatrists, radiographers and audiologists are remarkably similar, with relatively high ratings for professional competence, independent workings and practical skills, and low ratings for leadership skills. Pharmacists and doctors were perceived as having very similar characteristics, as were social workers, midwives and nurses. Podiatry is somewhere between, but not mid-way! All three professions above receive a medium rating for their practical skills. With regards academic ability, confidence and leadership, podiatrists and nurses are both viewed with relatively low ratings. With regards to working independently, podiatrists score more highly, as do doctors. However, podiatrists also have the same low rating as doctors for inter-professional and team-working skills.

Coster et al (2008) reported at the end of a four year longitudinal study to measure readiness for IPE, amongst eight health professions (social work and podiatry students were omitted), totalling 1683 responses. Their findings support introducing IPE at the start of the healthcare students' professional education. This capitalises on students' readiness for interprofessional learning and professional identities, which appear to be well formed from the start. However, the study also suggests that students who enter with negative attitudes towards IPE may gain the least from IPE courses and that an unrewarding experience of such courses may further reinforce their negative attitudes.

2.4   CRITICAL REFLECTION

This section looks in detail at one aspect of adult education, which applies in varying degrees to most healthcare professions, that of critical reflective thinking.

John Dewey (1933) is widely considered to be the originator of the concept of reflective thinking (Kember and Leung 2000) and reflection on experience (Burns and Bulman 2000), which he described as:

> *The active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends (Dewey 1998, p.9).*

Dewey's application of reflection was to classroom recitation, an outdated concept encompassing 'learning by rote'. He saw the attitude of childhood as naive, wondering and experimental, which right methods of education should seek to preserve and perfect. He regarded experiment as the chief resource in scientific reasoning, because it facilitates the picking out of significant (often minor) elements in a gross, vague whole. Thus he was against the idea of treating the mind as if it were a cistern, mechanically filling it with knowledge and pumping it out again through recitation. Such actions he regarded as putting a premium on the passivity of the mind, dulling curiosity, generating mind-wandering and causing learning to be a task rather than a delight.

Schön (1983) introduces Technical Rationality as *a Positivist epistemology of practice,* epistemology being the study of the nature of knowledge and positivism being an influential 19th Century philosophical doctrine. He summarises this modern 'scientific approach' as one which assumes there is a single technical solution to any problem, when full and accurate details can be obtained, in order to apply the correct solution. However, he considers that this view is too narrow for the modern professions, which often have to balance complex and sometimes contradictory information to decide upon a course of action. Within the professions, the dilemma of rigor or relevance comes to the fore, since Technical Rationality does not encompass the setting of the problem to be addressed. Thus Schön develops his approach to framing problems and subsequent reflective practice for professionals.

Technical Rationality is embedded within the recognised professions of our society. Schön (1983) cites Glazer's version of the model of technical rationality (Glazer 1974, p.346 - 349), where the *major professions* such as medicine and law are disciplined by an unambiguous end, such as health, success in litigation or profit. They operate in stable institutional contexts, grounded in systematic, fundamental knowledge. In contrast, Glazer's *minor professions* include social work, education and divinity. They

suffer from shifting, ambiguous ends and from unstable institutional contexts of practice, therefore are unable to develop a base of systematic professional knowledge.   An example of this are the newsworthy debates on whether synthetic phonics are the best, or even the only way to teach reading to initial readers (Johnston and Watson 2004).

Technical Rationality is embedded within higher education institutions.   Schön declares that this is illustrated by the separation and exchange of research and practice: The professions formulate practical problems to be solved, which are passed to the universities, the unique source of research. In summarising Schein (1973), he declares that the application of basic science [by the universities] yields applied science; Applied science yields diagnostic and problem-solving techniques which are applied in turn to delivery of services [by the professions]. This has implications for normative university curriculum, where 'real knowledge' lies in the theories and techniques of basic and applied science, which comes first. Practical or clinical 'skills' in the use of theory and technique to solve concrete problems comes later, since they are a more ambiguous secondary kind of knowledge, often referred to as 'wisdom', intuition' or 'artistry'. However, in his contrast of basic and pure research, Stokes (1997) advocates a revised dynamic model, which starts with existing understanding and technology at the bottom, moving upwards to improved understanding and technology at the top by means of pure basic research or pure applied research and development, respectively.

Handy (1994) claims that some of the professional terms and categories developed from a reductionist philosophy and the culture of technical rationality that it produced have now outlived their usefulness. Pietroni (1995) suggests that singular professional roles and identities are becoming less common since they too relate to specific tasks or fields of activity that were constructed at a time when services were broken down into smaller and smaller parts. She argues that it is becoming clearer that generalist professionals, such as fund-holding general practitioners and senior social services managers have to contribute more to local inter-agency policy-making, away from reductionist philosophies and towards more holistic or integrative ways of thinking. This might be considered as a basis for role-sharing within IPE. This change in direction is supported by the report on Education by the Organisation for Economic Co-operation and Development (OECD 2006). This highlights the increasing diversity of learners, differentiated competencies and available providers for tertiary-level, life-long learning. The learners (and their families and employers) are more sophisticated and demanding, encouraging institutions collectively to fulfil multiple missions, including social cohesion and growth.

Whilst Technical Rationality views the whole of professional practice as the process of *problem solving* (Schön 1983, p.39), Schön declares that there is no attention being given to *problem setting*, the process by which professional convert complex, ambiguous

everyday situations into manageable decisions to be made, ends to be achieved and the means which may be chosen. Technical Rationality requires fixed, clear and agreed ends, yet professional practice provides confused and conflicting ends, with conflicting paradigms of professional practice (p.41). For Technical Rationality, the problem to be solved has not even reached the point of being defined. It is by naming and framing that the professional creates the conditions necessary to exercise technical expertise.

Schön (1987) uses two cases, to demonstrate the structure of reflection-in-action, his response to the inherent limitations of Technical Rationality. One case (ch.3) is the discourse between a student of architecture and her supervisor, when discussing a particularly problematic site for a new school. The second case (ch.4) is that of a third year resident psychologist discussing a problematic patient with her supervisor, there also being a perceived communication barrier between supervisor and student. In both cases the problem is treated as unique by the supervisor, thereby preventing simple application of general rules for its resolution. The supervisor re-frames the problem in the light of bringing a repertoire of past examples, images, understanding and actions to bear. It is an ability to see-as and do-as previous situations which enables a feel for problems that do not fit existing rules. On-the-spot exploratory, move-testing and hypothesis-testing experiments strive to make the situation conform to his view of it, while at the same time remaining open to the evidence of his failure to do so. If he ignores its resistance to change, he falls into mere self-fulfilling prophesy. He must learn by reflection on the situation's resistance that his hypothesis in inadequate and in what way, or that his framing is inadequate and in what way (p.153).

There is a difference in the experimental rigour associated with Technical Rationality and that of experimenting in practice. In the former, there is deliberate isolation of the researcher's bias and interests, along with the control of confounding variables in order to attain objectivity (p.144). However, the practitioner has an interest in transforming the situation from what is, to something he likes better. There is also an interest in understanding the situation, but it is subservient to the change (p.147). The practitioner is usually unable to shield his experiments from the client and such experiments are not without risk of confusing or alienating the client.

The supervisors also demonstrated their use of virtual worlds as contexts for experiment, in which practitioners can suspend or control some of the everyday impediments to rigorous reflection-in-action (p.162). Practice in the construction, maintenance and use of virtual worlds develops the capacity for reflection-in-action which we call artistry.

In summary, Schön draws out the technical assumptions held within applied sciences and highlights their limitations within the minor professions, for some life situations that may be encountered by health as social care professionals. Schön identifies reflection-on-

action as retrospective, and develops the concept of reflection-in-action as a means to of framing and re-framing. This uses a repertoire of past examples, images, understanding and actions to make sense of the confusing, everyday situations as they are encountered, to recognise something of the familiar within the unfamiliar.

2.5 IPE WITHIN HIGHER EDUCATION

In drawing upon theory provided by Knowles (1975), Kolb (1984), Lave & Wenger (1991) and Brookfield (1986), Barr et al describe various approaches to IPE (percentages being from the 107 'quality' studies encountered, indicating relative frequency):-

> *Exchange-based 52%, with narrative based sharing of good experiences, also seminar discussions*

> *Action-based 14%, either problem-based learning (PBL)* (World Health Organization 1988) *or enquiry-based learning*

> *Practice-based 20% method or setting (out-placement, linked learning, joint placement, training wards)*

> *Simulation-based 8% (role play)*

> *Observation-based 7% (shadowing worker or fellow student from another profession) (Guest et al. 2002)*

> *E-based 1% compliments and reinforces face-to-face teaching*

> *Received (didactic) learning 39%, which alone does not qualify as IPE*

(Barr et al. 2005)

Thus the Andragogal foundation to IPE results in a diverse implementation approaches. Each has its own background and theoretical basis, which informs its objectives and assessment methods.

Knowles foundation for Adult Learning has already been highlighted. Barr (2002) refers to Knowles' earlier work (Knowles 1975) as highlighting the intrinsic motivation of adults when knowledge has direct and early application to practice, learning more effectively when using task-centred and problem-based approaches.

Kolb's early work on learning styles and professional differences (Kolb 1981) led to the development of the Learning Styles Inventory and through a form of factor analysis, to develop the characteristics of four learning styles: the Converger, the Diverger, the Assimilator and the Accommodator. This supported earlier work of Biglan (1973) with his hard-soft and pure-applied dimensions classifying academic disciplines. Kolb developed this into the Experiential Learning Cycle (Kolb 1984), which starts with a concrete experience, resulting in reflective observation, causing abstract conceptualisation which triggers active experimentation, which may lead to a fresh experience. Such cyclical

approaches involving elements of experience, critical reflection and active learning continue to be used, with its emphasis on leaning from and through experience and on reflecting on such experiences (Freeth et al. 2005).

Lave and Wenger (1991) developed a theory of situated learning, based upon the apprentice system where the students learnt their craft from the master over a number of years. Knowledge is situated in the community of practice, rather than in texts, with the student being initially on the periphery looking-in, before gradually becoming more involved in the community. Day (2006) summarises situated learning as recognising that knowledge is embedded within the context in which it is used, with participants negotiating meaning with one another, with learning taking place from participating in 'real' activities, thereby developing a shared understanding and a sense of belonging.

Brookfield (1986) refers to 'collaborative spirit' as most often cited as the difference between school education and adult education (where formal accreditation or qualification is not the aim), where there is a collaboration in the assessment of needs, generating objectives, methods of learning, for posing questions, suggesting priorities and in group processes.

Group and Contact theories

As knowledgeable adults, IPE values the student's prior experience and seeks to engage them in interactive activity. Thus it employs small group teaching techniques, with opportunities for participants to listen, reflect, speak and be heard (Freeth et al. 2005).

Hean and Dickinson (2005) attribute the Contact Hypothesis to Allport (1979), looking at the origins of inter-group prejudice (negative stereotypes in IPE parlance). In order to reduce hostility between groups, Allport proposed that the groups should be brought together. However, simple contact is not enough – certain conditions must also be met to ensure the contact hypothesis works successfully and increases positive attitudes between individuals. Hewstone and Brown (1986) list the conditions as including: institutional support, equal status of participants, positive expectations, a co-operative atmosphere, successful joint work, a concern for and understanding of differences and similarities, and a perception that members of the other group are typical. This is one of several Social Identity Theories they considered, highlighting interactions between the in-group of which the participant is a member, and the out-groups or others. Hewstone and Brown suggest that there may be some virtue in keeping the ingroup-outgroup division at least minimally salient, whilst maintaining Allport's conditions for successful contact, since contact may take place at an intergroup rather than an interpersonal level, between people acting as group representatives.

Kelly (1966) proposed Personal Construct Theory as a notion about how an individual may transcend their own dogmas (perhaps professional stereotypes in an IPE context). This psychological theory leaves behind inherent assumptions about the universe or accumulating fragments of truth, which he denigrates as *'accumulative fragmentalism',* in favour of a philosophical position he called *'constructive alternativism'.* This stresses the importance of events upon which an individual proposes what the character of their importance shall be. With this assumption comes the idea that all facts (accessed through events) may be construed in many different ways, by different individuals, at different times. The meaning ascribed to an event is anchored in what came before and after, mainly displayed in the dimension of time. Thus Kelly asserts:-

> *A person's processes are psychologically channelized by the ways in which he anticipates events (Kelly 1966, p.9).*

In attempting to make sense and add meaning to a situation, individuals anticipate outcomes and look to events to confirm predictions and encourage venturesome constructions. This encouragement to playfully experiment with new constructs and understandings is echoed in Kolb's Experiential Learning Cycle (Kolb 1984), nearly twenty years later. Kelly elucidates that a person's processes may express personality; that channelizing represents the provision of direction; and that ways of anticipating events cuts free from the stimulus-response version of nineteenth century determinism.

Events are not the source of a construct, the source is within the nature of the person doing the construing. Constructs are imposed upon events, not distilled from them, an abstraction which Kelly derives from his constructive alternativism. Also, constructs need not be explicit or articulate or cognitive, they may be to do with feelings and more formless urges, such as seen in infants with spontaneous aversions and infatuations.

Reeves et al (2007b) consider such theories generated from personal constructions as implicit, sometimes termed 'armchair' or 'guru' theories. However, Knowles (2005) views individuals who accept such psychological constructs as tending to emphasise the significance of experience in facilitating or inhibiting the course of development, rather than the effect of training as the source of development. Thus it may be argued that a particular learning activity may not be the most important aspect of IPE, instead the personal contact and the experience of doing something together with representatives from different professions is preeminent.

A further aspect of groups of differing professions was explored by Miller *et al* (2001). Reporting on six case studies of interdisciplinary teams, from neuro-rehabilitation, medicine, child development assessment, diabetes, general practice and community mental health, they found that some teams worked more closely than others. Analysis of

their data used three forms of multidisciplinary working: *integrated, fragmented and core and periphery (Miller et al. 2001, p.46)*.

The neuro-rehabilitation team was the only one to demonstrate integrated working as a function of the whole team, with the highest degree of collaborative working within a stable and predictable organisational context, enabling the professionals to plan their work and develop knowledge about both their fellow team members and about their patients. However, whilst this may seem to be an effective way of consistently providing benefits to patients, they consider that setting this up as a 'yardstick' of multi-professional working for students to aspire to in their clinical experience may be limiting and ultimately demoralising. Rather, *it may be more useful for students to reflect on the nature of the context in which they are working, and how this might impact on multi-professional teamwork (Miller et al. 2001, p.46)*.

IPE course evaluation

Kirkpatrick *(1976)* describes four levels of Learning Outcomes, applicable to IPE:-

1. **Reaction**: the students' feelings about the subject (optional comments), feelings about the leader (optional comments), benefits gained (knowledge, pertinent approaches / techniques and attitude change) and suggestions on improvements. Sometimes it is also useful to obtain the reaction of the co-ordinator, training director or other trained observer with regards to the leader's preparation and conduction of the training, with additional constructive comments.

2. **Learning:** The evaluation of learning is more difficult than evaluation of reaction. Preferably for each student, before and after training with an objective basis, with possible using a control group and statistical analysis to prove correlation or level of confidence. Assessments of skill may be made by individual classroom demonstration. Assessment of principles and facts may be tested through written standard tests, at periodic intervals (or an end of course examination).

3. **Behaviour:** There may be a big difference between knowing principles and techniques and using them on the job, since students must be self-motivated to change and have opportunity to try new approaches. Evaluation of training programmes in terms of behavioural changes requires 1) Systematic appraisal before-and-after. 2) Appraisal by one and preferably more: the person receiving training; the person's supervisor; the person's subordinates; the person's peers who are familiar with their performance. 3) Statistical analysis should be made to compare before and after and relate to the training programme [objective, trying to avoid bias]

4) Post-training, three or more months later to add validity to the study. 5) A control group not receiving the training should be used.

4. **Results:** Some training objectives are easy to evaluate, such as before-and-after (or against a control group), such as about industrial accident reporting or postal delivery performance. However, with other situations there are so many confounding factors that it is impossible (hence reliance on the above three steps).

Kirkpatrick suggests that by breaking evaluation down into reaction, learning, behaviour and results the educator can progress from a simple subjective reaction sheet to a research design measuring tangible results (Kirkpatrick 1976). In their review of IPE evidence over the preceding eight years Barr et al (2005) developed Kirkpatrick's outcomes to become: *learner reaction, acquisition of learning, behavioural change and changes in organisational practice* and then extended them within the IPE Joint Evaluation Team (JET) evaluation to become:-

Figure 5: The JET six point development of Kirkpatrick's training outcomes

1	*Reaction to learning experience*
2a	*Modification of attitude*
2b	*Acquisition of knowledge & skills linked to interprofessional collaboration*
3	*Behavioural change*
4a	*Change in organisational practice*
4b	*Benefits to patients*

They found that college-led (undergraduate) IPE tended towards 1, 2a and 2b and 3 whilst service-led (post-qualification, CPD) training tended towards 3, 4a and 4b. Note the overlap on behavioural change between the two, at a time of critical transition from student to practitioner. The level and continuity of institutional support for IPE objectives can thus have a marked effect upon the end results of IPE, of improved patient care.

2.6 STAKEHOLDERS AND DRIVERS BEHIND IPE

This final section seeks to identify the stakeholders, beneficiaries and participants of IPE in health and social care, in order to distinguish the associated policies, motivations, intended benefits and concerns about inter-professional health professions. The aims of IPE are implicit within the aims and objectives of various regulatory bodies and government agencies, which together dictate the health and social care student

curriculum and its outworking in practice.   A number of these organisations are considered and how they may relate to and direct IPE endeavours.

Within education, the standards, syllabi, materials and evaluative criteria may be externally defined according to local or national governmental regulations and requirements. Within the UK this includes:-

- The Quality Assurance Agency (www.qaa.ac.uk) with its benchmark statements for academic standards within the Allied Health Professions (AHPs).

- Regulatory bodies such as the Health Professions Council (www.hpc-uk.org) with its influence of protected titles, formal registration and requirement for post-qualification CPD for 13 healthcare professions; also the General Medical Council (www.gmc-uk.org) for doctors and medical students, and the Nursing and Midwifery Council (www.nmc-uk.org).

- The UK's Higher Education Authority (HEA) with its support of IPE research.

- Professional bodies Society of Chiropodists and Podiatrists (www.feetforlife.org).

These are explored in further detail below.

The Quality Assurance Agency (QAA)

The QAA was established in 1997 to provide an integrated quality assurance service for UK higher education, the Agency being an independent body funded by subscriptions from universities and colleges of higher education (QAA 2003). There are over 180 universities and colleges of higher education in the UK. They are autonomous bodies and are not owned by the state. However, most are entirely reliant on government funding through Higher Education Funding Councils (HEFC).

Since 1992, UK universities have acquired their powers to award degrees from the Privy Council, which acts on the advice of Government (QAA 2003). Each has its own internal procedures for attaining appropriate standards and responsibility for assuring and enhancing the quality of its provision, through the assessment of students and through their procedures for the design, approval, monitoring and review of programmes.

The QAA's responsibility is to safeguard the public interest in sound standards of higher education qualifications, and to encourage continuous improvement in the management of the quality of higher education (QAA 2003). This is achieved by reviewing academic standards and quality, and providing nationally agreed reference points that help to define clear and explicit standards. These reference points became sixteen subject-specific benchmark statements encompassing the healthcare professions, including

Podiatry (QAA 2001c), Occupational Therapy (QAA 2001b), Radiography (QAA 2001d) and Nursing (QAA 2001a). Whilst these benchmarks were developed independently, it became apparent to the QAA that there were features common to each subject area and potential areas of overlap among the statements. Accordingly, a framework was included in each benchmark in order to illustrate on one hand, the shared context upon which the education and training of health care staff rests and, on the other, the unique professional context within which programmes are organised. The common framework was published separately (QAA 2001e) as statements of common purpose, underpinning trends towards increasingly integrated service delivery as well as interprofessional education and training; also to inform where meaningful interprofessional education might occur across the health and social care professions (QAA 2006). The QAA see the challenge as not subsuming one discipline or professional activity into another, but integrating perspectives in a manner that maximises the synergies and distinctive contributions of each.

The following extracts from the statement of common purpose are intended for all health and social care professions, associated with subject-specific benchmark statements. They illustrate the QAA's aims for IPE [with associated IPE annotations by the author]:-

With regards clients' and patients' right to be involved in decisions about their health and social care:

- *provide information about clients' and patients' health and social care options in a manner in which the clients and patients can understand* [patient-centred care]
- *enable clients and patients to make informed choices about care, including cases where those choices may result in adverse outcomes for the individual*

With regards cooperation and collaboration with colleagues, health and social care staff should be able to:

- *respect and encourage the skills and contributions which colleagues in both their own profession and other professions bring to the care of clients and patients*
- *within their work environment, support colleagues to develop their professional knowledge, skills and performance*
- *not require colleagues to take on responsibilities that are beyond their level of knowledge, skills and experience*

With regards identification and assessment of health and social care needs, health and social care staff should be able to:

- *communicate their evaluations effectively to their clients, patients and other members of the health and social care team* [communications skills]

With regards implementation of health and social care plans:

- *use opportunities provided by practice to educate others* [agents of change]

With regards evaluation of the health and social care plans implemented:

- *learn from the experience to improve their future practice* [reflective practice]

- *participate in audit and other quality assurance procedures to contribute to effective risk management and good clinical governance* [improve quality]
- *use the outcomes of evaluation to develop health and social care policy and practice* [an agent for change]

With regards communication:

- *make active, effective and purposeful contact with individuals and organisations utilising appropriate means such as verbal, paper-based and electronic communication* [communication skills]
- *build and sustain relationships with individuals, groups and organisations*
- *work with others to effect positive change and deliver professional and service accountability* [an agent for change, meeting targets]
- *Knowledge and understanding for health and social care research and evidence-based concepts and explanations from law, psychology, social policy and sociology* [making use of other professional cultures]

(QAA 2001e)

Thus across all health and social care professions the QAA require a patient-centred approach with informed choice, respecting the skills and contributions from their own and from other professions. In addition, the QAA Benchmark statement for podiatry makes the following referrals to IPE (QAA 2001c):-

The statement acknowledges the need to put the prospective client/patient at the centre of the student's learning experience and to promote within that experience the importance of team-working and cross-professional collaboration and communication. Implicit in the statement are the opportunities that exist for shared learning across professional boundaries, particularly in the latter stages of training when inter-professional matters can be addressed most productively. It is essential that the opportunities that exist for shared learning in practice are optimised, as well as best use being made of similar opportunities that prevail more obviously in classroom-based activities...

A2 Professional relationships. The award holder should be able to:

- *participate effectively in inter-professional and multi-agency approaches to health and social care where appropriate;*
- *recognise professional scope of practice and make referrals where appropriate;*
- *work, where appropriate, with other health and social care professionals and support staff and patients/clients/carers to maximise health outcomes;*
- *maintain relationships with patients/clients/carers that are culturally sensitive and respect their rights and special needs.*

(QAA 2001c)

It supports the client / patient focus of IPE (including cultural background), going beyond referrals to working with other health and social care professionals. All institutions are required to promote team working, cross-professional collaboration and communication. Implicit and not prescribed, is the requirement to optimise opportunities for shared learning across professional boundaries, within the classroom and in practice.

The UK's Higher Education Authority and CETLs

The Higher Education Authority (HEA) www.heacademy.ac.uk is based in York and began its work in 2004, its declared mission: *'to help institutions, discipline groups and all staff to provide the best possible learning experience for their students' (Higher Education Authority 2005, Higher Education Authority 2008)*.

It regards its key stakeholders to be the higher education institutions, staff who support student learning, and national organisations. Its aims and objectives include becoming a credible provider of strategic policy advice and establishing relationships with key stakeholder bodies, advising and influencing public policy related to the student learning experience (Higher Education Authority 2005). The HEA's Interprofessional Education and Practice Position Paper (Higher Education Authority 2006) indicates its association with the staff and student experience of IPE; also with 'The Network – Towards Unity for Health' – which is a None Governmental Organisation relating to the World Health Organisation.

The Higher Education Funding Council for England (HEFCE) funds student places to the sum of £4,758 million and funds university research to £ 1,583 million (Higher Education Funding Council for England 2009). It works with partners to promote and fund high-quality, cost effective teaching and research. Resultant from a consultation (Higher Education Funding Council for England 2003) and associated with the government's white paper on the future of higher education (Department of Education and Skills 2003), its Centres for Excellence in Teaching and Learning (CETL) initiative aims to reward excellent teaching practice and to further invest in that practice.

The HEA provided networking days and support for bid development of the CETLs, involved with generic and thematic learning issues (Higher Education Authority 2009). Over forty of the proposal reaching the last stages had involvement with health and/or social care, and most of these involved students across different disciplines and inter-disciplinary or interprofessional learning. Within Appendix A: Literature Findings the figure HEFCE sponsored CETLs 2005 – 2010 associated with IPE indicates ten CETLs which have IPE content. Each has a different focus and uses different tools to develop teaching and learning (Higher Education Funding Council for England 2005).

In addition there are numerous local projects designed to transfer interprofessional learning to the workplace, for example the Centre of Inter-Agency and Interprofessional Partnerships set-up at the University of Derby in 2006 (Meads et al. 2009). Amongst its initiatives have been developments of generic assistant practitioners trained at the university to work across health and social care settings.

The UK's Centre for the Advancement of IPE (CAIPE)

Founded in 1987, CAIPE at www.caipe.org.uk is an independent, charitable trust dedicated to the promotion and development of IPE (Horder 2003). In collaboration with like minded organisations in the UK and abroad, it provides information and advice and has a close association with the Journal of Interprofessional Care. The latter is the vehicle for worldwide dissemination of experience, policy, research evidence and theoretical and value perspectives (World Health Organization 2009).

CAIPE's first UK survey of IPE in health and social care was performed in 1988, repeated in 1995, with Professor Hugh Barr becoming its chair in 1999 (Horder 2003). A first systematic review registered with the Cochrane Collaboration was performed in 1999, seeking randomised controlled trials, controlled before-and-after studies and interrupted time series studies (Barr et al. 2005). This found no IPE studies meeting its narrow search criteria within Medline (1966-1998) or CINAHL (1982-1998) or grey literature. However, it laid the foundation for a second Cochrane review (Freeth et al. 2002) which accepted a wider definition of IPE, a wider range of methodologies and outcomes. This found 353 studies meeting the new inclusion criteria, with the Joint Evaluation Team (JET) extending the Kirkpatrick (1976) typology of educational outcomes to become:-

Figure 6: The JET classification of IPE outcomes (Freeth et al. 2002)

Level 1 - Reaction
Level 2a – Modification of attitudes / perceptions
Level 2b – Acquisition of knowledge / skills
Level 3 – Behavioural change
Level 4a – Change in organisational practice
Level 4b – Benefit to patients / clients

The first level encompasses learners' views on IPE learning experience, while level four looks to changes in practice to the benefit of patients or clients. This JET review became the start point for the Health Canada literature review (Oandasan et al. 2005) that developed their IECPCP framework (see next section). The JET review was also central to a series of three publications supported by CAIPE (Barr et al. 2005, Freeth et al. 2005, Meads et al. 2005).

In 2006 CAIPE re-issued its definition of IPE to include seven principles:-

1. *Works to improve the Quality of Care*
2. *Focuses on the needs of service users and carers*
3. *Involves service users and carers*
4. *Encourages professions to learn with, from and about each other*
5. *Respects the integrity and contribution of each profession*

6. *Enhances practice within professions*
7. *Increases professional satisfaction*

(CAIPE 2006a)

The first, sixth and seventh principles appear to be objectives of IPE: to improve care, to enhance professional practice and to increase satisfaction. The second, third and fifth principles may be construed as a means to the meet the objectives: an approach that includes all service users, all carers and all the professions.

The fourth principle is very much like the previous 2002 definition of IPE, describing a learning process between participant professions (with and from), and highlighting the knowledge required (about each other). However, from an epistemological perspective, the above principles give little detail about the knowledge that is to be imparted by IPE. The principles are accompanied by a commentary, with the fourth referencing common learning:

> *IPE is more than common learning, valuable though that is to introduce shared concepts, skills, language and perspectives that establish common ground for interprofessional practice. It is also comparative, collaborative and interactive…*
> *(CAIPE 2006a).*

Common Learning was introduced by NHS Plan reforms (Department of Health 2001a) as core skills for all health professionals, designed to allow easier transfer between future career pathways. This may explain why the commentary refers to Common Learning as establishing the common ground for interprofessional practice, introducing shared concepts, language and perspectives, as well as shared skills. However, the commentary is not prescriptive. For example:-

➢ What are the common concepts shared between the professions?

➢ What is the common language that is shared? For instance, are they to agree upon language such as whether they are 'treating' or 'working with'; what of the term patient, or client, or some other service user descriptor?

➢ What are the common perspectives, between the professions? A client focus, clearly, but what other areas of commonality are there between disparate professions?

Whilst the revised CAIPE commentary lauds Common Learning as valuable, it says that IPE goes beyond this sharing of common ground, to also be comparative, collaborative and interactive. The inter-professional education is also to be:

> *…a test-bed for interprofessional practice, taking into account respective roles and responsibilities, skills and knowledge, powers and duties, value systems and codes of conduct, opportunities and constraints. This cultivates mutual trust and respect,*

acknowledging differences, dispelling prejudice and rivalry and confronting misconceptions and stereotypes.

(CAIPE 2006a).

A test bed in this context may be deemed as a safe learning environment (for practitioner and public alike) (Knowles 1980). At this final level of detail, the CAIPE commentary reaches some tangible, perhaps measurable facets of learnt knowledge such as roles, responsibilities, skills etc. It also has less tangible objectives such as confronting stereotypes and acknowledging differences.

The UK's NHS, Department of Health and Strategic Health Authorities

Simpson (2009) draws together the National Health Service (NHS), represented by the Department of Health, and its modernisation through National Service Frameworks:-

> *Since 2000, healthcare delivery in England has been shaped by a continuous and comprehensive shift in NHS strategic development. The Department of Health (DH), led by an ambitious Government, has created significant changes in the way the NHS is organised and health care is delivered. Most of the changes, driven by legislation, have focused on the modernisation of services and the patient experience of health care. For example, a series of National Service Frameworks (NSF) were set up, enabling broad policy decisions to be made related to specific health issues, such as the NSF for Coronary Heart Disease, The NHS Cancer Plan and the NSF for Older People. Eleven core plans have shaped the way in which services are provided for specific groups of the UK population.*

(Simpson 2009)

In the UK the Strategic Health Authorities (SHAs) have a role for implementing government policy within the health and social care services, undergoing merger to just 10 SHAs nationally in 2006 (Forman 2005).

> *Interprofessional education (IPE) is being built into the mainstream of professional education for all health and social care professions throughout the United Kingdom (UK) driven by the Labour Government elected in 1997… The incoming government prioritized pre-qualifying IPE to be provided in partnership by universities and service agencies supported regionally by workforce development confederations, later absorbed into strategic health authorities (SHAs), and centrally by educational, professional and regulatory bodies.*

(Barr and Ross 2006)

The SHAs are instrumental in the re-configuration of the Primary Care Trusts (PCTs), in developing the Children's Agenda instigated by 'Every Child Matters' (Department for Education and Skills 2004), and for NHS Workforce Development. Forman (2005) considers these changes are impacting the NHS, in particular Acute Hospital Trusts, PCTs and Mental Health Trusts which are taking on board the shared agenda. They are looking at shared capabilities and also at the new roles and new workers being created.

Nursing and Midwifery Council

From their postal survey of 181 UK institutions teaching undergraduate IPE in 1999, Miller et al (1999) found a majority of 85 from 95 initiatives involving nursing and midwifery, (only 3 included podiatry). Their findings reported that, with the larger number of nurses involved, there was a danger of nursing issues dominating IPE. This detailed study was commissioned by the English National Board for Nursing, Midwifery and Health Visiting, later subsumed by the Nursing and Midwifery Council in 2002 (Privy Council 2002). This regulatory body continues to the current day, with the *principal functions of establishing from time to time standards of education, training, conduct and performance for nurses and midwives and to ensure the maintenance of those standards (The Stationery Office 2002)'*.

The Nursing and Midwifery Council encourages support for IPE for undergraduate students. For example the standards of proficiency for pre-registration nursing require that courses shall comprise a Common Foundation Programme (CFP) of twelve months and a branch programme of two years in adult nursing, mental health nursing, learning disabilities nursing or children's nursing. The programme should provide varied experiences, with introduction to the experiences of all four branches in the CFP to inform branch choice and in particular, students should be able to access interprofessional learning and working (Nursing & Midwifery Council 2004).

Podiatry and Chiropody Professional Bodies

Three professional bodies represent podiatry in the UK: The Society of Chiropodists and podiatrists www.feetforlife.org which develops NHS-qualified practitioners, the Institute of Chiropodists and Podiatrists www.inst-chiropodist.org.uk and the SMAE Institute www.smaeinstitute.co.uk which train and develop foot health practitioners. All three formed part of the government's consultation on the National Agenda, with a call from Bowen (2008) for all three to work together as one profession. A search of the Society of Chiropodists website found no specific reports or policies pertaining to IPE.

The Health Professions Council (HPC)

Within its strategy for the allied health professions (Department of Health 2000a), the Government refers to its arrangements for regulating the professions. Thus the HPC was formed www.hpc-uk.org as an independent regulator for the Allied Health Professions:

- *Replacing the Council for Professions Supplementary to Medicine and its uni-professional boards with a new, smaller UK-wide body, the Health Professions Council. The new body will have a strategic role in setting and monitoring*

> *standards, stronger powers for dealing with unfit practitioners, and a duty to treat patients' health and welfare as paramount;*
> - *Creating a unified and accessible register with an explicit link between re-registration and evidence of continuing professional development;*
> - *Providing protection of professional titles e.g. physiotherapist and podiatrist*
> *(Department of Health 2000a, 4.23)*

In exchange for protected titles and the 'professionalism' assigned to their members through removal of poorly trained practitioners, the health professions must be subjected to national registration and the monitoring of standards of proficiency (Health Professions Council 2002).

The HPC set an entry level requirement for entry to podiatry, occupational therapy, radiography and its other AHPs to be a bachelor degree with honours (Health Professions Council 2005a). Masters or certificates of higher education are required for entrants of some other professions such as Arts therapies and Paramedics. Within its consultative document for education providers (Health Professions Council 2006), the HPC recognises that inter-professional learning can develop students' capacity for collaboration and communication with other members of the health and social care team, which will foster effective working with others. However, this is only where inter-professional learning exists and is successful. Within its Standards of Proficiency for Podiatrists (Health Professions Council 2005b), inter-professional education is not specified.

Whilst the UK is a leader in IPE development, it is not acting in isolation. Other international forces influence the direction of IPE, of particular note being Health Canada and the World Health Organisation reviewed below.

Health Canada

Reeves (2008) suggests that the acute shortage of health professionals as well as patient safety concerns is raising high interest in interprofessional collaboration, at both the federal and provincial levels in Canada. Moaveni (2008) also indicates that access to a primary care provider is a major social accountability issue that health professional educators in Canada need to address, with interprofessional collaboration being seen as one of the solutions. Curran (2007) indicates that physicians are looking to team-based approaches to health care, to improve the working conditions of family physicians who are having to deal with growing numbers of patients with complex needs. The teams comprise various health care professionals working together to help the patient maintain and improve his or her health. For example, a nurse practitioner might undertake routine monitoring of a diabetic patient, with advice from a dietitian, and involvement of the physician when more specialized expertise is required. This resulted in Health Canada creating the Primary Health Care Transition Fund, which from 2002 to 2006

provided $800 million to provinces, territories and health care system stakeholders, to accelerate and implement new models of PHC delivery (Curran 2007) .

Development of the Interprofessional Education for Collaborative Patient-Centred Practice (IECPCP) model for Health Canada was started from two extensive IPE literature reviews (Oandasan and Reeves 2005a). The IECPCP framework establishes linkages between the determinants and processes of collaboration at several levels, including links among learners, teachers and professionals (micro level), links at the organizational level between teaching and health organizations (meso level) and links among systems such as political, socio-economic and cultural systems (macro level):-

Figure 7: The IECPCP framework (Oandasan and Reeves 2005b)
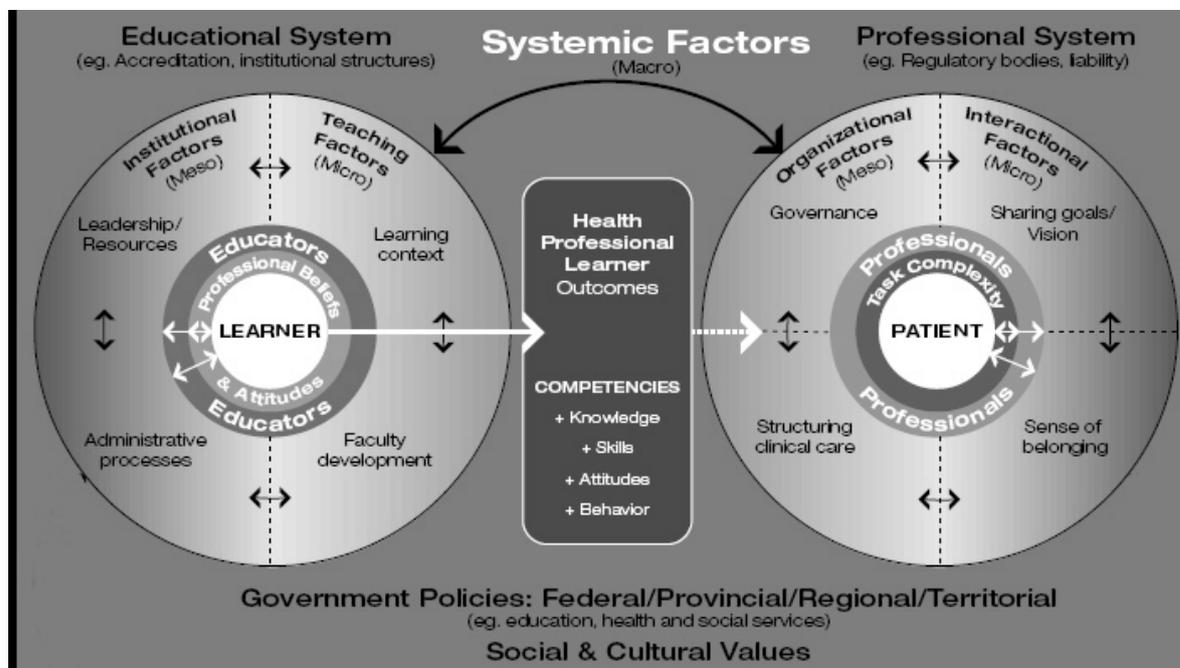
This framework attempts to link the student outcomes of IPE education to the patient outcomes of collaborative practice. As a learner, the student is affected by their own beliefs and attitudes and those of their educators and the supporting institutional factors. In parallel, the patient or client is affected by the complexity of their health and social care requirements, the professionals that they encounter and their supporting organisational factors. It is of note, that within the model the qualified learner does not only become a professional, but also becomes a part and influences the multi-professional organization and local team. Encompassing all of this are the systemic factors of government policy, regulation and the educational system. To translate the learner into the required collaborative professional, the model suggests that IPE should attain learner outcomes.

Bloom (1956) specified six levels of cognitive learning, with level 1 being the lowest order processes:

Figure 8: Bloom's Taxonomy of Learning Outcomes (Bloom et al. 1956, abridged)

6. *EVALUATION*	Judge the value of material for a given purpose
5. *SYNTHESIS*	Putting the parts together to form a new whole
4. *ANALYSIS*	Break material into component parts to understand
3. *APPLICATION*	Use learned material in new and concrete situations
2. *COMPREHENSION*	Grasp the meaning
1. *KNOWLEDGE*	Remembering of previously learned material

The IECPCP model suggests the outcomes may encompass competencies in certain knowledge, attitudes and behaviours. Knowledge about other professions: their client base, place of work and skill set may be attributed to the Knowledge level. Understanding one's own attitude and behaviour and those of other professions might reasonably be ascribed to the Comprehension level. Bloom's seminal work for Cognitive Learning continues to be referenced, for example to assist in writing effective learning outcomes (Academic Programmes Quality & Resources Unit 2009).

In his synthesis of research papers on behalf of Health Canada, Curran suggests a series of learner outcomes and competencies, which correspond to the IECPCP model:-

- Disciplinary articulation: since participants must understand each other's roles.
- Communication: geared towards helping team members from other disciplines arrive at an understanding of the "cognitive structure governing each discipline".
- Flexibility: encompassing open-mindedness, tolerance, willingness to experience new modes of interaction, acceptance of changes in authority and status, and a desire for challenge.
- Conflict Resolution and communication skills: to handle conflict situations that may arise in the course of teamwork.
- Group Skills and awareness of the different stages of team development.
- Leadership Skills and being prepared to undertake this leadership role in interdisciplinary teams. (Curran 2004).

Within this list there is an implicit expectation of small team conflict and equipping the students with a means to understand its origin, to handle the situations and provide leadership as required.

World Health Organisation (WHO)

Barr *et al.* consider that a 1988 report by the World Health Organisation entitled 'Learning to work together' (World Health Organization 1988) may have been the genesis of IPE, with its definitions of multi-professional education closely resembling those of CAIPE's interprofessional education (Barr et al. 2005).

One WHO perspective of IPE is that '*at a time when the world is facing a shortage of health workers, policymakers are looking for innovative strategies that can help them develop policy and programmes to bolster the global health workforce (World Health Organization 2009)'.* They consider that after almost fifty years of enquiry, there is sufficient evidence to indicate that effective IPE enables effective collaborative practice. WHO have sought the input of several international partner organisations to produce an updated Framework for Action, linking IPE to collaborative practice, including:-

- *The Canadian Interprofessional Health Collaborative (CIHC) which is advancing the evidence for their IECPCP framework*
- *The Australasian Interprofessional Practice and Education Network (AIPPEN)*
- *The European Interprofessional Education Network (EIPEN)*
- *The UK's CAIPE and the Journal for Interprofessional Care*
- *The Nordic Interprofessional network (NIPNet)*

(World Health Organization 2009, Annex 2)

The organisations supplied members for four study groups which developed various facets of the framework, the goal being to provide strategies and ideas to help health policy-makers implement the elements of IPE and collaborative practice that will be most beneficial in their own jurisdictions.

Figure 9: WHO Framework for Action (World Health Organization 2009, Fig.6)
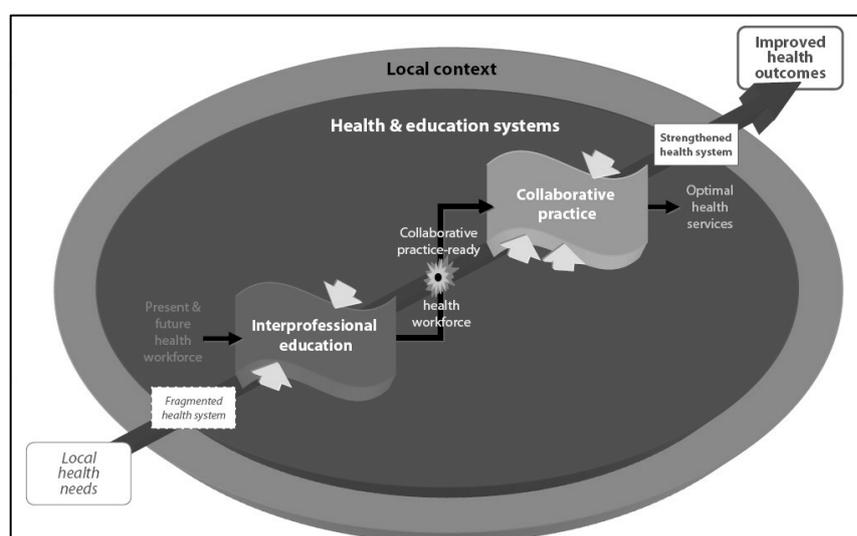
The framework is situated within local health needs and seeks to produce improved health outcomes within the local context and local health and education systems, reducing the fragmentation apparent in existing health systems. The proposed mechanism for change is through the development of the health workforce, both current and future (student) practitioners, to become a collaborative practice-ready workforce operating as part of a team within collaborative practice. Within the Framework for Action, the IPE component recognises many educator and curricular mechanisms that affect IPE:-

Figure 10: WHO framework for IPE (World Health Organization 2009, Fig.7)
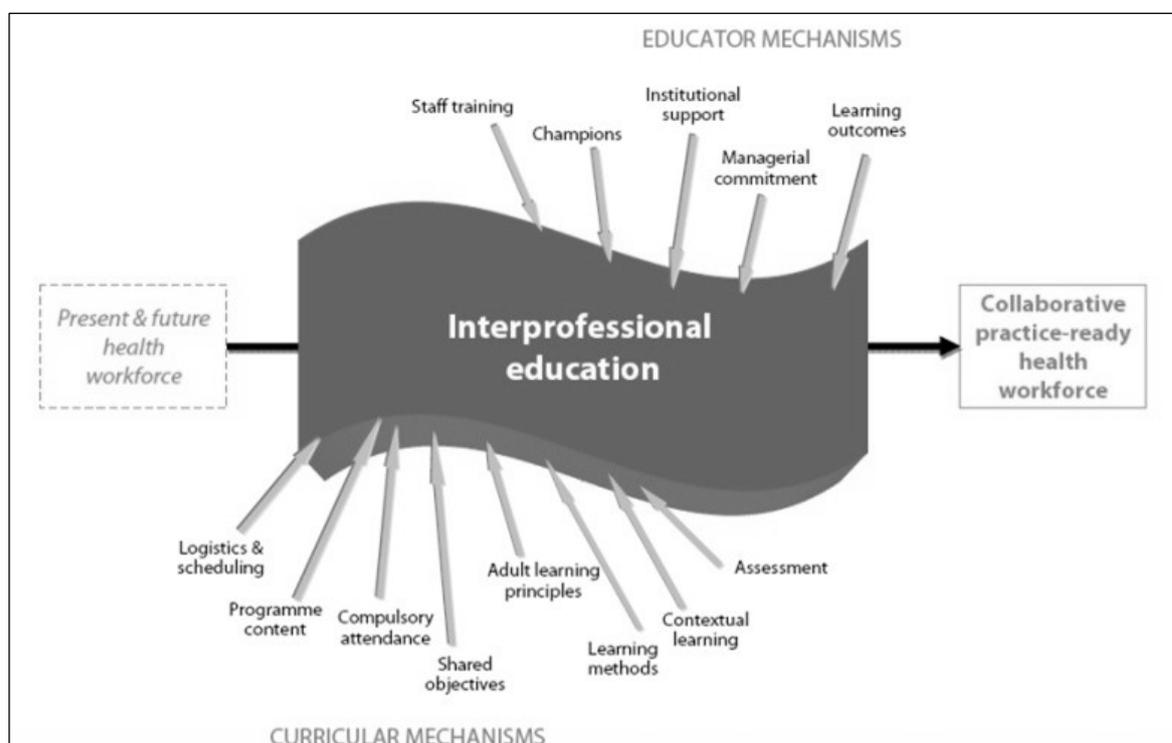
Sustaining IPE requires a champion who is responsible for coordinating educational activities and identifying barriers to progress, along with supportive institutional policies, managerial commitment and good communication amongst the participants. The framework suggests that careful preparation of IPE instructors is required for their role in developing, delivering and evaluating IPE. Suggested curricula mechanisms include principles of adult learning with interaction between the students*. 'Well-constructed learning outcomes assume students need to know: what to do (i.e. knowledge); how to apply their knowledge (i.e. skills); and when to apply their skills within an appropriate ethical framework using that knowledge (i.e. attitudes and behaviour) (World Health Organization 2009, p.25)'.*

In their international environmental scan of IPE practices, the WHO Study Group on IPE and Collaborative Practice received 396 responses to their descriptive questionnaire

between February and May 2008 (World Health Organization 2009). These individuals represented 42 countries from the six WHO regions, from a mix of practice (14%), administration (11%), education (50%) and research (12%). For most, student engagement in IPE was mainly at undergraduate level and was compulsory, normally delivered face-to-face and assessed in group situations.   IPE involves students from a broad range of disciplines:-

Figure 11: Learners receiving IPE (World Health Organization 2009, Fig.4)
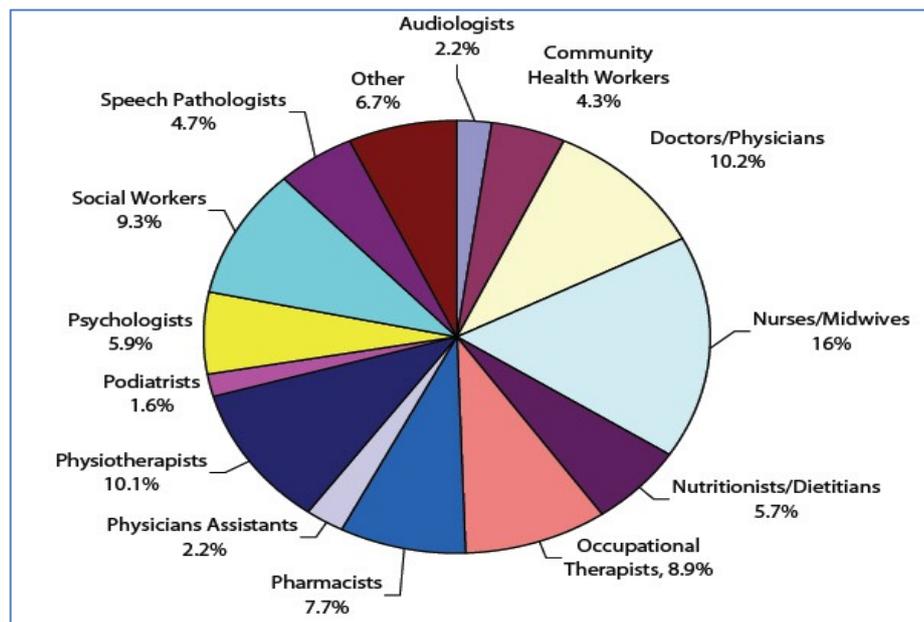
From the above it can be seen that podiatry students are included within 1.6% of the IPE endeavours, compared with 16% which include nurses and midwives, and 10% which include medical students. This further supports the idea that podiatry is a minority within the allied health professions.

Calls for sustainability

The Creating an Interprofessional Workforce (CIPW) framework (on behalf of the UK Department of Health) is aimed at those planning, delivering and evaluating IPE (CIPW 2007), and of special interest to those commissioning and developing programmes of IPE. It describes how strong leaders and IPE champions can play a vital role in sustaining a shift towards a collaborative culture and ways of working. Resultant from an evaluation of the CIPW programme (2004-08), Meads et al (2009) suggest a need for central policy-makers to take more account of enabling cultural influences when seeking sustainable change. Simpson (2009) comments that whilst CIPW provides the evidence to move the argument for IPE towards a formal agenda, the current central government focus on improving clinical care processes appears to place a low priority for IPE; until this changes, IPE sustainability will be difficult to achieve.

2.7   CHAPTER SUMMARY

This review acknowledges the range of theoretical positions that have variously been applied to IPE research over the past decade: from sociology, social psychology, adult learning, psychodynamic and organisational theory. In reviewing the development of professionalism and professionalisation within health and social care, Becher's viewpoint of the hard-applied and soft-applied sciences came to the fore, with each occupational culture developing its own values, beliefs, customs and behaviours (Becher 1994). These challenge the collaborative working required of teams of mixed professions.

Knowles is acknowledged for his seminal work in adult learning theory, found by Barr et al (2005) to relate explicitly to 12% of their 107 quality IPE studies, and implicitly to over 50%. Andragogy views the adult learner as self-directed, life-centred and goal-orientated, motivated to learn when its relevance is clear. These inform principles of voluntary participation, collaboration, mutual respect and critical reflection for effective facilitation of adult learning, as learners proceed through the four stages of Kolb's experiential learning cycle: a concrete experience, resulting in reflective observation, causing abstract conceptualisation which triggers active experimentation (Kolb 1984). Within IPE this may apply to professional stereotypes, such that transformative learning may encourage learners to elaborate upon factors that sustain their unquestioned meaning perspectives (Mezirow 1991).

Dewey is widely considered as the originator of reflective thinking concepts, seeking the careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it (Dewey 1998). Schön draws out the reductionist philosophy held within Technical Rationality and highlights their limitations within the minor professions within health and social care, where artistry and reflection-in-action may recognise the familiar encountered within the confusing, everyday situations met by many professionals (Schön 1983).

Within higher education, 20% of IPE was found to be practice-based by Barr et al (2005), but 50% was exchange-based with seminar discussions and the sharing of experiences. Allport's Contact Hypothesis is considered, with its origins of inter-group prejudice and the conditions required for successful increase in positive attitudes (Hean and Dickinson 2005). Kirkpatrick described four levels of learning outcome that might be applied to IPE (Kirkpatrick 1976), developed by JET to include reaction to the learning experience, attitude modification, knowledge and skills for inter-professional collaboration, behavioural change, organisational change and benefits to patients (Barr et al. 2005).

A broad range of advisory, regulatory, professional and teaching institutions is established, each having differing perspectives on the delivery of multi-professional

collaboration through IPE. WHO research encompass a wide range of medical, social and AHPs as involved with collaborative care, including podiatry in about 1½% of such endeavours (World Health Organization 2009). The HPC regulator and the professional bodies overseeing podiatry demonstrate limited commitment to IPE, but support it where it exists (Health Professions Council 2005b, Health Professions Council 2006).

The final literature search identifies three organisations which actively promote IPE: the World Health Organisation, Health Canada and the UK's NHS. They have complementary aims for IPE: to help overcome healthcare skill shortages and to address perceived shortfalls in patient care by multi-disciplinary teams. Two frameworks have been identified by the study, the IECPCP model developed for Health Canada (Oandasan and Reeves 2005b) and the Framework for Action (World Health Organization 2009). Both acknowledge the multi-factorial influences upon IPE, preparing the student for collaborative multi-professional practice.

Whilst the importance of IPE for medical, nursing and social work students is apparent, the involvement of podiatry students and its relevance to their everyday practice is less clear. Thus the experience and views of UK developers of IPE are considered in the following study, with attention given to podiatry's involvement in IPE. A second study then considers how final year podiatry students may perceive the IPE they undertake.

3 METHODOLOGY

Finlay (2006) describes Methodology as the '*overarching approach to research and encompasses both philosophy and methods...*' allowing selection from alternative philosophical or theoretical positions and deciding on what research methods to use (procedures to collect and analyse data). This chapter considers the approaches available to and being utilised by this research, giving consideration to their underlying theoretical backgrounds, their explicit and implicit assumptions and how these might influence the findings. Critical Rationality is utilised in Study 2 and the final discussions chapter, whilst Q Methodology is used in Study 3.

3.1   CRITICAL RATIONALITY

This section contrasts the philosophies behind the natural and the social sciences, drawing towards a conclusion that critical rationality was an appropriate, pragmatic approach for the researcher to take in this exploratory research.

Empiricism

From his stance of nearly a century ago, Dewey (1998) declared that many of our ordinary inferences are empirical in nature (thunder followed by lightening), that regular reinforcement leads the mind to expect that when one occurs the other will also, a form of positive belief. Over time this develops into a body of proverbs and maxims, forming an extensive section of traditional folklore. This does not include any understanding of why or how certain events are signs of things to come.

Giorgi (1995) similarly describes natural science as being traditionally developed on the basis of the thing as a model, supported by the logical-empirical (observable) philosophy.

A reliance of purely empirical thinking can lead to false beliefs, an inability to cope with the novel and also a tendency to engender mental inertia and dogmatism (Dewey 1998). This might relate to a more archaic definition of 'empirical' as *relating to medical quackery (Collins Dictionaries 2004)*, whereas the modern meaning includes *derivation or relating to experiment and observation rather than theory, or based on practical experience rather than scientific proof*.

Positivism and Post-positivism

Schön ascribes three principal doctrines to Auguste Compte, resulting in Positivism growing into a powerful philosophical doctrine in the 19th Century:-

1. *A conviction that empirical science was not just a form of knowledge, but the only source of positive knowledge*
2. *An intent to clear men's minds of mysticism, superstition and other forms of pseudo knowledge*
3. *Extending scientific knowledge and technical control to human society, to make technology 'no longer exclusively geometrical, mechanical or chemical, but also and primarily political and moral'*

(Schön 1983, p.31)

This was a social movement aimed at applying the achievements of science and technology to the well-being of mankind, as well as to purge mankind of the residues of religion, mysticism and metaphysics which still prevented scientific thought and technological practice from wholly ruling over the affairs of men (Schön 1983). He defines Technical Rationality as the *Positivist epistemology of practice*, where craft and artistry have no lasting place in rigorous practical knowledge. Central, are things which can be objectively (externally) tested, measured or observed by an impartial, external researcher (Finlay 2006). However, Schön rejected this approach as being too simplistic, as being incapable of handling the unexpected, the complex and confusing situations (Schön 1987), which may often be found in professional practice. Within an occasional paper on the development of critical reflection in the healthcare professions, Clouder concludes that dietetics, pharmacy and physiotherapy all acknowledge their positivistic and techno-rational roots, giving rise to assumptions that seem to inhibit acceptance of the more 'artistic', 'craft' or subjective aspects of practice (Tate and Sills 2004, ch.14).

Durning (1999) argues that that traditional policy analysts are directly influenced by positivism in their work, but that a growing number of scholars think this framework is mistaken and the effects of positivism on policy analysis are negative. Post-positivist scholars challenge the objectivist epistemology of positivism, stating their support for a subjectivist epistemology in which meaning is multiple and constructed. They reject the possibility of separating fact from value in analytic work and dispute the idea that analysts are objective and operate outside the systems and processes they study.

Interpretivism and Constructivism

Interpretivism contrasts with positivism, in that it draws attention to the way our perceptions and experiences are socially, culturally, historically and linguistically derived. The interpretivist researcher recognises that they are a part of the world they are studying, rather than external to it, with findings remaining provisional, partial and entirely dependent upon context produced (Finlay and Ballinger 2006). Thus one may argue that it is impossible to be objective, since the researcher's identity and standpoint fundamentally shape the research process and the findings. Examples of the Interpretivist paradigm encompass the blurred genres from the 1980's such as symbolic

interactionism and phenomenology (studying the lived experience); also constructionism and ethnomethodology (studying the tribe or social group) (Flick 2006).

Constructivism similarly emphasises social experience, with people actively constructing knowledge for themselves, according to emergent categories derived from social interaction, not from observation. Knowledge in the constructivist view is not 'out there', waiting to be discovered and once discovered, to be transmitted by a knowing teacher to an absorbent student (Biggs 1993). In this way, Biggs claims that constructivism subsumes many previous theories, such as those of the early cognitive psychologist Jean Piaget, whose theory at its simplest describes intelligence as being shaped by experience, not an innate internal characteristic but the product of an interaction between the person and his or her environment (Kolb 1984).

The 'scientific' approach

It is widely recognised that science's main claim to fame is that it has the means to establish irrefutable facts (Giorgi 1985), extending empiricism and building upon such solid facts, being most successful with the phenomenon of nature (natural science). Giorgi states that scientific knowledge includes the following characteristics:

1. *Systematic - different aspects can potentially be related to each other i.e. not chaotic*
2. *Methodical - there is a method of obtaining and analysing data between subjects*
3. *Critical - things are not accepted at face value, but are tested and challenged even in the process of analysis, with the steps noted and published to enable replication and public critique*
4. *General - whilst universality is desirable, most science only attains a degree of generalisability because of the many contextual or random factors which limit the application of the results*

(Giorgi 1995, p.26)

Thus the scientific approach assumes some form of logical connection between the things being studied, with these connections being capable of observation or measurement and analysis, in order to understand how the connections work so that they may be applied them in some more general fashion. Note also in the above, that context and random factors are being considered, since they may limit the universality of the understanding. To make findings more generally applicable, the scientific approach seeks to control the context and thereby limit the random factors which might confuse the findings. For a 'scientific thinker' subjectivity may be what remains of an individual's objective test performances after all sources of variance attributable to the common factors have been ruled out. Subjectivity is but idiosyncratic, random error, an accident. As such it is to some extent unreliable and uncorrelated with anything else, and as a consequence hardly seems an appropriate subject matter for scientific survey (Brown 1972).

Contrasting objective and subjective approaches

How the scientific approach is implemented varies between objects of knowledge, between those having no consciousness and those objects of knowledge having consciousness (Giorgi 1995, p.27); Objects without consciousness we call *things*, existing in time and space and subject to the regularity of causal laws, especially if A then B (cause and effect). By maintaining and respecting the spatial and temporal relationships involved with action on the thing, one can perform many proper determinations (objective measurements).

Whilst a thing may be an object towards which a subjective or conscious act may be directed, Giorgi explains that it cannot be the model for the conscious act itself. Whilst a *thing* itself may be subject to causal analyses, the perception of the thing or *the perceived thing* may not (Giorgi 1995). A different philosophy is required to account for the conscious act upon the perceived thing, with the 'thing as perceived' often being termed as a phenomenon, with phenomena often articulated as percepts, memories, images, cognitions etc. Thus 'subjective' is associated with the consciousness of the mind, generally the human mind though it is often inferred to other parts of the natural world (animals being construed as having feelings, knowing pain and therefore subject to ethical considerations within research).

Taking another approach, Reese and Overton (1970) consider two models for life-span development: the mechanistic and the organismic. The metaphor of the mechanistic model is that of the machine, representing the universe as a machine composed of discrete pieces operating in dimensions of time and space. The pieces (objects) and their relations form the basic reality to which all other more complex phenomenon are ultimately reducible. The universe represented in this way is eminently quantifiable. Within epistemology and psychology, the mechanistic model has been variously termed the *reactive*, passive, robot or empty organism *model of man*.

The organismic model asserts that the essence of a substance is activity rather than the static elementary particle, viewed as consisting as a continuous transition from one state to another in unceasing succession. A search for unity is made amongst the many, substituting a pluralist universe for a monistic one, where it is the diversity which constitutes unity. The epistemology derived from the active organism model of man is that of constructivism, where the knower actively participates in the construction of the known reality, on the basis of inherent activity and organization. It does not deny the existence of an external reality, as a strictly idealistic position would, rather it affirms that the world as known, is a product of the interaction between the active knower and things-in-themselves.

Utilising the mechanistic model, the human is deemed to be a passive object of research, a machine whose pieces can be reduced to such a level that simple interactions can be objectively measured to explain complex activity. This reductionist, mechanistic and dualistic (separating body from mind) approach has been an underlying philosophical and scientific assumption which has guided thinking over the past 300 years (Pietroni 1996). However, Engel (1977) claims that this model is flawed, since it is independent of social, cultural or psychological behaviour:-

1. *Variability in the clinical expression and in the individual experience and expression of illness requires consideration of psychological, social and cultural factors, other concurrent or complicating biological factors, as well as the quantitative variations in a specific biochemical defect*
2. *It encourages bypassing of the patient's verbal account by placing greater reliance upon technical procedures and laboratory measurements*
3. *Conditions of life influence the time of reported onset of the manifest disease as well as variation in its course.*
4. *Psychological and social factors influence when the person falls ill or accepts the role of patient*
5. *Psychological skills are required to induce peace of mind in the patient and faith in the powers of the physician, outside the biomedical framework*

(Engel 1977)

Whilst the medical model is the dominant folk model of health care for the Western world, Engel considers it a dogma that requires discrepant data be forced to fit the model or be excluded. The medical model of care makes many implicit assumptions which may not be immediately accessible to its student practitioners.

However, the organismic model places man at the centre, as the subject capable of inherent purposeful, organised activity. Knowles regards the organismic or holistic model as representing the world as a unitary, interactive, developing organism, as an active and adaptive model of man, where efficient cause replaces formal cause and the possibility of a predictive and quantifiable universe is precluded (Knowles et al. 2005). Inquiry is directed toward the discovery of principles of organization, toward the explanation of the nature and relation of parts and wholes, structures and functions, rather than toward the derivation of these from elementary processes. The researcher accepting this model will tend to emphasize the significance of processes over products, and qualitative change over quantitative change (Reese and Overton 1970).

The holistic approach is being increasingly recognised by the UK Department of Health in its quality requirements and as an instigator for IPE:-

The delivery of this 'core' requirement will improve the coordination of services and address many of the key issues service users and voluntary organisations have identified. These include information and the need for a holistic, integrated, interdisciplinary approach to care planning, review and service delivery involving a range of agencies.

(Department of Health 2005)

'Traditional' Qualitative research methods

Flick (2006) outlines three major perspectives which can summarise the theoretical positions, the understanding of issues and methodological foci of qualitative research:-

1. Traditions of symbolic interactionism and phenomenology.
2. Within ethnomethodology and constructionism an interest in daily routines and in the making of social reality.
3. Structuralist or psychoanalytic positions which assume unconscious psychological structures and mechanisms and latent social configurations

(Flick 2006)

Put simply, they may be regarded respectively as approaches to subjective viewpoints (the lived experience), descriptions of the making of social situations (the tribal experience) and the hermeneutic (interpretive or explanatory) analysis of underlying structures. Thus qualitative research may assist in understanding certain motivations, or policy direction, or may generate theory which suggests future approaches for research.

Holloway and Wheeler (2002) state that the term ethnography lacks clear definition and is sometimes used as synonymous with qualitative research in general. They chose to adopt the original meaning of the term, as a method within the anthropological tradition, where ethnographers use culture as a 'lens for interpretation' and therefore focus on cultural members, phenomena and problems. Critical ethnography, they argue, involves the study of macro-social factors such as power, and examines commonsense assumptions and hidden agendas. It is therefore more political. They also cite Fielding *(1993)* when describing an analytical structure that gives a framework to the account, used to guide the following research:-

1. *Ordering and organising the collected material*
2. *Re-reading the data*
3. *Breaking the material into manageable pieces*
4. *Building, comparing and contrasting categories*
5. *Searching for relationships and grouping categories together*
6. *Recognising and describing patterns, themes and typologies*
7. *Interpreting and searching for meaning*

(Fielding 1993)

Looking ahead to Study 2, steps 1 and 2 are accomplished in its first quantitative analysis. Steps 3 to 5 are covered in its second qualitative analysis. The final steps 6 and 7 are attempted in the critical discussion of findings, taking a pragmatic critical realism approach (Finlay 2006), between the more extreme realist (direct cause and effect relationships) and relativist (diversity of interpretations) world views, between the positivist and interpretivist epistemology. The world is considered to be a single complex reality, stratified into different layers, with social reality incorporating individual, group, institutional and societal levels (Robson 2002, Box 2.6).

The stages leading from the contrasting natural and social sciences, to the research approach of critical realism may be summarised in the figure below:-

Figure 12: Development of traditions & philosophies underpinning research
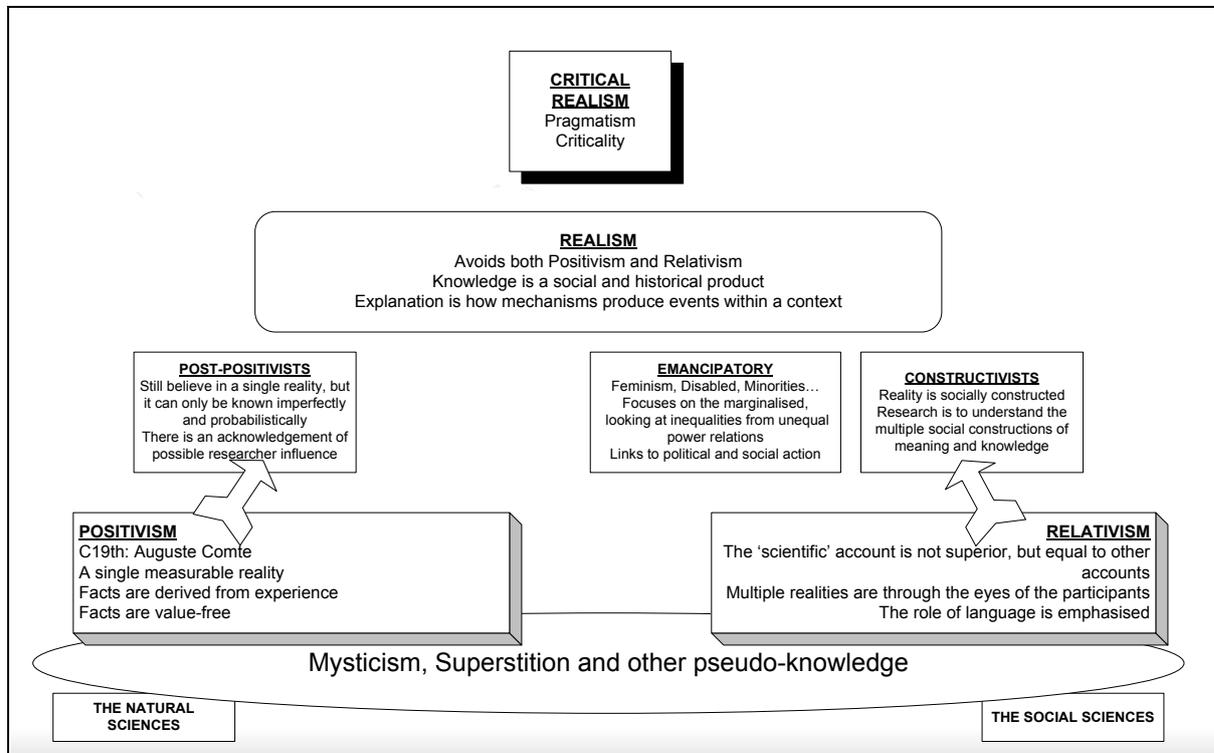
3.2 Q METHODOLOGY

Q Methodology draws upon both the quantitative and the qualitative research paradigms, as a tool for exploring and generating a greater understanding of peoples' perspectives (Corr 2006). It provides a systematic and rigorously quantitative means for examining human subjectivity, where *subjectivity is regarded simply as a person's point of view on any matter of a personal and or social importance (McKeown and Thomas 1988, p.7)*, through correlation and factor analysis.   The factors are conceptualised through interpretation by the investigator, emerging naturally from the Q-sort operations of the participants and aided by their comments (Brown 2006b).

> *A factor provides 'meaning' for that part of a person's subjectivity, where the investigator must 'grasp' what the meaning is through interpretation. The Q sorter in general may not be aware of these meanings, although when pointed out he or she may duly apprehend them (Stephenson 1978, p.30)*.

From his own inter-disciplinary experience and perspectives of physics, the theory and practice of teaching and of experimental psychology, William Stephenson (1902-1989) first outlined Q Methodology in a 1935 letter to *Nature* (Good 2005).   Stephenson distinguishes between correlating persons (Q-methodology) and the traditional use of factor analysis in psychometrics to correlate traits or test items (Spearman's R-

methodology). Factors derived from Q methodology are independent and at 90 degrees to each other, each representing an alternative view of the situation. They question singular received truths (Rogers 1995), with factors sometimes impeding one another. This promotes heterogeneity, recognising that social experience is never singular.

Q Methodology reveals the personal subjectivity of participants when they rank-order or 'Q Sort' a pack of statements on a subject area (a Q Sample or Q Pack), according to a specific condition of instruction (e.g. from agree to disagree) (Brown 2006b). It uses correlation and factor analysis to highlight groupings of statements which are perceived in a similar manner by the participants. Thus factors emerge without any prior conditioning by the researcher. They may be interpreted using previous theory, research and or cultural knowledge, with the aid of open-ended comments made by participants in explication of the positions allocated to items (Rogers 1995).

A Q Study may be performed with a single participant acting as a case study, where multiple conditions of instruction '*can act as surrogates for behavioural hypothesis (McKeown and Thomas 1988, p.31)*', producing a number of Q Sorts for factor analysis, for example, sorting as one's self, as an ideal self, as one's parent and as one's friend (Brown 2006a). McKeown and Thomas describe such as an intensive person sample, where the individual person is a complex configuration of events. The subject might act upon twenty or more conditions of instruction, which should be spread over several days.

In his 'Theory of Concourses' (populations of statements), Stephenson (1978) starts with the proposition that subjective communication is grounded theoretically in statistical quantities of 'statements' about a subject. This is developed to include the concept that the number of concourses is infinite and is not merely verbal in form. Pragmatically however, they are empirically grounded and can be gathered from face-to-face conversations, from writings, from any situation where communication is involved. In describing his development of a Q Sample from a set of student essays, Brown reports:-

> *Statements of objective fact typically have no extension beyond themselves, for example 12 inches equals one foot. However, statements about facts are limitless. Facts are, in a sense, dead thoughts that just sit there like trophies of past intellectual achievement, while swirling around them are dynamic and expanding volumes of subjective communicability. It is this swirling dynamic that Q methodology models and measures (Brown 2006b, p.254).*

The students' essays were in the common everyday language of the culture, constituting what Stephenson in 1980 referred to as conciring, or shared communicability (Brown 2006b). For experimental purposes a set of statements (called a Q sample or Q pack) is drawn from the concourse and a set of persons (P set) is instructed to rank-order (Q sort) the Q sample according to a specified condition of instruction (e.g. agree / disagree). The statements are purposefully very broad in their appeal, some of which

may solicit strong positive or negative feelings, others statements less so. Thus in sorting through the packs of statements, in ranking them within the Q sort process, the participant is expressing their personal and subjective opinions about the matter under consideration.

Points of view are revealed by how participants group and sort a pack of statements, ranking those with which they personally have most agreement or most disagreement. Aggregated over a number of such Q sort processes, Q sorts having similar groupings of statements are brought together as the defining sorts of revealed factors. *The factors are objective, each of its own accord and without a prior categorization of meanings (Stephenson 1978, p.28).* There is no pre-determined influence being exerted on how participants reacts to and sorts a pack of statements, presuming the pack covers a full range of possible opinions. Factors are interpreted in the light of additional comments recorded by the participants and also in accordance with the researcher's own understanding of the subject. Thus Q Methodology seeks to reveal meanings that are held by the respondents about a particular area of concern, without creating undue influence by the researcher.

In its use of factor analysis, Q Methodology may be considered as bridging the divide between qualitative and quantitative studies, using numeric analysis to reveal subjectivity. Alternatively, it may be considered as providing a complementary approach to both quantitative and qualitative methods since it maintains the subjectivity of participants within an objective process (Corr 2006). However, whilst it adds to the breadth of understanding, its use of factor analysis does not add to depth – it is not a quantitative, evaluative research tool, though it may inform such subsequent studies and improve questionnaires or polls reliant upon quantitative methodologies (Brown 2002).

3.3   THE APPROACH TAKEN BY THIS RESEARCH

The concern of this research is the education of health care students, with reference to interprofessional education and its declared objective of improved patient care. As such, the objects of study are complex conscious beings, with wide ranging motivations to accept or reject the proffered educational experiences. Thus this research is essentially qualitative in nature. It comprises two studies using a mixed methods approach, enabling the triangulation of information with literature, to better understand podiatry's involvement within the IPE agenda, how its educational needs are being taught and assessed and how what attitudes and concerns towards IPE ensue.

Study 1: Delivery approaches of IPE

This study compares and contrasts the delivery approaches to IPE from multiple educational institutions, identifying common and novel approaches to IPE teaching and methods of student assessment, together with underlying educational theory. It uses semi-structured interviews of IPE champions and course developers to gain an understanding of IPE and its implementation issues, revealing IPE concepts and approaches being used in the teaching of IPE to UK undergraduate students. A planned spin-off from the content analysis is an extensive set of quotations from the IPE developers, which are used to inform Study 3.

Study 2: Attitudes and Concerns about IPE

This study uses Q Methodology to reveal the viewpoints of final year podiatry students: their attitudes towards IPE and concerns over its implementation at their particular institution. It develops a pack of naturalistic statements which represent, as far as possible, the full breadth of IPE attitudes and issues affecting podiatry facilitation staff, podiatry students and other allied heath students (the issues are assumed to be the same for all, but from differing viewpoints).

The final Discussion chapter draws together the three studies in its consideration of three social strata involved with IPE's educational hierarchy: the policy makers, the policy implementers and finally the students as policy beneficiaries. There is an intentional bias towards a minority profession within the allied health professions, namely podiatry. As the three studies are triangulated, both reinforcements and discontinuities will be revealed between the aims, implementation and reception of IPE.

The qualitative research paradigm reveals complexities and identifies meanings from different perspectives, reliant upon an interdependent relationship between the researcher and the interviewee, with shared values within a given context (Jongbloed 2000, table 2.1). Its methods seek to discover theory or explanation through an inductive, flexible approach which can be responsive to the research situation, using a purposive sample of key informants, with its data analysis comprising iterations of coding and sorting, rather than statistical analysis (Jongbloed 2000, table 2.2). Thus the qualitative approach is suited to the exploratory nature of this research, with a belief that students, staff and researcher are inseparable from their contexts or environments, whether these are social, cultural, physical, economic, political, legal or historical (Hammell and Carpenter 2000).

4 STUDY 1: INTERVIEWS WITH IPE DEVELOPERS

4.1   INTRODUCTION

Study 1 explores the contexts and means by which interprofessional education is delivered to health and social care students. It utilises semi-structured telephone interviews with the lead developers of IPE within seven UK universities, all of which include podiatry at undergraduate level.

The Literature Reviews explored the policy aims of IPE from the perspectives of stakeholders associated with bringing it into Higher Education over the past decade. These informed a semi-structured interview schedule, seeking their experience of IPE course development. The interviews also consider issues that arise from teaching or facilitating IPE, with an emphasis towards the end of the interviews given to podiatry facilitating staff and podiatry students.

The objectives of the study are to identify the delivery approaches being undertaken, together with the methods of assessment and underlying educational theory. This provides an understanding of the ways that IPE is being taught at undergraduate level to UK podiatry students.

The next section considers why semi-structured interviews were selected, the issues of accessing interview participants, undertaking the interviews and the transcription process. There then follows a brief quantitative overview of the interviews, followed by a deeper, qualitative, inductive analysis of the seven interviews. The discussion considers the study's findings in relation to current literature.

4.2   INTERVIEW DESIGN AND THEIR TRANSCRIPTION

Selection of the semi-structured interview format

As the leads and developers in their respective IPE courses, this study deems the interview participants to have key, expert views of the issues at hand - the development of IPE courses in this instance. Participants are 'key' informants and are in a position to reveal problems with IPE (Holloway and Wheeler 2002). A semi-structured format allows for a mix of open and closed questions, for prompting and probing, allowing new issues to emerge in depth.

The semi-structured interview format was chosen, in preference to a structured interview or questionnaire, due to the following perceived benefits:-

- *It establishes rapport with the respondent*
- *The ordering of the questions is less important*
- *The interviewer is freer to probe interesting areas that arise*
- *The interview can follow the respondent's interests or concerns*

(Smith 1995)

This contrasts with the structured interview or poll, aimed at the quantitative analysis of a large number of responses; also with the informal interview which presents a greater analysis task since there are fewer guiding principles or structure. A semi-structured interview schedule guides rather than dictates the flow of the interview (Smith 1995). The schedule also permits some rein to be kept upon the areas under discussion and provides a framework for subsequent analysis (Holloway and Wheeler 2002).

Development of the interview schedule

The interview schedule incorporates many of the approaches suggested for more structured questionnaires (Bulmer 2004). For example:-

- Developing from more general to more specific (personal) questions – a "funnel" sequence (Converse and Presser 1986);

- Starting with easier questions helps to put the interviewee at ease, for example about their institution and their own background;

- Providing a reasonable focus on the reconstruction of orientation and actions, so that the participants feel they are being taken seriously and will respond with trust, self-reflection and open-up (Witzel 2000);

- Keeping more sensitive or intrusive items to last, once trust has been gained.

From an ethnographic perspective, open-ended questions are included within a semi-structured interview format to help the researcher appreciate the participant's perspective (Finlay and Ballinger 2006). This encourages the narrative to unfold according to the participant's direction and personal storytelling style, facilitating the production of highly descriptive data (Suto 2000). It also allows the researcher to ask probing questions periodically, to clarify understanding.

The following five themes were considered:-

1. The IPE background of the participant and participant's university
2. Approaches taken in planning the IPE course or component
3. Experiences in developing and motivating the local IPE course
4. IPE course acceptability by the facilitating staff and the students

5. What differences in expectation or reaction were there to IPE, from differing student or staff professions (if any)

Each theme (1..5) was developed into three or four neutral, open-ended questions (a..d), prompts for those who are hesitant, with funnelling using more probing questions (Smith 1995). The number of questions is kept deliberately low, each being quite distinctive. The prompts are used as a checklist for adequate coverage, without actually being asked. However, if the interviewer feels that the question might have been misunderstood or the participant's interest was not engaged, the prompts are given as follow-up questions to solicit more detail. If the participant is judged to be receptive, the probe questions may be asked, to elicit more depth of understanding or consideration of the associated issues.

A focus relating to IPE staff and students was achieved through prior notification of the themes to be discussed (Smith 1995), when arranging the interviews. The themes were developed into an IPE lead semi-structured interview schedule shown in Appendix B: Study 1 process, used by the researcher during the interviews.

Access to participants

Interviews were sought from all UK higher education institutions teaching Podiatry at undergraduate level. This meant that they also had a wide geographic dispersal around the UK and serendipitously also encompassed a range of IPE implementation, from relatively small scale, first endeavours to large scale, established IPE courses

An initial 'heads of school' contacts list was obtained from the public web site of The Society of Chiropodists and Podiatrists at www.feetforlife.org. This lists all UK universities (including Northern Ireland, Scotland and Wales) which are registered for teaching podiatry at degree level.

An assessment of the various public access 'School of Podiatry' web sites showed them to be similar and rather generic in their level of detail and specifics of course content – basically giving assurance that they meet the standards required by professional bodies. A review of the encompassing university web sites revealed associated healthcare professions, also taught by the institutions, but not indicating those involved with IPE.

An Introductory letter sent to heads of podiatry with a Synopsis of research proposal was forwarded to each initial contact. Attached was a single page Introductory Questionnaire requesting email contact details of the IPE lead at their institution, also an indication of which professions are involved with IPE (demographic details). Introductory letters were posted, with email and telephone follow-up. Five of the thirteen institutions declined to participate, with the following reasons:-

- *No IPE presently in the podiatry course, though looking to add it.*

- *IPE is not included within the podiatry curriculum – it is not considered appropriate whilst establishing the professional role in the first two years of training.*

- *Unable to assist now or in the future – IPE proposals are awaiting approval.*

- *A lack of local ethical approval was cited as the reason for not getting involved (it was unclear if there were genuine local ethical concerns or if this was an excuse, given the approval of the School of Health Ethics Panel at Northampton University, as detailed in the introductory letter).*

- *One institution was re-organising their whole course structure and none of the supplied contacts considered themselves responsible for IPE.*

The initial contacts proffered eight IPE leads, each of which were sent an E-mail to arrange IPE Lead interview with an electronic copy of Synopsis of research proposal. This introduced the researcher and research, outlined the five themes to be discussed within an hour-long interview, and asked whether there was a preference for interview method, considering the distances involved (face-to-face, telephone or conference call). Seven volunteered to participate, with six preferring a telephone interview. An eighth contact considered herself responsible only for finding placements with some opportunistic IPE content, thus excluding herself from the research. Thus seven out of a possible thirteen institutions teaching podiatry in the UK have contributed to this study. This may be regarded as a convenience sample, encompassing 50% of the available population.

After the interviews, each participant was sent an IPE lead thank-you letter together with a copy of their transcript and an Interview Transcription Confirmation form which they were asked to return. The latter indicates whether the transcription was faithful so far as they could recall and also provides opportunity for any further comment or clarification. Four of the seven confirmations were returned by the participants, agreeing that an accurate transcription had been made. Opportunity was also taken to ask whether each interviewee was willing to participate further in Study 3 (one agreed).

Performing the interviews

Each telephone interview (plus one face-to-face) was recorded on a digital recorder by prior arrangement, with verbal consent also recorded. The compressed WAV file recording was transferred to computer and transcribed by the researcher into Microsoft

Excel™.   Advantage was taken of the reciprocal nature of the interview, between interviewer and participant, to transcribe successive utterances (from a word or two, up to five minutes) into successive spreadsheet rows.   Each row was tagged with the speakers' initials and the start time of the utterance. A limited transcription of pauses and special emphases was made, not in order to perform a phenomenological study of implied meanings, but to raise the researcher's awareness of the more difficult issues being considered.   This is illustrated by the extract below, with colour coding of interviewer activity (I/V represents the interviewer, P/T represents a participant):-

I/V	-	Background
I/V	-	General question
I/V	-	Affirmation / support / encouragement to continue
I/V	-	Probing question, seeking further detail or clarification
I/V	-	Caution - maybe passing an opinion or influencing subsequent discussion
I/V	00:50	The first theme is really about the background of the University of *** and your own background, regarding interprofessional education. A broad background, theme-setting really.
P/T	01:04	Yes.
I/V	01:05	My first of just three questions is, I suppose, is really why do you think that the University of ***, or the School of Health, is adopting interprofessional education within its curricula?
P/T	01:20	(Pause) Because we have to.
I/V	01:22	What, legislation?
P/T	01:24	Yes, I think in order to get any of the professional health courses through validation, there needs to be evidence of interprofessional learning and learning about those people that we're working with. So, you know, the cynic in me, the realist in me says that they're doing it and they're putting money into it because they **have** to…

Consideration was given to utilising NVivo which, as successor to NUD*IST, is a popular social sciences tool for analysing qualitative data and interviews. Each interview record would be regarded as an NVivo document for the purposes of coding (using nodes), sorting and filtering (using queries). However, the following issues were encountered, which caused deferral back to the Microsoft Excel approach:-

- Whilst NVivo[5] can import from various Microsoft Word and Text documents, it was unclear how it would handle the time-stamps from the digital recordings. It appeared to have a crude mechanism, equivalent to splicing-up a magnetic tape recording at preset intervals.

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- No clear delineation between interviewee and interviewer data could be determined for NVivo. Different paragraph styles (colours / fonts) were available and might be used to differentiate the speakers. However, there was no program structure to enforce this.

- Consultation with a former user of NVivo highlighted how its concept of 'nodes' can be difficult to convey when publishing findings, these being loose collections derived during the analysis period, used for database queries and in the development and reporting of themes.

Thus content analysis and the development of themes was retained within the spreadsheet structure, with all seven interviews being reliably held in a single Microsoft Excel file of little over 2 Megabytes, including the developed keyword hierarchies. Microsoft Excel includes text searching and sorting features, to assist in the development and grouping of common themes, though its charts are too limited to represent the same. Therefore Microsoft Visio[6] was used to develop and illustrate these themes in concept maps, or mind maps as they are also called (Senita 2008). Hill (2005) similarly used concept mapping with her students, with some students finding it useful for organising their ideas, retaining information and relating material to other knowledge. She also considered that it was a learning tool that adults can appreciate, associating it with Mezirow's transformative learning (Mezirow 2000): the initial disorienting dilemma launches the transformative learning process; the search for information clarifies understanding; the reintegration [mapping] achieves understanding and the restructuring of mental schema.

4.3   ETHICAL CONSIDERATIONS

The research meets the revised ethical guidelines for educational research (British Educational Research Association 2004), with regards to prior voluntary, informed consent with a right to withdraw. The research does not knowingly involve vulnerable adults or children: in approaching the IPE course developers for their views, experienced academics in their own institutions, it was deemed unlikely that there would be any adverse psychological risk associated with performing the interviews.

Informed written consent was sought from each interview participant, with additional verbal consent to the recording of the interview being obtained at the outset of each interview. Assurance of participant confidentiality was also given to participants, as far as practicably possible (Flick 2006). However, some aspects of government funding

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[6] Microsoft Office Visio 2007 SP1.

reported by one participant might identify her institution to knowledgeable readers, even though not named explicitly. In the latter case, the institution has a policy for promoting their IPE research findings through their public internet site and through peer-reviewed publications. It was therefore deemed that no offense was likely to occur.

The research proposal submitted to and approved by the Research Ethics Committee of the University of Northampton also indicated that participants would be informed that disclosed information will remain confidential and will be destroyed after being collated; that they can withdraw from participation at any time; that the study will not directly result in improved service provision.

4.4   FINDINGS: A QUANTITATIVE SUMMARY & DEMOGRAPHICS

A quantitative analysis approach

Seven transcription spreadsheets were produced, one for each interview. Since each utterance has its own start time, comparison with the successor time allows automatic calculation of its duration. Each utterance was allocated to one of the interview schedule themes. The times for each theme encompassing all interviews were added together, then divided by seven, to provide an *'average interview time'* for each of the themes as shown below, plus introductory and conclusion times:

Figure 13: Time spent on each theme within the interview schedule
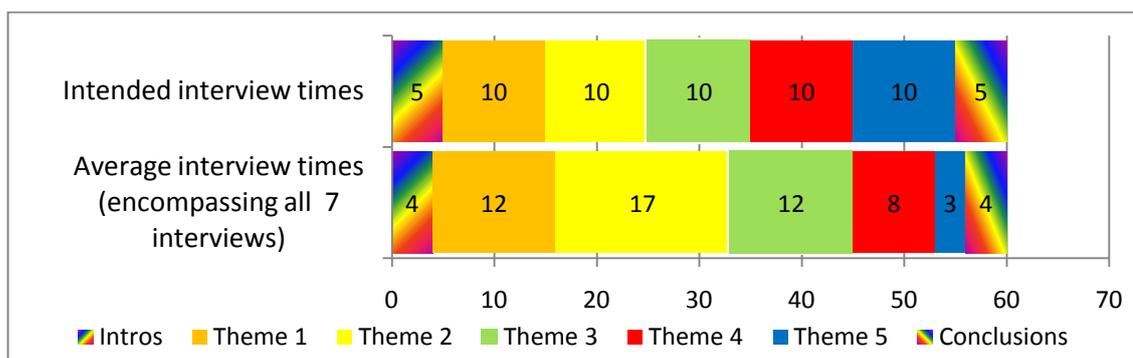
All interviews except for one kept to time, averaging one hour and one minute for each. The interview schedule planned five minutes for introductions and concluding comments, with ten minutes for each of five themes. The above figure illustrates how participants spent more time on the first three themes (theme two being 1.5 times that planned):

Theme 1: The IPE background of institution and interviewee

Theme 2: Approaches taken in planning the IPE course or component

Theme 3: Experiences in developing and motivating the local course

This was at cost to the last two themes, reduced to eight and three minutes respectively:

Theme 4: IPE course support from the facilitating staff

Theme 5: Expectations and responses from the students receiving IPE

An explanation might be that some participants are no longer facilitating IPE themselves, thus they have less detailed knowledge of staff or student responses to IPE. Further detailed breakdowns were also produced, as shown in 1st analysis: overview of discussed subject areas within Appendix C: Study 1 findings. For example, 'podiatry' is mentioned in approximately 1.3% (20) of utterances, compared with 'staff' in 11% of utterances. One interpretation might be that, as IPE course developers, the participants were unfamiliar with podiatry-specific issues. Another might be that they did not consider podiatry students as raising particular issues within an IPE context. These are considered later in the discussions chapter.

This initial quantitative analysis gives an overview of the interview process. It can produce charts from its use of a spreadsheet for transcription and is in keeping with the researcher's numeric analytical background in computer science. However, such quantitative analysis cannot probe the richness of the data, nor give credence to any particular interpretation.

Institutional and participant demographics

The seven institutions contributing to the study were widely spread around England and Scotland, but excluded Wales and Northern Ireland. The following demographic details were obtained from responses to the Introductory Questionnaire and responses to the first interview theme about the participant's and their institution's background, summarised in Figure 20: Mind map 1b - Mix of professions and Figure 21: Mind map 1c - Personal selection as IPE lead within Appendix C: Study 1 findings.

The participants had a range of academic qualifications and experience of IPE:-

- Four are qualified to doctorate level, one with a professorship, with their research encompassing interprofessional education, curriculum development, professional status and NHS policy.

- Two are qualified to Masters level in education; one is studying for a Masters.

Five of the participants had healthcare backgrounds: one from mental health, two from podiatry and two from physiotherapy. One participant has prior experience in the Department of Health's research and development group, working with health regulatory bodies; the final participant had a background of learning development within higher

education. Each reported years or decades of inter-professional experience, though participants two and seven were relatively recent appointees to their current posts. One participant was recently recruited due to her inter-professional curriculum development experience (Int2-05:00), whilst the other recent recruit was initially confused as to her appointment (Int7-13:05). She surmised that her background of higher education learning development from outside of healthcare was being viewed as having an unbiased position between the different professions (Int7-13:20).

Each participant was asked why they had been selected to lead their institution's IPE endeavours. The professor had key policy experience and contacts within the department of health's research and development unit looking at the NHS plan (Int5-10:26). Three responded that it may have been their general experience: the longest serving of the oldest established department (Int6-16:23); the lead of the largest programme and chair of the strategic group which petitions the Deans (Int3-55:41); basically in charge and responsible for writing the bid for IPE development (Int4-14:11).

Being a vocal critic of a first IPE endeavour (Int1-08:49) and wanting to make it a better experience for staff and students, resulting in the first participant taking over the IPE lead, particularly with her qualities of collaboration and being a good team player (Int1-10:31). Thus the participants seem to fit the findings of Miller: *'initiatives which did address the teamwork agenda were invariably instigated by one or more individual professionals with a particular interest in the clinical outcome (Miller et al. 1999)'*.

Four of the universities in the study have 400 – 600 IPE students, spread between three cohorts in their first, second and last year of study. Five of the institutions teach the students on a single campus, within a mix of 9 – 12 different student professions (with midwifery, adult nursing, child nursing, mental health nursing and learning disability nursing considered as distinct IPE professions).

Exceptionally, one 'Leading Edge Site' (Craddock and O'Halloran 2004) has 1,500 IPE students drawn from two campuses (Int5-15:05), whilst another university has expanded rapidly to draw ten programmes together from three campuses (Int7-26:06).

In contrast, one institution has only podiatry and physiotherapy students coming together for IPE, with recognition that *'it limits the scope of professions that students can have access to. But it makes it a lot easier (laughs) to manage it, 'cos there's a synergy between physiotherapy and podiatry! (Int4-11:34)'*. This has correspondingly smaller IPE student numbers, approximately 300. All institutions spread IPE over three years, hence a single cohort of IPE students might comprise 100, 200 or 500 students accordingly. Thus the research encompasses a range of IPE endeavours, with regards to numbers of students involved.

Through study design and inclusion criteria, all institutions include IPE podiatry students. In addition the mix of student professions included:-

- Six of the seven universities include physiotherapy within IPE
- Six of the seven include midwifery and the nursing specialisations
- Five universities include social work
- A different five include occupational therapy
- Radiology was included within the IPE course of three universities.
- Two universities encompassed medical and pharmacy students.
- Dietetic, speech therapy, paramedic, prosthetic, orthotic, audiology and clinical psychology students were included by only single universities.

Four of the seven institutions reported providing similar IPE experiences to all their students' prospective professions. Travelling distance and time tabling issues were cited for the exclusion of some professions from IPE.

This mix of professions is similar to that found by Miller et al (1999), who conducted a postal survey of 181 UK institutions (74 positive responses) identifying 206 IPE initiatives in the UK. Of these, details were obtained for 95 initiatives, of which 85 included nurses. Podiatry was incorporated within the 'Professions Allied to Medicine' (PAMs). Of those 21 initiatives occurring within initial education, 5 included nurses and PAMs (podiatry), and only 3 of the 21 (15%) including nurses, PAMs and Social work. This suggests that podiatry students may be involved in relatively few undergraduate IPE initiatives, but once qualified they may be involved in markedly more IPE training as part of their CPD.

In conclusion, this study represents 50% of the UK institutions which teach podiatry at undergraduate level; the participants had responsibility for developing IPE and they represented a range of IPE implementations, in terms of scale and mix of professions. However, specific references to podiatry issues were limited in comparison with utterances associated with staff, profession, assessment etc.

4.5   FINDINGS - A QUALITATIVE INDUCTIVE ANALYSIS

Qualitative analysis approach

This second analysis uses an qualitative approach, *'inductive to the extent that the researcher attempts to make sense of the situation without imposing pre-existing expectations on the phenomenon or setting under study (Patton 1990, p.44)'*. It uses inductive content analysis to develop representative codes and categories from the interview transcripts, keeping as near as possible to the material (Mayring 2000).

Flick (2006) describes an essential feature of qualitative content analysis as being its use of categories, which are often derived from theoretical models: the categories are brought to the empirical material and not necessarily developed from it, although they are repeatedly assessed against it and modified if necessary. Above all, and contrary to other approaches, the goal here is to reduce the material. As a '*summarising content analysis'*, it seeks to reduce the material in a way that essential contents are preserved (Flick et al. 2004), or as Hseih and Shannon (2005) describe it, a summative content analysis involves counting and comparisons, usually of keywords or content.

In terms expressed by Kelle (1997), summarising content analysis develops 'heuristic concepts' which serve as lenses for the perception of the empirical world: *'the theories of the members of the investigated culture (Kelle 1997, 4.7)'*. Analysis of the problem-centred interview (Witzel 2000) relies on the interviewer's position of general openness, with insight gained through data collection and evaluation organised through an inductive-deductive mutual relationship. The inevitable prior knowledge which must be disclosed serves the data collection phase as a heuristic-analytical framework. Kelle (2004) equates such heuristic frameworks to the schema of theoretical concepts which Strauss and Corbin call a 'theoretical axis'.

In contrast, Grounded Theory (Glaser and Strauss 1967) uses a process of concurrent collection, open coding of units of meaning (single words or short sequences) and comparative analysis to develop conceptual categories and their properties. The categories are elaborated to develop theory, using ongoing theoretical sampling of comparison groups: minimising group differences helps to establish the existence and basic properties of a category; maximising group differences increases the likelihood of collecting different and varied data about the category. Categories are combined through axial coding to develop theory grounded in the data, with sampling continuing to a point of theoretical saturation (nothing new is being learnt).

In summary, the interview schedule is being used as a heuristic-analytical framework with which to develop understanding from the problem-centred, semi-structured interviews, with inductive coding and categorisation used to summarise and make the data more manageable. Short keyword or key-phrases were inducted from the participant utterances, then developed into a hierarchy, the lowest levels L1, L2… being most specific and close to actual text, and higher levels L5, L6… indicating deduced categories used to develop a thematic understanding. L4 is pivotal in representing the interview schedule theme-question to which the utterance was ascribed by the researcher (interviews rarely follow the intended sequence of questions). For example, Q3b below represents Question 3b from the schedule *'How does the course adapt to the*

uniqueness of the learners and the learning situation for the different student professions?', shortened to a code 'IPE cultures':-

Figure 14: Illustration of transcript thematic coding

Utterance	(L4)	L1	L2	L3	L4	L5	L6	L7
You know, because if you're, erm, not doing all this stuff, then you've now got additional stuff in your curriculum and you're twenty credits down, because every programme had to agree to lose twenty credits of their current curriculum…	Q2b	to take the IPE module	every course had to agree to lose 20 credits	course mapping	IPE thinking	modular	IPE value - add?	Unit 1
to take the IPL module. So there had to be negotiation and discussion there, about what people were doing and what we thought was… we should do.	Q2b	to take the IPE module	every course had to agree to lose 20 credits	course mapping	IPE thinking	modular		Unit 1
without swamping the students…	Q2b		without swamping the students	course mapping	IPE thinking	modular		Unit 1
which was, of course, the other big debate!	Q2b	negotiation	without swamping the students	course mapping	IPE thinking	modular		Unit 1

If the utterance is particularly long or complex, it may be partitioned into successive parts, but retaining common keywords at level L2 or L3. When the utterance can apply to two questions within of the interview schedule, it may be duplicated and coded accordingly. Levels L5 and above look at concepts that may encompass meaning transcending particular interviews. They were developed iteratively during production of the mind maps for each interview theme. Thus the fifth and sixth levels became more deductive and intuitive on behalf of the researcher (Witzel 2000), drawing similar areas together from differing participants for illustration by mind maps. A further example can be found in Transcript Analysis Process of Appendix B: Study 1 process.

The themes were drawn together using concept mapping, allowing reorganisation of information in a visual manner to promote critical thinking (Senita 2008):-

> *A concept map is a schematic tool that allows adult students to graphically represent their knowledge. A concept map consists of an overarching, inclusive main concept with connections to several general concepts that relate to the main concept and are more specific and less general… Cross-links maybe used to indicate links between different general concepts within the map (Hill 2005, p.9).*

The concept maps were then developed into the narratives below, with illustrative texts drawn from the transcripts.

Theme 1a: Why is the institution adopting IPE?

This first theme seeks to explore the IPE background of the participants and their institution. In tackling an easy and non-controversial area, this also seeks to place the participant and the researcher at ease as they become more familiar with one another.

When asked why IPE is being adopted by their institution, three concepts were identified: perceived compulsion, institutional change and the academic agenda. This led to illustrations of commitment to IPE, which included funding of IPE posts and staff training, as illustrated in Appendix C: Study 1 findings by Figure 19: Mind map 1a - Reasons for adopting IPE and commitment and narrated below:

Perceived compulsion

An element of compulsion for adoption of IPE is reported by several participants, through the enactment of emergent government policy:-

> *On a sort of practical note, it's because we were required to do that by our contracting bodies: our commissioning Strategic Health Authority… to the extent of even being threatened, if we didn't do it! (Int4-04:01).*

In the view of another participant, the Labour government in waiting was basically sitting there creating its NHS Plan, reflecting what was in the Bristol Inquiry (Int5-06:38), setting a strategic direction such that *'we can see the writing on the wall in terms of public policy that's emerging from the Kennedy enquiry (Int5-07:08)'*. From another:

> *'In order to get any of the professional health courses through validation, there needs to be evidence of interprofessional learning and learning about those people that we're working with… The cynic in me, the realist in me says that they're doing it and they're putting money into it because they have to (Int1-01:24).*

Government policy implementation through the NHS was also perceived by a fourth participant, through implicit examination of contracts and by funding of IPE initiatives:

> *Basically if you didn't start moving towards some form of interprofessional learning, the strategic health authorities and the NHS, whatever, would start looking at contracts and institutions, and that would be looked upon favourably. So there was a sort of political feel, whether formal or informal, that said that was part of an agenda (Int6-03:57).*

> *A national call went out across England, for HEIs… in partnership with their Workforce Development Confederations… to bid for funding, to implement interprofessional learning and to deliver the policy commitment that had been made in 'Working Together, Learning Together' (Int6-13:45).*

The suggestion made by a fifth participant is that whilst IPE is *'flavour of the month and the pressure is there from the QAA… and the Department of Health, you'll get flurries of activity (Int2-57:13)'*, what is important is the commitment from within the higher education institutions and their professional leads (Int2-56:40).

Institutional change

Changing circumstances can also lead to IPE development. For example, a funding bid resulted in the rapid expansion of a school of health, encompassing a wide range of IPE disciplines through collaboration with two other institutions:-

> *They put a bid into the strategic health authority to support this [collaboration] in terms of interprofessional learning development. At the time it was very fragmented and there were only three programmes. We had podiatry, speech and midwifery… involved at the beginning. But you had a rapid expansion… within the space of three years… It [IPE] was the driving force behind the original bid that was submitted (Int7-03:29).*

Three participants cite course re-validation and integration (shared learning) as an impetus to include IPE as part of the curriculum:-

> *In terms of being validated, all policy coming out of the Department of Health talks about collaboration, and talks about better joined-up working for improving patient care... the policy agenda is what has been driving this (Int1-01:44)'.*

> *It seemed opportune at that time, to actually start some conversation that said, 'Yea, we need to pull these students together, at least for some elements of their study.' And so, we actually, along with my colleagues in physiotherapy, basically almost four course leaders, sort of sat in a darkened room on a couple of occasions and said, 'Yes, OK. We'll re-schedule the validation of the podiatry and physiotherapy degrees, so they coincided with the validation, the new awards in nursing and midwifery, and we would see how much of the new programme we could integrate (Int6-05:13).*

> *We've got all the health care programmes in the [university] going to validation at the same time. So, it's an opportunity to look at shared learning and interprofessional learning across it… (Int7-00:36)*

However, one participant commented *'you don't have to wait for regulatory bodies to tell you that. You don't have to wait for a curriculum cycle to come around. You can do it any time you like! (Int5-44:53)'*.

With regards to shared learning, another commented *'the university hierarchy thought we should do interprofessional learning because they thought it would be cheap… interprofessional learning is not cheap... and there's a big difference between shared learning, of putting the students together in the lecture theatre together with no interaction, and interprofessional learning (Int3-07:37)'*. This economic view of shared learning was also reported by Miller et al, citing one of their course director interviewees: *'A lot of shared learning you hear about is just about the sharing of resources using a*

single teacher. Sometimes the economics of scale seem to be more important in the rationale of multiprofessional learning than any educational advantage. You can see the pound signs in their eyes (Miller et al. 1999)'. They opined that the university agenda at that time was focussed on the economics and flexibility of provision.

Academic agenda

Participants also reported local academic forces at work:-

> *I think there was a sort of accepted political agenda out there, that we were cognisant of. But more than that, there was a mutual, in a sense, academic agenda which said, 'I think this could be a pretty good idea, and I think we should be doing it, and we should be removing some of the barriers that professions have between each other' (Int6-14:45).*

> *What we tried to do was just treat it [IPE] as something which was no different from any other module. But, because it was joined across two universities, we had to create a separate, sort of structure to manage it… (Int2-57:38)*

> *So what [our Vice Chancellor] then did was to say, you know, 'here we are, a university with all these professions, doing lots of little bits, we can see the writing on the wall, so what we need to do now is to characterise our distinctiveness and move ahead of the policy trend and develop interprofessional learning more seriously, and in a more co-ordinated fashion... and they went out and specifically sought somebody who would come with an interprofessional agenda (Int5-07:31).*

Thus IPE development can be triggered by external policy implementation, by internal change and review processes, or it can be perceived as simply another module with added logistical complexity.

Institutional commitment to IPE

Commitment to IPE was illustrated by participants in the local funding of IPE posts: of a central key worker and an administrator co-ordinating and developing IPE (Int1-03:16), for an IPE Director and an IPE curriculum developer (Int5-12:04), and for an IPE project developer (1 year) with an IPE researcher (Int3-12:48). There were also examples of IPE staff development through site visits (Int3-06:43), staff workshops on education (Int4-42:46) and internal or external courses, sometimes bringing CAIPE on board to assist (Int1-04:37, Int7-31:42).

To summarise theme 1a, there are complex reasons for bringing IPE into the health and social care curricula. Support for IPE comes from the highest level of government policy, through the action of fund-holding Strategic Health Authorities and through validating agencies (the professional bodies, the QAA benchmarks, the Health Professions Council etc. addressed in Study 1). Some see these pressures as coercive. Local strategic decisions can also provide impetus to implementing large scale IPE changes, along with local institutional factors and commitment such as the funding of IPE posts. One

participant considered that this commitment from the local institution and the support of academic leads was most important.

The IPE developers presented IPE as beneficial and worth-while, as might be expected. However, more remarkable is the external compulsion to implement IPE perceived by some participants. Another is that IPE is quite distinct from shared learning and that IPE does not provide an economy of scale, considered further in theme 2b.

Theme 2a: A team approach, designing the IPE course?

When asked whether a team approach had been taken, each participant reported a seemingly unique approach fitting their individual situations, as outlined in Figure 22: Mind map 2a - Team approach to developing IPE and listed below:-

- A solo effort
- A Faculty Committee
- '4 course leaders' and time tabling
- A Steering Group and Expression Groups
- A Strategic Group
- A Working Group
- '7 staff members'

A solo effort

The participant reported developing a new podiatry course at very short notice:

> It was a jump in at the deep end. I was sort of on my own… because we got the contract on the 1st of July, and we had to take students in September the same year… we in fact bought the *** programme… and mapped it against our physiotherapy programme… to identify where there was common material taught (Int4-21:01).

Subsequent to this, the two admissions tutors, the two programme leaders and the two clinical organisers have been working together, '*It's finding out where you can do things together and where you need to do things separately (Int4-43:57)'*. Thus there was an initial emphasis on developing common learning materials between two professions.

A faculty committee

Initial development of IPE was described as an inter-professional faculty committee, agreeing on some key areas:-

> So in 1999 they set this committee, a kinda faculty interprofessional committee up and they worked their way through 'what did they think it wanted to be, where was it going'. And out of that… they thought they should set an ambitious target to increase interprofessional learning, that we should do it across all the programmes, that we

should focus on things like governance and safety and those sort of core things that would bring professionals together (Int5-09:03).

This was after fifteen to twenty years of small scale work (Int5-11:46) and resulting from this strategic direction, was a successful 2001 bid for UK Department of Health funding for 'leading edge' sites (Int5-14:38) which required partnership with the Workforce Development Confederations (Int5-13:55). The complementary pharmacy, radiography and social work professions of another local university were also included (Int5-15:05).

Alongside this a 'curriculum guru' was appointed who developed a model of learning called *'facilitated collaborative learning (Int5-17:44)'* with three units: collaborative learning at level one, interprofessional team working at level two, and interprofessional problem solving at level three; *'They are not podiatry specific - they are the same in every course (Int5-17:33)'*.

4 course leaders and timetabling

Timetabling practicalities came before academic discussions for one participant:

> *What we did before we… got to the academic debate, is we had literally almost sat down with timetables and looked at when people were in the institutions (GJD laughs) because the nurses, midwives obviously don't attend university all the time, they're obviously based in hospitals a substantial part of their time… It literally did start with… the four course leaders all comparing what they thought their course structures looked like and where people could sit together and came to some agreement in some key areas…(Int6-06:05)*

Once the academic leads had settled timetabling issues and decided upon the common areas of the various curricula (Int6-36:38), it was reported that module development teams were established from *'people on the ground who were delivering it'* and to *'go write a module (Int6-06:25)'*.

A Steering Group and Expression Groups

IPE was initially triggered by the re-validation of the podiatry and the occupational therapy courses, which became a joint interprofessional validation 'at the last minute' (Int1-11:35). The participant recalled how this resulted in a lack of consultation and lack of ownership, when nursing and midwifery agreed to participate:-

> *A small group of people developed the material that was to be delivered... There was a lack of consultation throughout the school of health, of the people who were going to be involved. There was a huge lack of ownership, from within the nursing and midwifery teams, because they hadn't really been involved in the development. They hadn't been involved in a validation, weren't at the validation event, so weren't in a position to talk about what had been developed. And they were told that they had to (bring) interprofessional learning into their existing courses (Int1-12:55).*

Subsequent to these initial experiences, 'We now have our steering group meeting...
where every division here is represented… each interprofessional group should send a
representative and they then go back to the expression groups where we have teams of
people working on developing all the different bits of IPE that are going on (Int1-19:03)'.

A Strategic Group

One participant reports how initial piecemeal approaches are now being shaped through
an IPE strategic group, led by the Associate Dean:-

> *We don't have a single IPE course. We have these different things going on… and
> that tells you, for one thing, our approach to this, has so far… probably been more
> piecemeal rather than strategic. However, the school now has an IPL strategy… and
> there's an IPL group that's drawn from all the relevant departments across the
> school... and that group is led by the Associate Dean for learning and teaching. So it
> has appropriate strategic lead from quite high up in the organisation (Int2-15:46).*

A Working Group

With a working group recruited from across the university, initial discussions focussed on
whether IPE should be pursued (Int3-04:01). A neighbouring institution asked to be
involved, broadening the range of IPE students (Int3-05:09), now encompassing three
schools and two universities. In the beginning social work felt the IPE had insufficient
health and social care context (Int3-44:07), subsequently addressed by social work
developing one of the modules and delivering keynote lectures (Int3-44:25).

Several other institutions were visited in 2002, in order *'see if what they were doing
would fit within our kind of curriculum design (Int3-06:43)'*. The school appointed a
project officer, a former medic, for a year to keep everyone on track (Int3-12:48) and
curriculum mapping between the different professions was undertaken to decide *'what
should we be teaching interprofessionally in the first year, what would actually give them
the grounding, what were the issues that we thought we wanted to target? (Int3-17:35)'*.

This raised a dilemma for IPE development for first year students:

> *What could you do when the students had no professional identity, other than what
> they think they're coming into study? (Int3-17:55)*

The working group decided upon basic enquiry skills and teaching students about the
context of practice, 'about the values and judgements and codes of conduct and factors
and ethics, in relation to their own individual profession (Int3-19:01)'. This resulted in
four common themes, subsequently developed and refined whilst running the IPE
module: practice context, basic research principles, people involved and professional
development (Int3-19:33). A cross-discipline group was also reported as now developing
information for case studies, for use in IPL first year modules (Int3-54:16).

7 staff members

Development of IPE was a driver behind funding which merged three institutions. This now encompasses 600 students with a team reported as *'trying to co-ordinate placements - there are about seven members of staff and they're over-worked (Int7-39:03)'*. Working as an interprofessional team with ten programmes was reported as challenging (Int7-38:30), and a central co-ordinator role stated as being impossible (Int7-39:26). The interprofessional education is within a 'Common Foundation Programme' running in the first semester (Int7-09:17). However, for staff it was reported as *'causing too much stress… most of the conversations became about time tabling... than about anything else (Int7-15:13)'*. Consequently, the collaboration and joint awards are under review (Int7-17:56), because *'everybody felt there was a lack of ownership when the collaboration first got started (Int7-17:05)'*.

To summarise theme 2a, all the institutions appear to use multi-disciplinary teams to develop their IPE. However, there are salient lessons reported from the early-days endeavours of some institutions, triggered by external time constraints, course validation or institutional merger pressures. Some professions can easily be left behind, resulting in a lack of ownership and less commitment to IPE. The practicalities of merging institutions or timetabling of students can easily swamp the IPE objectives. Hence there is recognition of IPE needing clear leadership and inter-disciplinary co-ordination.

There are differences regarding which academic areas can incorporate IPE: one focuses on governance and safety issues, developed into collaborative learning in the students' entry year, interprofessional team working in mid course, and interprofessional problem solving in the final year; the other focuses practice context, basic research principles, the professions involved and professional development.

Theme 2b: What educational thinking or ideas were used?

Within the interviews, care was taken not to use the word 'theory', to preclude the spontaneous attribution of named theories, in order to 'help' the researcher. Hence when participants named theories of their own volition, there is the supposition that said theories were more likely to have been actually used during course development.

Various approaches to IPE were reported by the interviewees, grouped into the following: adult learning, social contact, opportunistic IPE (including common and shared learning), strategic thinking; constructive alignment 'blended' with problem oriented learning and facilitated collaborative learning. These are shown in and narrated below:-

Adult Learning

Adult learning concepts were reported as the key IPE approach for one institution, with the skills students already have in their personal lives being brought into their professional lives (Int1-25:30). They also use *'enquiry based learning approach, so that people are actually learning with and from each other is kind of key to this (Int1-26:00)'*, and experiential learning (Int1-27:30).

One participant requires her students *'to take some responsibility, for their learning and to get to know each other. And that's why we put these weeks in, where there's no formal teaching but they have to address certain learning outcomes for that week (Int3-23:50)'*. Thus Knowles' core principles of prior personal experience and motivation to learn are being brought to the fore, adapting to fit the uniqueness of the learners and the learning situation (Knowles et al. 2005).

Social Contact

One of the participants reported *'Social contact theory is one of our underpinning theories (Int2-50:52)',* as an educational model for setting achievements and what needs to be in place (Int2-50:39). It was unclear whether this might have been referring to the Contact Hypothesis, to Realistic Contact Theory, to Social Identity theory or to Self Categorisation theory, to name a few (Hind et al. 2003). In the case of Contact Hypothesis, it suggests that positive contact requires institutional support, equal status of participants, positive expectations, a cooperative atmosphere, successful joint working etc (Carpenter 1995). The Contact Hypothesis also underpins the exemplar e-Learning module www.cipel.ac.uk/learning_objects/efrances/grabandrun1.html, produced by the Centre for Interprofessional e-Learning (Gordon and Miller 2009) noted in Study 1.

This was supported by another participant: *'One of the key things which a lot of facilitators don't seem to get, is the contact time is important… we feel there needs to be contact and interaction time… We want students to be learning how to work together and problem-solve together (Int1-25:40)'*. In producing some group work, *'the content is not that important… the content of what they actually do can be very interesting, but it's the process that is important (Int1-34:42)'*.

'Action learning' was similarly described as 'pulling them together' to provide a greater understanding of each others' profession, a greater collaboration, better team working etc., though it *'plays-down, certainly with the students, some of those less explicit outcomes of interprofessional learning (Int6-21:31)'*. These learning outcomes weren't written down, weren't necessarily assessed or overt in the curriculum, *'but they were outcomes that we wanted the process to achieve (Int6-22:03)'*.

Opportunistic, shared and common learning

Whilst social contact theory may seek purposeful contact and interaction between students, opportunistic learning seems to leave this more to chance in shared courses: *'One shouldn't undervalue the opportunistic social learning that goes on… they've spent time with students in the other professions (Int2-59:50)'.* This may come about through the mapping of different courses to identify commonality (Int4-21:31), or part-modules where students have opportunity to *'share the experiences, share working with each other (Int6-13:4)'.* Such shared learning may encompass basic enquiry skills (Int3-18:03), research methods (Int2-10:33), clinical sciences (Int5-46:58), the national service framework (Int4-53:34) or *'the values and judgements and codes of conduct and factors and ethics, in relation to their own individual professions (Int3-19:01)'.* Hammick et al refer to this as informal IPE learning:-

> We have argued that informal interprofessional learning is important. Thus the social times within IPE, such as refreshment breaks and shared journeys, during which learners from different professions can interact, could enhance positive attitudes to others and reinforce formal input (Hammick et al. 2007, p.745).

An area of shared learning may be communications skills, between professionals and with patients and with clients. One participant reported this as being a focus for first year IPE (Int1-29:22). However, another disputed whether communications skills *'are inevitably the same and can be shared, entirely (Int4-55:32)',* arguing that *'different professions in fact communicate in slightly different ways and with different purposes (Int4-55:52)'.*

Common learning may be associated with common ground between professions, for example a planned module on tissue viability which will cross between nursing and podiatry (In2-27:02); potentially also care of the elderly which could include physiotherapy, podiatry, occupational therapy, nursing and social work students, (Int2-27:20). One participant reported *'fifty percent of our modules have common learning in them, either fully of partly… with, from and about each other (Int4-12:43)'.* This course included only podiatry and physiotherapy students, with acknowledgement that it *'limits the scope, really, of professions that students can have access to (Int4-11:34)'.*

Common learning might encompass sharing a whole first year, alluded to by the NHS and its aspiration to achieve a new common foundation learning programme to enable students and qualified health professionals to switch careers and training paths more easily (CIPW 2007). An example might be the first year Common Foundation Programme for pre-registration adult nursing, mental health nursing, learning disabilities nursing or children's nursing students (Nursing & Midwifery Council 2004, Pollard 2009).

In contrast, one participant reported *'I get horrified if someone says to me, "But you can all do the same programme for a year and then choose which profession they go into."*

That just fills me with horror (Int4-57:06).' Her view about IPE was that '*It's not about having some homogenous, sort of group. My perspective on interprofessional education is that, 'Yes, you get the students together and cover the same principles and concepts, but actually you're going to go away and use it quite differently. (Int4-56:18)'*

CAIPE acknowledges the groundwork that can be achieved through common learning: *IPE is more than common learning, valuable though that is to introduce shared concepts, skills, language and perspectives that establish common ground for interprofessional practice (CAIPE 2006b).*   However, CAIPE also considers IPE to be *comparative, collaborative and interactive, a test-bed for interprofessional practice, taking into account respective roles and responsibilities, skills and knowledge, powers and duties, value systems and codes of conduct, opportunities and constraints. This cultivates mutual trust and respect, acknowledging differences, dispelling prejudice and rivalry and confronting misconceptions and stereotypes (CAIPE 2006b).*

One participant also described podiatry and pharmacy students sharing their clinical patients and learning from each other (Int6-13:34), with another reporting students using those of other professions as research subjects (Int3-48-34).

Strategic thinking

One aspect of strategic thinking is at inter-departmental level within the institution, moving beyond small pilot endeavours towards embedding IPE within the curriculum:-

> *The school now has an IPL strategy… and there's an IPL group that's drawn from all the relevant departments across the school. And they're working on taking things forward in a more systematic fashion (Int2-15:53).*

> *There will be interprofessional learning outcomes included in all student programmes. So, at the moment, in my department, my course teams have been looking at identifying which modules to embed the interprofessional learning outcomes in (Int2-20:32).*

There is also recognition that IPE development staff collaborate as a multi-professional team and must themselves learn how to work together:-

> *And we did… a year looking at getting groups of people who were going to lead the modules, but working as a team and doing that… There was a fair amount of team teaching and I think... things like team working were part of the curriculum content, but were also relevant to the delivery and how we were all working together anyway (Int6-20:56).*

Strategic thinking may include developing uni-professional modules to have an inter-professional approach, such as one developed in social work on criticality and critical thinking (Int2-18:05), or starting to develop a menu of IPE opportunities for students to select from (Int2-23:00), available on campus and in practice. Another example is the

use of evaluation tools, comparing student cohorts now having the IPE module with a predecessor control group (Int3-14:54).   There is also recognition of moving beyond shared and opportunistic learning, towards specific IPE outcomes:-

> *There's something of a tendency still to think of it more along the lines of shared learning and we're really only just beginning to move into having some discussion about 'yes, but what's the learning we expect the students to achieve?', rather than just 'if put them together, they'll automatically…(Int2-17:26).*

Problem Based Learning & Blended Learning

Problem Based Learning (PBL) is used in small groups of seven or eight students by one institution's nursing programmes (Int3-20:51).   However, the participant considered this as too expensive for use within IPE by the rest of the schools (Int3-21:02).   Another commented that their PBL push came from a post-graduate, accelerated learning course that was completely inter-professional (Int4-08:37).   A further issue with PBL was its unfamiliarity for some student professions:-

> *We had to have something that wouldn't alienate the students and think they were learning in a very different way in one module and then moving into the other two modules that were running and thinking, 'I'm having to jump two different ways here' (Int3-21:22).*

A solution for IPE reported by one interviewee was that *'All the programmes, other than nursing, were developed on a learning and teaching strategy which was based on constructive alignment and problem orientated learning (Int3-21:41)'.*   The constructive alignment may imply systematically aligning the teaching methods and assessment (Biggs 1996).   A 'Blended Learning' solution was achieved through seminars providing a theme and topic area, then the students breaking out into smaller interprofessional groups of four to six students working together (Int3-22:12, Int6-30:20).

Facilitated Collaborative Learning

A final area of reported IPE thinking is facilitated collaborative learning (Int5-17:44), for nearly 1,300 students per year representing ten different professions:-

> *This is about team working, it's about mutual respect, it's about understanding other peoples' perspectives, to actually focus on the patient (Int5-43:02).*

It utilises specially-trained facilitators in clinical situations to develop and facilitate projects based upon clinical audit for mixed profession groups of mid-course students, together with clinical service change for final year students.   Thus there is a student focus on clinical governance and patient safety, which is intended to bring the professions together (Int5-09:03).

The above practice-based IPE is also an area being investigated by another participant: *'to build in at least one interprofessional learning opportunity, whilst the students are out on placement (Int3-31:28)'*, moving towards IPE opportunities that involve other institutions (Int3-31:38).   Another reported her concerns over scaling-up the IPE endeavour to encompass hundreds of students (Int7-37:55).

To summarise theme 2b, there was a range of thinking and limited application of theory, of how to go about developing IPE. Adult learning and social contact theory came to the fore. Whilst social contact theory was associated with only three interviewees, its impact may perhaps be viewed more widely, particularly regarding interactions within small groups. A 'blending' of larger keynote lectures followed by smaller student breakout groups was seen by one institution as an answer to the staff resourcing problems associated with PBL. Opportunistic or informal learning is widely featured within IPE, with some institutions seeing it as a fortuitous IPE spin-off from their endeavours at shared or common learning.

Theme 2c: Approaches to teaching and facilitation

Eight approaches to IPE implementations were identified: opportunistic learning, shared and common learning, placements, case studies and virtual learning, reflection and small group work.   These overlap and extend the thinking / theory ideas of the previous section, as shown in <u>Figure 24: Mind map 2c - IPE approaches</u> and reported below.

Opportunistic Learning

One of the institutions has recently undertaken a trial of final year research projects involving students from different professions. The IPE component is not guaranteed and students may or may not develop understanding of each others' professions (Int2-12:55), this being seen as a valuable means of enabling social learning:

> *That's where the opportunistic bits come in. If they're working on a project whereby the students from the different professions contribute knowledge that they wouldn't get, we get much closer to CAIPE. But actually, if that's not the case and they just happen to be working on stuff together, they don't really learn much about each other, other than when they're chatting together over coffee (Int2-59:19).*

Opportunistic IPE learning is assumed to take place in the practice elements of the course (Int6-24:16).   However, in looking at both inter- and intra-professional team working, it must be professionally relevant to the student, *'and also, in a sense, to flag up where it's not relevant (In6-24:51)'*.

Shared learning and common learning

From an IPE perspective, the terms shared learning and common learning may be used interchangeably, when referring to times of parallel learning without specific interaction between differing professions. However, as exemplified below, the terms still cause confusion, even amongst academics most used to them.

One institution runs two parallel modules: the 'High Risk Foot' for the podiatry students and 'Integrated Practice' for the physiotherapy students. The clinical reasoning and reflection components are partly shared, with a physiotherapy student reported as saying *'It was really good, us doing presentations with the podiatrists, 'cos you find out so much more about how they think. (Int4-29:03)'.* Also, a first year course called Patient Centred Practice is completely shared, as is another that studies the National Service Framework for the Elderly and Children, where their practice doesn't necessarily overlap but they encounter each other (Int4-54:26). Hence one institution's claim that 50% of its modules are fully or partly shared between the professions, when they do learn *'with, from and about' (Int4-13:08).* Another estimated that 20% of their curriculum was different professions working together and this was very much the norm (Int6-24:56).

However, another participant refutes the above claims for *shared* learning:-

> *There'll be units when the pods, physios and OT's, just within that school, come together and learn, say, they may do clinical sciences together. But that's not about learning with, and from and about each other. That's about bulk teaching. When actually it's common to all of them (Int5-47:14).*

Instead, she emphasises that *'this Common Learning thing are the interprofessional learning units' (Int5-47:09),* involving a broad range of eleven professions and 1,300 students each year. They are brought together in small mixed teams for clinical audit projects in mid-course, then service change projects in the students' final year. The students find that *'they're working on something completely real (Int5-20:35)'*, with mutual benefit for the organisation (Int5-26:25). However, an illustration was also given whereby, as a therapeutic radiographer, *'you might be working on a project which is... you may not see any connection with therapeutic radiography, but you will learn about audit. You will learn about sourcing evidence, about working together, about somebody else's problem (Int5-19:21)'.*

The participants do not clearly distinguish between shared learning or common learning. The CAIPE definition of IPE being 'with, from and about' may be applied in both the shared and the common learning exampled above.

Placements

Uni-professional placements figure highly in most health-related courses, with one participant reporting difficulties arranging placements due to financial pressures and other priorities within the NHS (Int7-29:30). However, IPE might be gained through 1st year physiotherapy students working alongside more experienced 2nd year podiatry students in clinics at one institution, learning communication skills (Int2-42:23). Another has *'places where they go, where they have shared clinics, between physios and podiatrists (Int4-50:32)'.*

Having a young staff, one participant found it useful that some of the podiatry lecturers had previously worked clinically with their physiotherapy staff (Int4-50:32). Another reported a strong history of collaborating with other institutions around practice, with a particular initiative developing scenario-based learning that is facilitated in practice, since *'there are some interprofessional learning opportunities available out in practice' (Int2-18:50)*.

Case Studies and Virtual Learning

IPE case studies were reported by one participant as being used for:-

- Exploring the roles of professionals (Int1-33:46)

- Looking at complex cases involving many different agencies and professionals involved in care (Int1-35:45)

- In their final year, referring to real cases where things went wrong (Int1-36:21)

Through questioning his students, another participant exemplifies the IPE use of case studies from final year practice: *'Can you give me illustrations of when team working's worked well? Can you give me illustrations of why it didn't? Why do you think it didn't? (Int6-26:11)'*. Thus *'they can reflect on that and in a sense, pick up on the theory that we did in year one and the reality in year three (Int6-26:21)'.* IPE can thereby introduce students to working within management hierarchies and in sensitive environments through complex cases (Int6-26:01).

Case studies were also used by two other participants, within a virtual learning context. This uses computer and web technology for off-campus learning. One participant described it as a means for getting students to engage in case studies, perhaps a mix of social issues (housing, cultural, family, teenage pregnancy, abuse, elderly dependants, mothers) in an environment that feels real (Int3-53:43). One example of virtual learning was started by a social work team, then picked up by the whole school which added a virtual hospital, health centre, sports clinic and a school (Int3-53:54). This subsequently

developed into a virtual town with families. Students are encouraged to work on the cases and contribute to on-line discussions, prior to theme days where it is all brought together (Int3-26:50). A virtual hospital was also described by a second participant, initially with nursing material but now being rolled out to other professions (Int2-24:57).

Reflection

Reflection was widely reported by participants as a means for achieving IPE objectives (Int1-26:45, Int2-18:05, Int4-28:43, Int5-34:15, Int6-27:09, Int7-25:20). Some professions are familiar with reflection, such as nursing students at one institution who use the Gibbs model which was considered to be well recognised and straight forward to use (Int1-28:00). Students add their reflections to a portfolio of learning, where they can record their working in mixed professional groups and opportunistic IPE from placements, as well as planned events (Int1-40:51). A second participant is considering the development of common portfolios across all programs (Int3-29:41) and for combining clinical and IPE experiences (Int3-30:51).

However, one participant expressed the concern that reflection requires academic maturity and can be unsettling for first year students for whom *'everything is just so unfamiliar… they're so wrapped up in just getting the language right (Int6-30:00)'*. He has had long academic debates about *'whether you can ask students in year one to be too reflective, purely because they're too busy just trying to get their confidence and learn (Int6-29:44)'*. However, by the final year he considers that reflection should be the norm and commented on returning post-graduate students who still keep a reflective log in clinical practice (Int6-30:56).

Small Group Work

Small group work of mixed student professions were also frequently reported by the participants, although highly resource intensive and requiring many facilitators (Int1-36:36). One participant described themed days with keynote lectures, followed by seminars with small multi-professional break-out groups of no more than six students (Int6-17:57), with another regarding this as *'Blended Learning (Int7-30:20)'*. Other participants described small mixed groups of four to six students, with each tutor having three or four groups to deal with (Int3-22:20). In contrast, a further participant reported *'students come together in small groups of ten or eleven, with a mix of the eleven professions that we have involved (Int5-17:45)'*.

The use of small groups was similarly found within the case studies of Miller *et al* (1999), who considered that the use of small multi-professional groups enables the sharing of experiences and expertise and facilitated interactive learning strategies. The multi-

professional mix differentiates IPE from uni-professional group work. The mix was reported as important since *'it's good for them to have some experience of working in a group where those cultural norms may be different (Int2-13:45)',* providing preparation for multi-disciplinary team working after graduation (Int1-01:24, Int5-49:22).

Two participants reported their students performing final year research projects in small mixed groups, in one case to assist in amassing empirical data (Int2-11:23). Whilst methods and results may be common amongst the group members, their reports are written-up individually and must include a reflective account of their experience of group working (Int4-36:16).

To summarise theme 2c, opportunistic IPE learning is widely reported through shared learning and practice placements, with observations that relevance for particular professions can sometimes be an issue. The terms shared learning and common learning were interpreted differently by some participants, with both sometimes meaning the same as IPE. Critical reflection was found to be widely used by IPE students, sometimes documented within portfolios, to increase their awareness of their experience and to learn through them. This was reported as requiring a certain level of academic maturity and confidence. Thus critical reflection may be considered supportive of Knowles adult learning requirements of particular need, life-centred, personal experience and self-direction (Knowles et al. 2005).

All participants except one reported using case studies, sometimes presented within a virtual learning environment to provide a clearer context. One participant illustrated how questioning can draw pertinent illustrations from the students of good and bad team working, helping to connect theoretical learning with the experience of practice.

A further key point is that IPE students work together in small mixed-profession groups, sometimes preceded by keynote speakers or seminar sessions. Group sizes vary between 6 and 12 students, with attempts made to include every student profession available at the institution. However, there appears to be no clear consensus on what is being taught by these different approaches.

Theme 3a: What challenges were faced in developing IPE?

The third theme considers participants' experiences in developing and motivating their IPE courses. When asked about challenges faced in developing the course, five themes were identified, shown in Figure 25: Mind map 3a - Development challenges. Time tabling challenges were the most often raised, with other issues including the motivation of facilitators, IPE terminology and IPE perceptions.

Time tabling challenges

In providing IPE to 150 podiatry and physiotherapy students, one participant observed *'the bigger the numbers, the smaller the amount interprofessional education gets (Int4-12:20)'.* Other participants reported much larger IPE endeavours, for example over 3,000 students from eleven courses in three schools over two institutions (Int-18:11); also 600 students over ten courses from three institutions (Int7-37:23), where this can cause difficulties gaining consensus during the development process (Int7-20-06).

The quest to find opportunities to get students together, attending the institution at the same time, has one IPE course using Friday afternoons, considered to be less than ideal: *'if you're trying to get the students to see something that's not clearly… of value to them and their profession, you certainly don't want to do it on a Friday afternoon (Int3-09:07)'.* Another participant tried *'protected time across the school for IPL… in all student's timetables, so that IPL can take place (Int2-07:03)',* but has not yet managed to overcome the challenges of extending this into the second and third year. One institution hosted IPE sessions at a time coinciding with examinations for some student professions. This resulted in *'the podiatry students in my group were really quite angry and aggressive during the first day, because it was the middle of the exams and they felt quite annoyed at this (Int1-01:07:05)',* even though their course team had agreed the dates.

One participant reported re-scheduling course validations in order to improve course integration (Int6-05:43). Consequently seven of thirty six modules are shared at least in part, between podiatry, physiotherapy, nursing and midwifery students. Even so, the shared physiology module was reported as becoming too fractious and after four years, the professions have now gone their own ways for this module (Int6-11:57).

It was considered key by a couple of participants to have *'contact and interaction time (Int1-25:40)'* and *'allocate them time to be together, 'cos the rest of the week they're never going to meet! (Int6-23:19)'.*

Timetabling addresses complexities such as differing year starts (for nursing students), resulting in *'normally somebody out on placement (Int2-22:20)'.* Physiotherapy students were reported as spending their first 18 months on campus, then their next 18 months on placement (Int6-07:37). In contrast, podiatry students were reported as being around more of the time than the others with their *'integrated clinical / academic pattern and… most of their clinic work within a dedicated clinical unit and some local placement (Int6-07:13)'.* One solution suggested by participants was to offer multiple IPE opportunities, without an expectation for students to attend all of them (Int2-21:55;

Int3-28:58).   Another approach is exemplified by: *'what we're doing is a clinical based interprofessional learning… trying a pilot using a practice-based approach… (Int3-31:08)'*.

Geographic separation of just a few miles was cited by one participant as the reason why social work students were excluded from IPE, where vagaries of inner-city commuting between sites might take 20 minutes or 2 hours (Int4-38:13).   Another considered travelling 10 plus miles between towns as impossible for students (Int6-39:27). However, a contradictory example was given of pharmacy students travelling 25 miles to work alongside podiatry students in their clinic, sharing their patients (Int6-12:59).

Facilitator challenges

Adequate provision of IPE staff is reported as a significant issue, in particular getting interested people willing to create the time to develop the course (Int2-25:55), within local inter-professional working groups or expression groups (Int1-19:13).   It was suggested that lead developers may also have difficulty influencing IPE decisions outside their own department (Int2-26:32), with everyone having different perceptions and biases (Int7-49:53).

When running IPE courses within the institution, participants reported that IPE staff tend to be volunteers or co-opted lecturers from the uni-professional courses, pro-rata the number of their students undertaking IPE.   For example 1 lecturer to 20 students (Int3-11:13).   In teaching professions which are not their own, one participant suggested that lecturers may bring their own negative stereotypes and attitudes and actually pass them onto the students (Int1-23:50), even to the point where it can *'feel like sabotage!'* Hence her remark *'we can't, we won't ever get it right with the students, until we get it right with the educators (Int1-23:40)'*.

Utilising clinical settings for IPE on a large scale, required one institution to train 700 clinicians in understanding their IPE model and in facilitating groups (Int5-27:04), where they *'work with the clinicians, who are going to act as the facilitators, to work with them to establish a project that meets the learning outcomes (Int5-19:00)'*.   This was enabled through government funding for Higher Education Initiatives in partnership with their Workforce Development Confederations (NHS), obtained through open bidding (Int5-13:45).   Whilst the other institutions did not have this level of IPE funding, one other did receive funding from its Strategic Health Authority (NHS) when developing a joint award for three institutions, which included IPE development (Int7-18:45).

Terminology challenges

Three challenging areas of terminology were reported by participants: facilitation, team working and skills sharing.   One participant considered that their IPE staff are *'sort of*

lecturers, really. We wouldn't use... the word facilitator's more for people… for being out in the clinical setting (Int4-32:23)'. Another identifies IPE staff within a cross-school group who *'deliver and lead the module and deal with the facilitators (Int3-55:34)'*, whilst a third refers to students *'working on a specific project that we've worked-up with the teams and the facilitators where they're going to be based (Int5-18:31)'.* However, one institution without planned clinical IPE refers to all IPE staff as facilitators. This may reflect her view that IPE is *'learning with and from each other is kind of key to this, rather than a didactic teaching. This isn't a type of learning that's suitable for large lectures (Int1-26:00)'.*

Another challenging view was that *'interprofessional working is team working and that's all that it is (Int7-52:48)'.* However, another participant differentiates between *'both inter- and intra-professional team working and learning (Int6-24:26)'* with his students (team working between professions and within a profession). Claims that *'We work as a team because we have a team meeting'* may also be false in the opinion of one participant, since there are *'usually only two or three people talking… and a lot of people sometimes don't attend (Int7-27:10)'.* Within small practice teams, this participant also queries *'Can the physiotherapist do some of what the nurse does, so that we don't have to get a nurse in every time? They're actually sharing skills, you know, that's interprofessional working (Int7-28:04)'.* However, the idea that IPE is developing shared skills and is *'turning everybody into some blobby, generic health care worker (Int5-28:59)',* was strongly refuted by another participant in her reported briefings to numerous professional and regulatory bodies*.*

The findings illustrate some ongoing terminology challenges within IPE. Day (2006) contrasted the findings of Leathard (1994), Rawson (1994) and Barr (2002) in reviewing the terms used to indicate working and learning together:-

- inter / multi / trans as either problematic association or simple prefixes;
- professional / disciplinary as a grouping or adjective;
- learning / education as a noun or a process.

Whilst Leathard regards interprofessional and multidisciplinary as concepts-based, Day regards 'interprofessional' and 'multiprofessional' as being most used within the literature and preferred by academics. However, interprofessional working and multiprofessional working may be interpreted differently by different professional groups.

IPE Perceptions Challenges

Differing perceptions within IPE, held by staff and students, can be challenging. For example, with entry level students *'it's a huge task to understand their own task and*

other peoples' professions (Int4-40:32)', that they may not even recognise unfamiliar areas of their own profession (Int4-39:44). This was echoed by another participant:

> *One of the biggest things to get over at the beginning was the level of ignorance over different professions. So the level of ignorance, about the other professions they'd be working with was just amazing. And this was within the academic institutions, where often these departments were just across the road from each other and the myths and the mis-information was just stunning, absolutely stunning! (Int2-30:24)*

Many students reportedly start with quite negative perceptions towards IPE, considering it less valuable than their clinical practice (Int1-17:30). It was suggested they may feel angry over the idea of missing something from clinical practice due to attending IPE, even though in this particular institution IPE counts towards recorded clinical hours. This may in part be due to health and social care students judging relevance in accordance with *'what they perceive their practice to be (Int4-39:24)'*. One participant, a former course leader for podiatry, commented that it should be flagged when IPE is not relevant, since *'a lot of podiatry practice is autonomous - it's not about teamwork, it's about [patient] one-on-one with the practitioner and they [the students] needed to understand that as well (Int6-24:51)'.*

To summarise theme 3a, the challenges that IPE developers report are wide-ranging, encompassing struggles of time tabling and appropriate staffing. Participants raised issues about the interpretation of terms such as IPE facilitation and team-working, which may not be apparent within a single school or course. Students' erroneous perceptions of other professions and sometimes even their own profession can also prove challenging within an IPE setting, raising initial concerns about IPE relevance. Such issues were raised by Reeves et al (2007a) in their commentary about planning and implementing IPE. However, the consideration that student perception about professions may be affecting how they view the relevance of IPE is discussed later.

Theme 3b: Adapting IPE to the different professions

If regarding IPE students as self-motivated adult learners, there should be provision for differences in style, time and pace of learning (Knowles et al. 2005, Table 4.1). Participants were asked how their IPE adapts to differences between student professions. Four themes were identified from two participants in particular: professional cultures, prejudice, stereotyping and the relevance of IPE for more isolated professions, as shown in Figure 26: Mind map 3b - Adapting to learners and professions.

Professional Cultures

One participant contemplated the wide-ranging assumptions held within the question, asking herself *'Exactly what one means by cultural differences? (Int2-28:34)'*. She

advised caution in that *'one has to be very careful that cultural differences aren't just prejudices on behalf of the organising committee'* and that the *'danger is if you pay… attention to such things, or making explicit statements about such things, actually you undermine what you're trying to do (Int2-29:12)'*. The latter may be associated with possible re-enforcement of negative stereotypes between the professions, addressed below. The participant continued to say that whilst medical students were reported as not hesitating to voice their opinions, they were found to be open to learning from and with others (Int2-32:06). This was contrasted with views of nursing students who *'often had a harder time recognising what they had to learn from others (Int2-32:26)'*. This was contrasted further:-

> The major tension was between medicine and nursing, that in some ways nursing was much less open and ready for interprofessional education than medicine was (Int2-31:40).

This may be part explained by differences in maturity and entry qualifications, affecting the way that the groups function (Int2-29:32). However, in the participant's experience, *'in terms of entry qualifications and science background it was pharmacy… and audiology, who were actually well ahead of medicine and everybody else (Int2-32:36)'*. She suggested that the main difference between professions is *'whether it's a social or a medical model of care (Int2-30:00)'*. However, whilst saying this difference is suited to interprofessional learning, it is not yet being addressed at her institution (Int2-30:20).

Relevance of IPE

'If it's a medical model of care, drugs [pharmaceuticals] will be in there somewhere (Int2-34:33)', brings pharmacy students to the fore. The participant reported that since pharmacy students *'don't do placements etc… pharmacy students probably came with high levels of ignorance of the other professions… but actually had a great deal to contribute and learn (Int2-34:53)'*. In a similar vein, whilst some professions see themselves much more easily belonging to a multi-professional team, radiography students *'sometimes struggled with seeing where they might fit in a multi-professional team (Int2-34:20)'*. A similar issue was also raised for radiology students by another participant: *'some students say they still don't get it… that it's, erm, relevance… Quite often it's still radiography (Int3-43:50)'*. However, in response to thirty social work students feeling isolated amongst four hundred health students, the IPE syllabus was reviewed to add more social care context: social work staff now also deliver keynote lectures and have developed one of the themes (Int3-44:07).

Professional Stereotyping

One participant continues teaching first year IPE to a mix of physiotherapy, podiatry, nursing and midwifery students. He declared, *'we've got these deep seated, stereotypical ideas about what professions do (Int6-27:57)'* and indicated he discusses them openly with his students, in a relatively light-hearted way, choosing those professions that are represented. Having acknowledged that *'society has these deep seated stereotypical images of particularly the health professions… it's a reality (Int6-28:13)'*, the discussion is drawn towards *'this can have an effect on how we work together and also how our patients view us'*. Students are asked to reflect upon this and carry it forwards in their training (Int6-28:56).

To summarise theme 3b, some 'more isolated' professions can feel as outsiders in an IPE environment, exemplified by some radiography and social work students. However, involvement of their profession's staff in adjusting the IPE curriculum and its presentation can address this. Contrasts between the medical and social models of care can also influence IPE and needs to be sensitively addressed.

One participant highlights the danger of making explicit statements about cultural differences, whilst another refutes this by addressing professional stereotypes with his students head-on, in a light-hearted manner.   How groups see themselves (the in-group) and how they see others (the out-group) is addressed by Social Identity Theory, as propounded by Hean et al (2006b). Their study suggested that students in each professional group should be made aware of the characteristics that are perceived as distinctive by themselves and by others.

Theme 3c: Approaches to IPE assessment

The participants responded to the question about IPE assessment from two perspectives: how the students were being assessed and how the course itself was being evaluated. With regards to student assessment, several reported their IPE and its assessment to be embedded into other modules.   Another considered formative and summative assessment of IPE, whilst others declared no formal IPE assessments but described its integration into portfolios of practice. These are shown in Figure 27: Mind map 3c - Assessment of IPE and are detailed below.

Embedded IPE assessment

One participant explained how her institution required each profession adopting IPE to relinquish 20 of their 360 course credits from the current curriculum (Int3-20:07). For another, each full IPE module was assigned 10 credits (Int6-37:30), in addition to which there are generic one-off themed days which are not specifically assessed but are

considered as integral the individual's professional studies. A third participant constructs IPE experiences to allow students to achieve the set IPE descriptors, benchmarks and assessment criteria (Int4-33:02). This integration is the same for all the professions, even managing students at different course levels within the same learning unit (Int4-33:25). These may exemplify explicit, credited assessment of IPE activity which is demonstrably embedded within the curriculum.

Three participants reported their IPE activities as being embedded within other modules: *'theme days are embedded in the modules that are running at the time (Int3-27:23)'* and *'it allows us to embed the assessments in modules, so that the interprofessional learning becomes embedded (Int2-21:10)'*. Embedding of the IPE curricula was seen as moving beyond initial developments: *'in terms of embedding and sustainability, we're moving away from dependence on central money to a process, now, where we have basically a cost per student per programme, for the three units (Int5-35:21)'*. Embedded IPE should not be seen as *'taking two weeks <u>out</u> of the curriculum. No! This is two weeks <u>of</u> the curriculum (Int5-31:52)'*. For the third institution, embedding was reported as an outcome of their mapping exercise of course content and delivery (Int3-27:53), resulting in *'the learning outcomes from the theme days have been embedded in the modules, so that the information and the contribution they make in the theme day is assessed through the modules that they're studying (Int3-27:23)'*. These participants may exemplify an implicit assessment of IPE, encapsulated within other modules when the IPE activity is embedded within them. It is unclear whether students are aware of the course credits that these IPE activities represent.

Formative and Summative Assessment

One participant differentiated between formative and summative assessment of the IPE students: Formative assessment is early in the first semester and is probably the student's first coursework writing. As such, it *'gives them feedback, and lets them see how their writing is (Int3-56:20)'*. In the second semester there is a summative piece at the end of the module which is compulsory, and must be passed to enter the next year, with necessary re-takes in August (Int3-57:35). Similarly, another participant noted that their occupational therapy and nursing students submit a reflection for summative assessment, with the social work students submitting an essay for marking by their course team (Int1-39:31).

Aspects of IPE not formally assessed

Two participants described aspects of IPE which are not formally assessed, for example *'their understanding of each other (Int3-34:11)'* or *'can they work inter-professionally? (Int3-34:47)'*, or *'greater understanding of each others' profession and a greater*

collaboration, better team working, those sort of things. So they weren't overtly in the curriculum, but they were outcomes that we wanted the process to achieve (Int6-21:51)'. One participant questioned whether anyone [other institutions] is at a point of judging whether a student works well with other professions (Int4-34:57), though it might be assessed in clinical practice (Int4-34:24).

One participant reported that IPE is not explicitly assessed within podiatry at her institution (Int1-39:53), but its attendance was compulsory as part of students' clinical hours. The podiatry students must also reflect on IPE events, as part of a portfolio discussed with their academic tutors (Int1-40:02). The portfolios are not signed-off [assessed] and she could not see a student failing to graduate because they have not engaged in IPE (Int1-43:15), since *'it's a very basic… interprofessional competency (Int1-43:41)'*. However, she thought there may come a point when students have to do remedial IPE (making up for missed attendance) (Int1-43:51), when the on-line IPE package could come in useful (Int1-43:41).

Presentations and Portfolios

One participant provided anecdotal evidence from a physiotherapy student:- *''It was really good, us doing presentations with the podiatrists, 'cos you find out so much more about how they think". (Int4-29:03)'*. Some IPE courses prepare a poster (Int6-22:40), whilst others ask student groups to present to the cohort, which one participant reported *'is incredibly threatening to some people! Yea, some people loved it, but most people didn't like that (Int1-38:12)'*. This perceived threat, the time required and the repetitive nature of many such presentations, resulted in presentations at her institution nowadays only being to the group and the facilitator, rather than to a conference (Int1-38:12).

Two participants referred to portfolios of practice being used within IPE (Int1-39:05, Int3-30:39). Another called it a reflective journal which is explicitly assessed in the final year. It is expected to be quite sophisticated and *'reflect on areas of practice, against competencies, but also reflect on what their own experience was, and how it worked and how it didn't (Int6-27:09)'*.

Evaluation of the IPE course

One participant reported no formal evaluation of the IPE course (Int4-25:22) and another that there was no specific IPE feedback from their annual evaluation programme and student panels (Int2-45:38). The latter were instigated because they found the *'students were getting evaluation overload, when you were try 'n' do questionnaires around every module (Int2-45:25)'*. However, informal evaluation of the IPE course is being achieved through research, with one masters researcher collating student comments from the IPE

experiences (Int2-46:12); also doctorate research following student graduates into practice (Int3-45:15). In addition, the mixed professions of one institution were reported as being the subject of a book on team working (Int6-32:25) in various contexts (Miller et al. 2001).

To summarise theme 3c, participants reported wide-ranging approaches to IPE assessment: formative and summative; as stand-alone, embedded or not at all. For two institutions, the IPE course contributes up to 20 course credits towards the student's degree. With another other, it contributes to a portfolio of practice which receives no formal credits. There is little consensus as to which assessment approach might be best suited to IPE, nor any detail provided as to what exactly is being assessed. Regrettably, Study 1 was also lacking in this detail, even within a couple of podiatry curricula provided in response to the <u>Introductory letter sent to heads of podiatry</u>.

Theme 4a: Feedback from staff delivering IPE

The fourth theme focuses on the facilitating IPE staff, seeking feedback from those delivering IPE, staff preparations for IPE, any perceived differences between the professions and a specific consideration of podiatry staff.

With regards to feedback from IPE staff delivering the IPE courses, six themes were identified from participants' responses, as shown in <u>Figure 28: Mind map 4a - IPE staff feedback</u>. These include staff attitudes, staff preparation and staff priorities. The participants also addressed IPE terminology, focus and IPE integration.

Staff attitudes to IPE

One participant reported that in general all IPE staff wanted to do IPE, with the caveat *'But when it actually comes down to it, it's… people have their own views (Int7-34:59)'.* A second similarly reported staff to be in favour of interprofessional learning *'because in the abstract they are (Int2-37:52)'.* However, there is a tension arising for staff thinking *'they should be doing something that's uni-professional in this time… or do they see the interprofessional activity contributing to uni-professional outcomes? (Int2-37:22)'.*

A third participant reported *'some of the facilitators were really keen volunteers - interested - and some were conscripts (Int3-32:47)'.* Her feedback from student and facilitator groups indicated *'that if people were not committed to the interprofessional learning, then that became evident to students (Int3-33:*02)'. She *'did have one or two staff who were actually undermining in the beginning (Int3-41:56)'* and *'more or less gave the students the impression it was a waste of time… in their view (Int3-42:06)'.* This was tackled head-on since *'other facilitators also felt that was inappropriate and they were undermining the whole team (Int3-42:21)'.*

Staff Preparation

In reporting staff feedback from focus groups after an initial IPE endeavour, one participant reported that some staff felt unprepared (Int1-44:59) or had insufficient warnings about things (Int1-45:30), that it felt disorganised and the content wasn't right (Int1-45:09). She also reported *'a lot of anger around… really focused on IPE. It was coming from somewhere else, but… that's where it was directed (Int1-45:19)'.*

Another participant reported staff issues around the fact that for some of them *'facilitating small group work was an alien experience (Int2-48:52)',* regardless of whether inter- or uni-professional small groups. This contradicted a participant reporting some staff who *'like their little groups and whatever, and they just want to talk to midwives, or whatever it might be (Int6-33:53)'*, with other staff *'confident about teaching in front of two hundred students… (Int6-33:30)'.* With reference to research in his department, this participant reported IPE as stretching some members of staff *'who felt very uncomfortable with that sort of teaching environment (Int6-33:53)'.*

Staff Priorities

Some staff were reported as complaining about being too busy for IPE (Int1-45:40) and that even with those who are supportive of IPE *'when push comes to shove, they'll meet their uniprofessional requirements before their interprofessional ones (Int1-45:50)'.*

Similarly, when it takes many weeks to develop an idea for IPE, another participant reported *'I would expect to run into the 'Oh, no, there isn't the time in the timetable' (Int2-38:12)'.* Her explanation was that *'if you're teaching your own professional area and you've been doing that for a little while. You know, it's relatively effort-less… (Int2-38:25)'*, whereas in developing IPE opportunities *'and the way in which you deliver that, and just teaching students from different groups who are basically unknown is more effort-full (Int2-38:45)'.*

IPE terminology, focus and integration

One participant described IPE as *'a big learning experience for the staff… for the physios, to stop saying physiotherapy and say 'health professionals'. You have to keep stopping and thinking about what language you're using (Int4-38:53)'.* Another recalled early student feedback when *'some of their tutors didn't seem to have a good grasp of the other professions. So they would say things in their own profession… they wouldn't refer at all to social care or to the other disciplines and the students felt that alienated certain students in the class (Int3-33:15)'.*

One participant recalled staff discussions about timetabling, getting the focus right for certain groups of students, finding suitable examples and so on (Int6-34:57). However, this was not seen as a unique feature of IPE (Int6-35:53). Some IPE development staff provided feedback for modules which *'don't evaluate so well (Int2-09:21)'.* The participant's view on contributory factors was that the IPE sessions were not sitting in a particular module and that the sessions were not being assessed (Int2-09:51). Some IPE topics were perhaps also too early in the student's career, but the first year is when the students are available for IPE (Int2:09:21).

To summarise theme 4a, there were staff attitudes, priorities and unpreparedness that must be addressed, particularly in the early days of IPE development, since negativity towards IPE is quickly noticed by students. For some staff, the facilitation of small groups is quite alien, or they are so entrenched in their own profession that they have difficulty adapting to the wider scope of health and social care required by IPE. Thus the following theme on staff preparatory training for IPE was pertinent.

Staff who gain responsibility for IPE module development will find it quite time consuming, compared to their regular course preparation. This has significant implications for the institutional support of new IPE endeavours.

Theme 4b: IPE staff preparation

Freeth, Reeves et al (2001) suggest that tutors need adequate preparation, since poor facilitation could damage the student experience and further enforce any prior hostilities to IPE. Four themes were identified from the participants with regards to preparation of staff, shown in [Figure 29: Mind map 4b - IPE staff preparation]: No specific training, preparatory materials, preparatory meetings and preparatory training. Comments were also made concerning prior inter-professional experience for staff and perhaps the ideal interprofessional staff member.

No specific IPE training

One participant reported being unaware of *'anything that's labelled "preparation for facilitating interprofessional groups" (Int2-35:43)',* but has in-house training based on group work facilitation (Int2-35:53). A second stated *'they have no staff training whatsoever (Int7-32:08)',* referring to staff teaching IPE in the first semester.

The rapid implementation of the podiatry course underlies *'we didn't have the opportunity to do it (Int4-42:03)'* from a third participant. A fourth participant acknowledged insufficient preparation for her first IPE cohort, with *'meetings that were set up to prepare staff just didn't happen, no notice that they weren't going to happen, and there wasn't any follow-up (Int1-13:45)'.*

Preparatory materials

The last participant above also described how, for her second cohort, materials packs were developed for the facilitators, including guidance notes for the facilitators and work books for the students (Int1-47:00), along with student portfolios from the previous year and the registers. An IPE launch DVD was also prepared for first year students *'to give students some initial things to go away and think about. And I'm hoping that if they all get the same messages at the beginning, they are similarly prepared and that begins to have a beneficial effect (Int1-20:59)'*.

Preparatory meetings

One participant reported funding by the heads of departments, enabling IPE teaching staff to meet as a group for two hours per week on alternate weeks (Int3-33:46). '*It's the area we have to put a lot of time and effort into, is the facilitators (Int3-32:27)'*, allowing feedback opportunities and *'ensuring parity across the twenty three different seminar groups (Int3-34:12)'*.   These meetings also ensured that staff had their notes, knew what the themes are and were comfortable with the material (Int3-34:12). Another participant suggested her series of de-brief workshops were valuable, often with only two or three staff at a time, because staff felt more prepared and had a bit more ownership the next time (Int1-16:38).

Preparatory training

Two participants involved CAIPE for on-site staff development sessions: in one case for facilitator training before initial forays into IPE (Int1-04:37), in the other to increase the interprofessional content of a module (Int7-31:42). A third participant described her facilitator training as both inter-professional and inter-agency (Int5-34:32) where they *'keep doing staff development - there's always new staff coming through (Int5-37:17)'*. She described a mix of practice and university staff (Int5-34:40), strongly resisting schools who want training only for their own staff (Int5-34:50).

Prior experience and an ideal IPE staff member

One participant held the view that the clinical experience of longer established staff *'was very much of a uni-professional basis (Int7-33:43)'*. Another gave the opinion that *'like everything else in health professions, if you can't relate it back to practice… the students don't value it and inter-professional working is no different (Int3-39:19)'*.   Thus experience of working in mixed profession teams or being able to demonstrate clearly how this benefits the patient (Int3-39:39) was considered important.

Whilst experience in interprofessional teamwork was thought helpful by another participant, she didn't think '*you need to experience everything first hand, in order to teach it… it's more about willingness to teach in a high quality way (Int3-40:50)'*. This 'way' was exemplified by the participant as '*trying to demonstrate to students about respect and openness and values and understanding (Int3-35:25)'*.

> *The ideal staff member for delivering it [IPE] would be somebody who is not entrenched in their own profession, who actually has an understanding of working with others (Int3-35:10).*

In demonstrating to students that '*other professions contribute in a particular way'* and knowing '*how to seek advice and guidance'*, the participant expected IPE staff to have '*a kind of collegiate approach'* (Int3-35:35), with preparatory meetings allowing clarifications and examples to be shared with their colleagues (Int3-41:14). This was supported by another participant: '*I almost think the content of what we do is less important than if you have a good facilitator that understands what you're doing (Int1-24:00)'*.

To summarise theme 4b, wide variation was found in the commitment to and forms of IPE staff preparation. This ranges from nothing, to those with limited set-up time, to a regular 2 hours per fortnight for all staff involved with IPE. Prior interprofessional practice experience may assist IPE staff, but was reported as not being essential. However, the ideal IPE staff member was considered by one participant to be someone with an understanding of working with other professions, relating IPE back to practice so that students value it.

Theme 4c: Professional differences between staff?

This theme sought differences in expectation or reaction encountered by the participants, between the differing staff professions teaching IPE. Findings are illustrated in Figure 30: Mind map 4c - Differing staff professions?. The main finding, supported by three participants, was that differences were spread across professional boundaries. A fourth participant provided a couple of examples of professional differences, along with the many stakeholders transcending the professions.

Across Professional Boundaries

One participant reported how some facilitators don't seem to make students engage with IPE (Int1-51:57), still allowing students to leave early even though the importance of student contact time had been made clear (Int-52:27). Her comment, '*this does cross some of the boundaries, it's not just one (Int1-51:47)',* indicating it is not related to a specific profession.

Another participant was unable to *'put my finger on anybody… who would be really resistant to this (Int2-42:44)'*, with all who *'value interprofessional working come forward to be involved with it (Int2-36:40)'*.   However, in acknowledging the range of professional backgrounds for her staff, she commented *'they bring with them their professional baggage (Int2-36:30)'*, which is not handled particularly well (Int2-36:37).

A third reported that differences were not so much between the professions, but that *'the assumption that it might be old medics or new physios or middle aged podiatrists - it just doesn't hold true.   It's about individuals (Int5-39:12)'*, with some individuals being incredibly enthusiastic and *'and likewise some incredibly resistant (Int5-39:26)'*.   Further, there appears to be a deliberate overlooking of any differences there may be between staff professions:-

> *We haven't systematically explored how different they might be, and what difference the artefact profession might make to facilitating… because that's what we're trying to transcend (Int5-38:35).*

Examples of professional differences and transcending the professions

A fourth participant reported a definite difference between allied health and nursing staff, with it being *'very difficult, at times, to bring the nursing on board (Int7-44:34)'*.   Her medical school also had difficulty with interprofessional aspects (Int7-44:54), attributed by the participant to workload, anxiety and budget cuts, in particular cuts in the training budgets (Int7-45:14).   She also identified that in IPE stakeholders extend beyond a particular professional body (Int7-45:43), with *'the strategic health authority, which is huge, putting pressure (Int7:45:55)'* on health courses.   She also included the Health Professions Council and the Quality Assurance Agency, along with the professional bodies as sometimes being un-supportive, causing IPE staff to feel uncomfortable (Int7:46:00).

To summarise theme 4c, the participants refuted any assumptions that particular professions may be averse or ill-equipped to facilitate IPE; whilst the odd example may be found this may be more individualistic rather than an artefact of the profession.

IPE pressures may also be perceived as transcending the individual professions and their professional bodies, sometime causing IPE staff to feel uncomfortable.

Theme 4d: Podiatry staff and IPE

This theme asked whether podiatry staff stood out in any way as IPE facilitators. It met with limited responses, with two participants commenting upon commitment to IPE, one mentioning teaching styles and another questioning inter-professional experience, as indicated in .

Podiatry staff commitment to IPE

One participant described her podiatry staff as very committed to IPE, with one of the IPE leaders being a podiatrist (Int2-40:57). She reported podiatry as being *'pretty open to interprofessional opportunities (Int2-41:33)'*, there being multi-professional research within the podiatry department (Int2-41:06).

Similarly, another reported having *'had very positive podiatry facilitators (Int1-54:05)'*, though podiatry [as a profession] *'don't feel as committed to IPE as… they sometimes say that they are (Int1-54:15)'*. Continuity of staff for IPE student groups across the two days is considered important, with complaints from *'both students and staff, if there's a different facilitator (Int1-50:43)'*. The contention between feelings and action was then illustrated by an example of failing to provide podiatry staff at the last minute for the second day of an IPE session, even though podiatry were a party to negotiating and agreeing the dates (Int1-54:35), externals or labs being cited as the reason. The participant found this very frustrating, returning to the department saying *'that's the message you're giving the students, that this isn't important (Int1-56:05)'*, but still no staff were forthcoming. *'A lot more forward planning needs to go in (Int1-51:00)'* was reported as a possible solution.

Teaching style and IP experience

One participant reported *'some professions were far more entrenched, and were far more didactic in their style of teaching…and that was evident in your own profession [podiatry] (Int3-36:21)'*. Another participant questioned *'how much team working and interprofessional skills have they built up? (Int7-34:02)'*, when considering previously self-employed podiatrists [private practitioners], now acting as IPE facilitators.

To summarise theme 4d, limited anecdotal evidence found both in favour and on occasion against podiatry staff, at levels of commitment, applicable experience and teaching approach. The podiatry example shows when uni-professional commitments usurped previously arranged IPE training days for the students. The didactic style of podiatry teaching may typify the medical model of education, requiring factual knowledge to be imparted in a short period (podiatry students also have an additional 1,000 hours of clinical experience to develop required assessment and treatment skills).

Theme 5a: Feedback from students receiving IPE

The fifth theme focuses on the IPE students, seeking feedback from those receiving IPE and any perceived differences between the professions, podiatry students in particular.

When seeking feedback from the participants about students undertaking IPE courses, three participants interpreted this to mean *how* feedback was achieved (evaluation). Limited anecdotal feedback was provided regarding relevance of IPE and professional identity, illustrated in .

Student feedback was obtained for every unit according to one participant (Int5-40:19), using a module evaluation questionnaire and a de-brief session with their tutors by another (Int3-43:06), or through a module evaluation form by a third, which students would not complete on-line but did complete if handed-out in person (Int6-41:32). For one participant, *'there was no significant difference, in terms of whether positives or negatives, between the modules where we have lots of professions together and those where there weren't (Int6-41:53)'*.

A 'staff-student consultative group' was described as often raising issues about IPE (Int3-43:29), for example, not liking IPE running on Friday afternoons (Int3-43:40). A third year student representative was also quoted as encouraging a second year student representative with:-

> *"It all falls into place and you will be really glad you did it [IPE], because it really helps when you get onto other things. (Int3-49:58)"*

A second participant similarly reported use of 'Course Boards' with student representation (Int6-43:02), with report-back on a poorly working joint physiology unit indicating: *'we've had these sessions - we didn't really think they were relevant to us. (Int6-43:22)'*.

Early days issues included the size of the groups (Int6-42:12), triggering a comment from the participant to the effect that students are focussed on their particular area, such as physiotherapy, and will not find 'what it's like to be another profession' as stimulating as their own (Int6-42:42), so *'you're gonna have a slightly more negative response, irrespective of whether you taught them all together, or taught those things separately to a group of just podiatrists, for example (Int6-42:52)'*.

A participant reported development of her IPE course, through introduction of a student work book: *'I also felt that the students liked the workbook, because it was something real for them to do (Int1-47:22)'*. Another reported addition of some profession-specific modules since *'a lot of the students' complaints were that they felt they were thrown into this Common Foundation Programme with no professional identity (Int6-23:46)'*. With a ratio of eighteen podiatry students to a hundred physiotherapy students, some podiatrists were reported as feeling swamped (Int4-48:24), to the extent *'Are we doing a physiotherapy course? (Int4-48:24)'*.

To summarise theme 5a, both positive and negative feedback was reported from the IPE students by various means, which influenced subsequent IPE course development. Issues of professional identity were raised by podiatry students, when they comprised a 20% minority in a programme shared with physiotherapy students. The concept of IPE relevance and other issues of importance to podiatry students are considered in Study 3.

Theme 5b: Professional differences between students?

This theme sought the views of participants, as to whether they perceived any differences between the student professions in their expectations or reactions towards IPE. One participant discussed student attitudes in general, whilst another discussed students and their clinicians. A third provided anecdotal evidence about podiatry students, their attitudes towards reflection and the response of the other students. These are summarised in [Figure 33: Mind Map 5b - Differing student professions?](#) and are narrated below:-

One participant emphasised that she was not creating generic health professionals (Int5-42:17), rather IPE is *'about valuing your professional knowledge in that engagement (Int5-42:27)'*. Thus, *'if you want really meaningful interprofessional learning, it means you do need to come with some professional knowledge (Int5-42:10)'*. She remarked upon the socialisation forces involved in the construction of any professional identity (Int5-42:01), being mindful that students entering any profession *'come with a self-constructed view about how they're going to learn to be one of these tribes (Int5-40-23)'*, which is *'often at odds with the reality in practice (Int5-41:17)'*. This imperfect knowledge can arise from media influences (Int5-41:07), resulting in some students arriving with *'a fairly fixed pre-conception of what it means to be an X and a Y and a Z (Int5-41:22)'*.

This media influence contrasts with a second participant who reported findings from her staff, that student views are shaped by the senior clinicians they work with (Int3-39:00); another commenting that clinical placements *'bring a realism to it [IPE] (Int6-27:00)'*. Thus students' *'stereotypical views of professions or whether their profession was being valued or not (Int3-38:25)'*, comes from the senior clinicians, the authority figures as they see them (Int3-39:11). Students often feel that *'their clinician's… opinion is valuable, and more valuable than some others (Int3-39:16)'*.

One participant expressed his belief that *'there are some big divides'*, that IPE will not make everyone cosy and non territorial (Int6-49:18). However, it might give students:

> *a greater understanding of their own worth and their own position within a team or how it works, or how it is for somebody else and a greater empathy for some other professions (Int6-49:31)*

Illustrating such divides, another participant reported *'new social work students were saying again they didn't quite get it - IPL - and that it was a health thing (Int3-49:38)'*, and that radiography students had problems engaging with IPE (Int3-36:42), *'because they almost felt that they weren't part of a team when they go out into practice (Int3-36:49)'*. She concluded that radiologists have little autonomy (Int3-37:49), whereas for other more autonomous professions *'their style of teaching has been about engendering responsibility and the student's sense of learning (Int3-37:55)'.*

Another participant shared her view that professions *'that feel that their role's clear, that they know what they're doing… they don't see themselves as big players in this kind of health and social care (Int1-59:28)'*. She recounted an instance when *'it was the podiatrists within the group who said 'we don't reflect'. And right around the room, every other student that wasn't a podiatrist - you could see the hackles going up! (Int1-01:08:05)'*. However, the turn-around that IPE can achieve was illustrated the following day with the podiatry students saying *'we've really enjoyed this, we've really learnt a lot and it's given us a lot to think about (Int1-01:10:12)'*.

To summarise theme 5b, different socialisation forces occur for student professions: influences by the media before student enrolment, from clinicians encountered in practice, as well as by university staff. A question must therefore be raised, as to whether external media and clinicians are supportive of and re-enforce IPE aims. Tensions were reported as existing between the professions, with an example being given of effective resolution through IPE.

Theme 5c: Podiatry students and IPE

This asked participants whether podiatry students were in any way remarkable in their contributions or responses to IPE. Three themes were identified, as outlined in [Figure 34: Mind Map 5c - Podiatry students?](#) and expanded below:-

One participant reported having no anecdotal evidence or feedback about podiatry students and IPE (Int2-46:37), whilst another had no feedback that podiatry students were any better or worse than the others (Int3-46:55). A third participant found that there had been very little difference between the professional groups (Int6-44:16), including outcomes from assessments (Int3-43:45):- *'there's some good work in each of the professions, and some not so good (Int6-44:06)'.*

The latter participant reported having early issues with podiatry and with podiatry tutors (Int3-46:04), but concluded:-

> You can quite often be dealing with individual personalities… as opposed to 'it's a vein of a profession' (Int3-46:14).

This individualistic theme was supported by a second participant, reporting her view: *'it all gets down to the personalities, you know, and some people are really positive and really good (Int1-1:06:55)'*. However, she also recounted when *'the podiatry students in my group were really quite angry and aggressive during the first day, because it was the middle of the exams and they felt quite annoyed at this (Int1-01:07:05)'*. There was also an observation that

> *Podiatry students regularly don't value IPE and they were the group that said that, 'our course team don't value this'... 'we don't see ourselves as... people that will have to use this in our professional life, particularly often' (Int1-55:24).*

Whilst not saying that podiatry students are difficult (Int1-01:10:12), the view was that podiatry students *'sometimes portrayed themselves as not up for IPE (Int1-55:24)'* and sometimes *'come with what people see as a chip upon their shoulder (Int1-01:07:35)'*. Another participant also thought that *'podiatry students historically were used to quite delivered teaching (Int3-46:25)'*, but that within IPE *'they have to contribute and have to be responsible, they need to get on with it (Int3-46:48)'*.

To summarise theme 5c, three participants consider podiatry students to be unremarkable in their contributions to IPE. If IPE issues do arise, they reported that it is more about individuals' personalities than the profession to which they belong. However, there was one anecdote of podiatry students observing that their staff didn't value IPE; that the students didn't see themselves using IPE professionally. Another participant commented that the podiatry students need to contribute and get on with IPE. Hence podiatry students do sometimes seem to portray an attitude that is not conducive to good interprofessional team work. This attitude is explored in the following study.

4.6   DISCUSSION

This study sought to identify the delivery approaches of IPE used by institutions teaching podiatry students at undergraduate level, encompassing methods of student assessment and underlying educational theory, to understand how IPE is being taught and the issues arising. It adds to the findings of Literature Reviews, seeking to identify the stakeholders and beneficiaries of IPE in order to distinguish associated policies that were driving IPE within higher education. The following discussion considers the findings in relation to literature, a preparation for the broader Discussion of findings after Study 2.

Driving forces behind IPE

As key motivators and developers of IPE courses, the participants reported some of the driving forces behind IPE found in Study 1, of government policy enshrined in New Labour's NHS Plan and its development within 'Working Together, Learning Together'

(Department of Health 2001d), informed by the Department of Health's Kennedy report into Bristol Royal Infirmary. Two participants recognised its implementation through their institution's commissioning bodies, the Strategic Health Authorities (Department of Health 2008), sometimes as an implicit threat to funding, other times as approval of curricula that includes IPE. There was also a pragmatism expressed in recognising the policy agenda and deciding to synchronise course validations between professions, to incorporate common learning. For one institution, IPE was the crux of a funding bid to amalgamate three institutions, providing a broader mix of professions to draw upon.

Does the IPE development team work inter-professionally?

In general it was found that IPE development has a multi-professional team approach. However, reported early IPE endeavours indicated that time pressures, course validation timescales or institutional mergers may result in a solo effort or a more central approach to IPE development, resulting in the reported lack of ownership by some staff and a reduced staff commitment to IPE. The participants indicated that a mixed team approach was better able to handle the practical and logistical issues such as time-tabling, curriculum mapping and course delivery, associated with crossing established faculty boundaries. They also described the support from Deans and those with experience and authority as necessary to press through the IPE changes to curricula and staffing. These exemplify the Organisational Support factors indicated by Reeves et al (2007a), which at undergraduate level must overcome barriers presented by large numbers of students, professional accreditation requirements, and inflexible curricula. The participants also represent examples of Reeves' faculty that are committed and enthusiastic towards IPE.

Clinical application is paramount

For healthcare students it is apparent that clinical experience is very important for them (Jeffers and McClure 2003), thus IPE within clinical settings may be seen as appropriate for IPE (Stew 2005). However, one participant exemplified a therapeutic radiography student working on an IPE clinical audit project, where they may not see any connection with radiography: clinical aims being that the student should learn about audit, sourcing evidence and working as a team. IPE components may be implicit or opportunistic, and the student may fail to recognise professional relevance in the clinical activity.

This raises the issue of what may be perceived as relevant training by the students, in particular if they arrive with their 'uni-professional blinkers' still in place. One participant illustrates how questioning by the IPE facilitator can guide the students into consideration of when team working is beneficial, examples of when it is not and what may be the [underlying, non-personal] causes. He asks them to reflect on their answers, as a means of connecting clinical theory with practice experience.

Contrasting approaches to IPE assessment

The participants had different approaches to IPE assessment. For institutions, IPE and its assessment is embedded within the course as a separate module or as part of existing modules. Its assessment may be implicit (within another module's course credits), or be explicitly assessed as an independent course accruing up to 20 (7%) of the 300 credits awarded for the whole undergraduate degree. In contrast, other institutions have smaller IPE endeavours, such as 6 days (1½ %) of the 90 weeks taken for the whole undergraduate degree. For these, formal assessment appears less clear with limited follow-up by the students' course leaders. Whether and how IPE learning is assessed may have implications for the value and relevance of IPE, as perceived by the students.

When the IPE experience is implicit or opportunistic, as reported anecdotally in many times, then associated formal assessment is difficult (the student can always claim that the opportunity did not arise, for them personally). The question also arises whether there is clear assessment of IPE when it is encapsulated within other modules (an endeavour to get IPE into the mainstream). If not specifically assessed, do students value IPE and see its relevance? For those institutions allocating 10 or 20 credits to the IPE modules, this may not be such an issue. For those within a small pilot endeavour, an attendance certificate may suffice as motivation. The issue of assessing IPE and whether student value it if it not assessed may be of most concern to the medium-scale IPE endeavours. For students performing clinical audit or clinical change projects in mixed professional groups, as with one of the participating institutions, there was acknowledgement that IPE learning might not be achieved, with implication that the IPE component is again opportunistic.

Theories used in the development of IPE

For one participant, adult learning involves IPE valuing students' experience and prior learning in their personal lives, endeavouring to bring them into their professional lives. For another, it meant students taking personal responsibility for self-directed IPE learning to meet certain learning outcomes. These relate to Knowles' adult learning principles:

- *Adults' self concept as autonomous and self-directed*
- *Prior experience (as a resource and as mental models to work with)*
(Knowles et al. 2005)

The findings indicate a consensus in the use of experiential adult learning and reflective practice. These are represented with Reeves et al Scoping Review (Reeves et al. 2007b) but not within the IECPCP or WHO frameworks for IPE. Other core aspects of Knowles' adult learning principles not raised in the findings are the learner's need to know, their readiness to learn, orientation to learning and their motivation to learn.

Contrasting views on highlighting professional cultural differences

The participants expressed contrasting opinions about whether the cultural differences between the professions (often exemplified by preconceived stereotypes) should be made explicit to the students. One argued that the dangers of paying attention to or making explicit statements about cultural differences may undermine what you are trying to do. The assumption is that highlighting such attitudes within IPE might serve to re-enforce them, supported by Oandasan and Reeves (2005a) who refer to Knowles' theory of adult learning and its requirement for a non-threatening learning environment which is supportive, collaborative and with a spirit of mutual respect (Knowles 1980). However, another participant addresses the issue of stereotypes head-on, with the use of humour and self-deprecation to take the sting out of the tail. In acknowledging this reality and the ways it can affect inter-professional team working, he encourages students to reflect upon it and carry it forward into their subsequent training. The former approach encompasses the safe learning environment, where all participants are equals. The latter may require a more mature critical appraisal of complex clinical situations. These exemplify two of the three curricula models reported by Hean and Dickenson:-

   a) *Models of IPE where professional group membership is not emphasized during intergroup contact… which deliberately underplay professional group membership during group contact*
   b) *Models of IPE where professional group membership is emphasised during intergroup working… an emphasis on professional boundaries promotes the recognition of the strengths and weaknesses of one's own and the other professional group*
   c) *Models of IPE where different identities coincide… if both subordinate and superordinate identities are emphasized... (e.g., being a doctor, being a nurse) but at the same time students are made aware of the wider group to whom they belong (e.g., the wider health/social care team for example)*
                                                    (Hean and Dickinson 2005, p.488)

Hean and Dickenson's approach includes Allport's seminal work on the Contact Hypothesis (Allport 1979), applied to IPE and specifying important conditions for the reduction of negative stereotypes. Included within these is the idea that the 'other' students are seen as representing their respective professions, so that the IPE experience may be transposed to clinical mixed teams encountered after graduation. Findings indicate a consensus on facilitating IPE through small groups of mixed professions, enabling fulfilment of Allport's conditions. One participant emphasised the Contact aspects of IPE, placing this above the actual work performed in some regards.

What consensus in approaches to facilitating IPE?

A consensus found amongst the IPE developers was the use of critical reflection as a teaching tool for IPE (Tate and Sills 2004). This allows the students to consider any inter-professional issues they have encountered in their groups and the case studies

they've discussed, or clinical examples from their placements. Such personal, critical reflections are generally retained in portfolios of work held by the students.

However, the findings indicated no clear consensus about how best to teach IPE. This may be associated with the wide range of IPE endeavours encountered, or the differing mixes of participating professions, or the disparity in number of students involved in IPE. The lack of agreement over approaches may also be associated with a lack of clarity about what is actually being taught within the IECPCP and WHO frameworks of Study 1. There may be a problem with the early CAIPE definition of IPE (CAIPE 2006a): 'occasions when students learn with, from and about each other' in that this definition does not define what they learn, or how they learn it, only opportunities when they might learn.

Another contention raised by the findings is that of IPE staff training, which is wide-ranging with little consensus as to what or how much is facilitator training is appropriate. Figure 10: WHO framework for IPE (World Health Organization 2009, Fig.7) identifies academic staff training as a mechanism which shapes how IPE is developed and delivered. The scale of IPE has an impact, with the smallest reported endeavour comprising only podiatry and physiotherapy students not offering any specific training for IPE staff. There may also be issues relating to the supply of suitably experienced and motivated IPE facilitation staff, with a high 1:20 ratio of staff to students being reported. Many facilitators are reported as motivated and interested in IPE, with relevant experience to draw upon. However, findings indicate there may be individual staff for whom this does not apply, bringing their 'professional baggage' and not appreciating the importance of group contact and student interaction time (allowing students to leave early). Some facilitators were also reported as being unfamiliar with small group facilitation, particularly with students from a health or social care background different to their own: they may need equipping with pertinent cases and analogies that promote inter-professional working. There are indications that staff training may require as much attention as the IPE teaching materials, quoting one participant: 'we won't ever get it right with the students, until we get it right with the educators'. This has implications for the institution's commitment to IPE.

Contrasting with the zero training reported by one institution, others include staff briefing and de-briefing sessions or bi-weekly staff training, some utilise external assistance and one was able to use government funding to train 700 clinical facilitators. IPE staff training appears to be pragmatic, without clear indication of best practice.

Researcher influence on findings

It is acknowledged that in the qualitative analysis of interview transcripts, it is possible to introduce unintended bias through partial selection of extracts supporting the themes. In

the absence of an underpinning theoretical framework for IPE, the researcher kept closely to the semi-structured interview schedule: seeking to present data in an unbiased manner; keeping close to the participant utterances in development of the heuristic concepts within the summarising content analysis. With hindsight, a grounded theory approach may have been more time-efficient, though intrinsically it is an open-ended iterative process until theoretical saturation is achieved. The breadth of issues and limitations of telephone interviewing may have also made this an arduous process, given its requirement for theoretical sampling.

4.7 STUDY SUMMARY

This study drew upon the experience of IPE course developers to consider issues arising from developing and facilitating IPE. It was evident that IPE course development is itself a multi-professional, collaborative endeavour, led by individuals with special interest in IPE development within their faculties. The quantitative analysis of interview utterances indicates that podiatry facilitators and podiatry students are not the focus of attention for IPE developers, even when prompted to consider them by the interview schedule. This supported findings of the literature review, with podiatry being amongst the minority in terms of numbers involved (Figure 1: Professions registered with the HPC (Oct 2008)) and its inclusion in IPE endeavours (Figure 2: Learners receiving IPE (World Health Organization 2009, Fig.4)). Participants shared their experiences with other 'minority professions' such as physiotherapy, radiology and social work students, with issues of relevance and openness to IPE reported for radiography and some nursing students, whilst medical and pharmacy students were perceived as actively engaged with IPE.

A qualitative approach resulted in 2nd analysis: thematic overviews using mind maps. When discussing thinking or theories underpinning IPE development, little evidence was found of consistency between the participating institutions; whilst the literature review commences with the broad range of social and psychological traditions being drawn upon by IPE, this research found no predominant strand being utilised after a decade of IPE research and development. However, more general use of adult learning and critical reflection was indicated, supporting the findings of Barr et al (2005) that just over half their studies used adult learning theory implicitly.

A wide range of IPE endeavours were drawn upon by the participants, regarding both the number and variety of professions involved, and the number of students in each cohort. This may have contributed to disparities in IPE assessment approach, with the explicit summative contribution to course credits for some institutions, as implicit within the assessment of other modules for others, or possibly not at all. Opportunistic or

accidental IPE learning was also identified as being advantageous in many courses and placements, which might be documented and assessed in students' portfolios of work.

Amongst the reported challenges to IPE development, there were timetabling and terminology issues associated with crossing faculty boundaries. More surprising, however, were the challenges facing facilitators that are unfamiliar with facilitating or working with professions outside of their own. This led into a diversity of facilitator preparations, from regular bi-weekly team meetings, to very little in some instances. IPE can highlight significant divides between the health and social care professions, with podiatry students reported as being more entrenched in didactic teaching methods, having a role with limited requirements for collaboration and IPE. However, examples were also forthcoming of podiatry staff being highly committed to IPE, with staff and student IPE issues often at a personal experience rather than a professional level.

Thus this first detailed study supported some literature findings regarding the limited involvement of podiatry within IPE. It identifies some of the generic issues associated with managing large cohorts of students, as well as more inter-professional issues that lead towards specific requirements for IPE staff training. Some course developers expressed views about particular professions, with a caveat that personality may have as great an impact as profession. Thus this leads to the second study, where the views of podiatry students are explored, about the IPE experiences they have had.

5 STUDY 2: IPE ATTITUDES AND CONCERNS

5.1   INTRODUCTION

This study aims to explore the perceptions of final year podiatry students towards IPE, along with their concerns over its implementation at their particular institution. The study differs from the familiar end of course evaluation, in that it does not ask the students to rate topics of importance to the researcher, or to make *'any other comments'*. Instead, it utilises Q Methodology to analyse students' responses to two packs of statements, derived from attitudes and concerns reported by the IPE course developers in Study 1. The theory and terminology of Q Methodology are outlined in the earlier Q Methodology section. The students are encouraged to comment upon the statements for which they most strongly agree and most strongly disagree, to assist in the researcher's interpretation of the revealed factors from Q factor analysis.

The next section describes how Q Methodology has been used in this study and some of its terminology. The Findings report upon the revealed factors and their interpretation by the researcher. The Discussion section considers the reliability of the findings and contrasts them with the findings of Study 1.

5.2 Q STUDY APPROACH

This study uses the semi-structured interviews from Study 1 to develop a concourse of statements based on concrete existence (Brown 1996), i.e. the experiences of the interviewees, as they motivated the development of IPE courses within their respective institutions. Study 1 encompasses the attitudes, concerns and anecdotes of the lead developers for IPE courses around the UK, made in-passing when discussing the motivations and experiences of developing their IPE courses. This was considered rich ground from which to obtain a breadth of statements that students could reasonably respond to, making explicit their otherwise hidden views of the same courses. The initial statements took the form of 'quotable quotes' taken from the interview transcripts, whenever participants expressed relatively succinct ideas or opinions associated with IPE.

Q Pack development

The Q Pack is a list of statements presented to participants, which they sort into a sequence they feel best matches a specific instruction. This section considers what these statements represent and how they are considered within Q Methodology. A communication concourse is determined by inviting people into conversation about a topic of interest and concern to them (Stephenson 1978). In this way it has both

personal and has self-referential possibilities which convey meaning (Kelly 1966, p.260). In Q methodology a concourse is composed of opinions rather than facts. In this study, a sample of the concourse is derived from the Study 1 participants, sharing their experiences of IPE course development. This resulted in a list of Original 'Quotable Quotes' derived from Study 1 shown within Appendix D: Study 2 process. The interviewees were academics with responsibility for IPE development, deemed to have an overview of the breadth of issues involved, not only for themselves but also for their staff and the students involved with IPE. Thus it was anticipated that this *'quasi-naturalistic Q sample from interviews, external to the study' (McKeown and Thomas 1988)* would provide a sufficiently broad sample of the infinite concourse of all possibilities. A 'quotable quote' was at first instance any single, sufficiently succinct opinion or attitude being expressed in normal conversation by an interview participant in study 1.

Rogers (1995) suggests that an initial pool of say 200 statements is required for an aimed-for Q-set (Q pack) of 65, in order to produce a pack that is far-removed from the personal product of the researcher, by reduction through experience and pilot testing. Having gained an initial list of 173 quotations, the following reduction processes suggested by Rogers were performed:-

- **Balance** in terms of positive, negative and neutral statements towards IPE

- **Appropriateness** to the issue of IPE, avoiding a mix of representations, for example understanding and policies

- **Intelligibility** and simplicity (honing from multiple clauses to tight propositions); removal of duplicate and of similar statements

- **Comprehensiveness**, seeking to cover as much of the concourse as practicable, relating to either expressed attitudes towards IPE or to concerns and experiences with IPE implementation

The appropriateness stage above resulted in the development of two Q Packs. The attitudes expressed by the interviewees seemed rather to be towards IPE itself, rather than about student's own and other professions. Therefore the first Q Pack came under an umbrella of possible attitudes (feelings, beliefs, values, disposition) towards IPE. The second Q Pack could have been discarded, since it did not meet the original objectives of *'exploring attitudes of… students and staff…'*. However, in encompassing the concerns of developing and implementing IPE, it was felt that this is an issue the students could relate to (being at the receiving end), particularly at the end of their IPE course. Such experiences are often relegated to the 'any other comments' section at the end of a course evaluation questionnaire, thus this could be a rich area not previously explored.

Therefore the second Q Pack was retained, as encompassing wide concerns over the implementation of IPE.

This produced two lists, comprising 113 attitudes and 86 concerns, refined into initial packs of 77 attitudes and 60 concerns statements respectively. The statements were reviewed and refined with the assistance of an IPE academic not involved in the study, indicated in Development of Q Packs to piloting stage – Q Pack 3. Subsequently the two packs were each piloted with two second year IPE students (not intended to be participants of the study, though recourse to two student cohorts resulted in their subsequent participation a year later). Notes were taken of any statements causing confusion, which were simplified or removed, resulting in final Q Packs of 60 attitudinal and 58 concerns statements, listed in Q Pack 5 Attitudes Statements and Q Pack 5 Concerns Statements. Piloting indicated that it takes about 45 minutes to sort each Q Pack, record the positioning of statements on the grid and to add comments.

Q Study recruitment

Within its Synopsis of research proposal the study aimed to recruit *'first and final year health and social care students and staff…'*. In its extreme, this would require two sets of students from each of ten professions, plus representative staff from their respective divisions, potentially more than twenty groups. From piloting it was realised that this was beyond the resources available. It was therefore decided to seek only the participation of final year podiatry students in sorting both of the Q Packs. This would meet the first aim of the synopsis, to add to the understanding of podiatry as a profession involved with IPE. It also meets the third aim of considering the issues arising from teaching IPE, from a podiatry student perspective. However, the fourth aim could not be met, regarding its consideration of nurses' and other allied health professions' perceptions towards podiatry.

Final year podiatry students were invited to participate in the study, through use of a poster within their department and through personal attendance at a couple of final term events. This resulted in fifteen completed Q sorts, of which two had too many duplicated or missing entries and were unusable. Hence the following cohort of final year podiatry students was approached seven months later, which resulted in a further 28 completed Q sorts, plus a further two returned by a Study 1 participant and two from the researcher (allowing their positions to be seen in relation to but independent of the students). Additionally: '*Locating the observer within the observational field makes explicit the frame of reference within which interpretation of the factors takes place (Brown 2006b, p.258)'*. Thus 45 Q sorts were completed, 21 for attitudes and 24 for concerns; some students completed both packs, others only completed one pack or the other.

Q Pack analysis

The participants' Q sorts were entered into the PQMethod analysis program as two distinct data sets and were analysed separately. Since this is an exploratory study, not seeking to apply any previously considered theory or judgemental rotation, Varimax rotation within PQMethod[7] was utilised to provide maximum loading upon the first factors for each dataset. To yield interpretable factors, Q Methodology requires that the loading of each participant's Q sort is large on one factor (for which it is a distinguishing Q sort) and trivial on the others (Rogers 1995). By default, PQMethod attempts to produce eight factors from the data set, with factors six, seven and eight representing correspondingly fewer participants as defining sorts.

If each of the 21 participants had their own unique attitude towards IPE, Q methodology would represent this by 21 independent (orthogonal) factors, one per participant, representing 100% of the variability. By default, PQ Method analysis found that 8 factors could account for three quarters of the total variability for the attitudinal statements. It can be argued that for a revealed factor to have some stability and reproducibility, it should represent the views of five or more people (Brown, S. 2007. Q Methodology Workshop hosted by Birmingham University. 16 July 2007).   Four factors therefore require a minimum of 4x5 = 20 participants. Thus the researcher decided to focus upon 4 attitudinal factors (labelled A1 to A4), accounting for over half the variability, encompassing the views of 20 participants as defining sorts. However, participants were not evenly distributed between the factors:-

Factor A1	Encompasses 18% of the total variability, with 8 students' sorts defining it
Factor A2	Encompasses 19% also with 8 students' sorts defining it
Factor A3	Encompasses 8%, defined by 2 student Q sorts
Factor A4	Encompasses 9%, defined by a course developer and the researcher sorts

The remaining student participant (Pod3a3) was not a defining sort for any of the above factors, but loaded most heavily upon factor A2 (43% of his/her variability). It is of interest that the course developer and the researcher participants together defined their own factor, indicating a quite different attitude towards IPE than any of the students.

Similarly, if each of the 24 participants had unique concerns towards IPE implementation, this would be represented by 24 unique factors, one per participant, representing 100% of the variability. Default PQ Method analysis found that 8 factors could accumulate 72%

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[7] PQMethod by Peter Schmolck version 2.11 for Windows (November 2002). Adapted from mainframe program QMethod by John Atkinson at Kent State University. Free download from http://www.lrz-muenchen.de/~schmolck/qmethod/downpqx.htm. Accessed 10 March 2006 and 3 November 2008.

of the variability. The researcher decided upon 4 concerns factors (C1..C4), representing over half the variability, encompassing the views of 21 participants as defining sorts:-

Factor C1:	Encompasses 18% of the total variability, with 10 students' sorts defining it
Factor C2:	Encompasses 13%, defined by 4 students' sorts
Factor C3:	Encompasses 13%, defined by 4 students and one course developer
Factor C4:	Encompasses 8%, defined by the 1 student and the researcher Q sort

The remaining student participants (Pod3c3, Pod3c12 and Pod3c31) were not defining sorts for any of the above factors, but loaded most heavily upon factors 3&4, 3 and 1 respectively. Also of interest is that the course developer and researcher appear to have differing concerns about the IPE implementation, shared by one or more students.

In taking the above decision to restrict PQ Method to analysing four factors, it is acknowledged that there is a risk that unassigned variability may encompass a minority view of one or more participants. The unassigned variability may also represent random decision making on behalf of some or all of the participants, particularly if they do not hold clear views or cannot relate to certain statements. Thus there is a balance to be struck, making coherence of as much user data as possible, but if taken too far, you may be attempting to interpret random data.

Appendix D: Study 2 process shows the results from a comparison report generated by PQMethod: the Q Pack statement rankings (60) for 4 attitudinal factors and Q Pack statement rankings (58) for 4 concerns factors. For each factor, the ranking represents an idealised Q sort for a person who was in full agreement with the views expressed by the factor. For example using factor A1, this person would have placed their statements as shown in the grid columns shown below:-

Table 2: Layout for Factor A1

Strongly disagree

				53	52						Strongly agree
			58	50	46	2					
		59	57	45	44	51	**47**				
		48	20	32	36	33	40				
	25	38	**17**	26	35	31	**30**	**43**			
	60	**24**	**34**	**15**	23	**18**	11	27	**42**	49	
12	56	22	8	14	**10**	16	5	19	**41**	39	54
6	21	13	4	3	7	9	2	1	**28**	29	37

Rankings for Factor A1

| -5 | -4 | -3 | -2 | -1 | 0 | +1 | +2 | +3 | +4 | +5 | +6 |
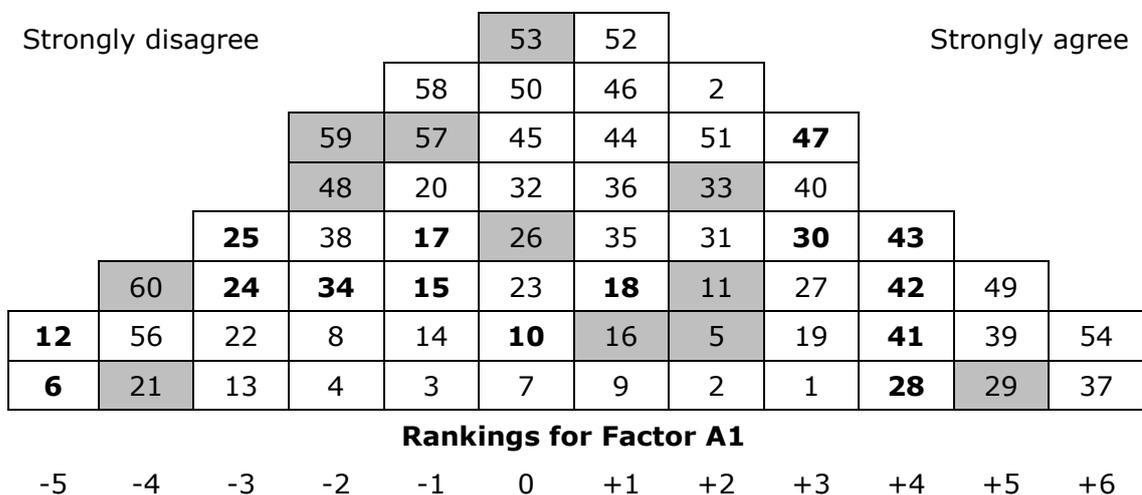
The statements indicated at the left and right extremes of a factor's Q grid, for example statements 6, 12, 37 and 54 are useful for interpreting a factor, since they demonstrate what the viewpoint holds most strongly.   When comparing one factor with another, some statements may appear uniquely positioned for a factor, with such **distinguishing statements shown in bold** within the factor's Q grid layout.

The bottom row of the above figure shows a range of values -5 for most strongly disagree, through to +6 for most strongly agree; that they do not go range -6 to +6 is of little concern, this being a quirk of there being an even number of columns in the Q grid. There is no inferred bias of the statements towards agreement, since Q Methodology sequences all statements into a single line for ranking purposes. It performs a pair-wise correlation of the ranking of each statement from one Q Sort against the same statement in every other Q Sort, producing a correlation matrix upon which factor analysis groups those sorts having similar patterns (Brown 1980, pp 267-272). Brown also demonstrates by example that whether the distribution pattern (Q grid) is forced to a particular quasi-normal or other pattern, or is an unforced complete rank-ordering, has little bearing on the loadings of participants upon revealed factors (Brown 1980, pp 288-289); the former being preferred by Q methodologists generally, because it delimits unnecessary work and is convenient for participants (Watts and Stenner 2005).

Where a statement appears with a similar ranking or position within all four factors, this is indicated by the grey boxes.   These are deemed to contribute to a consensus viewpoint, a common belief encompassing all the derived factors, within which there are the nuances of the separate factors.

To assist in interpretation of the factor, the strongly agree and strongly disagree statements are then listed in full within the narrative, as are additional distinguishing statements. The full text of all statements (attitudes and concerns Q Packs) is available in Appendix D: Study 2 process.   To exemplify the researcher's interpretation of each factor, quotations are included from the participants *(verbatim in italics)* when available. These quotations are shown in quotes and italics, indicating the participant:

- **Pod3** representing a final year podiatry students 1..31
- **Aca1** for a course developer who agreed to participate; **Aca2** for the researcher
- **'a'** for attitudes and **'c'** for concerns with **nn** representing the statement being commented upon
- **+/-** indicates the agree / disagree ranking given by the participant: -5 to +6

For example **Pod3c27:c12-5** indicates a comment made by final year **Podiatry student 27** about concerns statement **c12**, having strong disagreement scored as **-5**.

5.3   ETHICAL CONSIDERATIONS

This study sought the voluntary participation by final year podiatry students within the School of Health, Podiatry Division of the University of Northampton. Ethical approval for the study was sought and obtained from the university's Ethics Advisory Group within the School of Health in March 2006. All data is anonymised and collected on university premises during normal student hours. There were no perceived risks of injury to participants or to the researcher.

The timing of access to the final year podiatry students was critical, since there was a narrow window of opportunity between their completion of the IPE course and their involvement with final examinations and clinical assessments. Permission was gained from the Head of Podiatry to approach the students for volunteers at social events towards the end of their final year. Since this approach did not recruit sufficient volunteers, the succeeding cohort of students was also approached. This time arrangements were made for the researcher to attend their Friday afternoon clinics, subsequent to their last IPE session. On occasions when there were insufficient patients to occupy all the students, the supervising lecturer encouraged students to make good use of the time by assisting in this research, in exchange for much appreciated tea, coffee and biscuits. This met with a higher response rate, assisted by curricula changes resulting in IPE sessions being earlier in the final term and separated from examinations.

Thus a clinical situation was found where IPE research participation could be voluntary, without detracting from study, revision or clinical practice time. However, it was deemed to be beyond the resources of this research, to undertake similar data collection for other professions, made more difficult with off-site clinical placements.

Each participant was provided with a Participant Information Sheet and was asked to a complete a Participant Consent Form. Participants were free to withdraw from the study at any time, though none chose to do so.

5.4   FINDINGS – ATTITUDES TOWARDS IPE

Areas of Consensus

Before describing the particulars of the four attitudinal viewpoints found, it is useful to outline the common views held by all participants. With reference to Q Pack statement rankings (60) for 4 attitudinal factors, it can be seen that all four factors agree or strongly agree with statement A5:

> *There are occasions for all health professions, where inter-professional team working is the right approach (a5).*

To a lesser degree, there is agreement or positive ambivalence towards:

> *Student IPE should encompass learning about each other's professions (a11).*
>
> *Meaningful IPE relies upon having some existing knowledge about your own profession (a16).*
>
> *IPE is not about knowing everything about every profession, but knowing that these other professions contribute in a particular way (a29).*
>
> *IPE helps students to appreciate that different professions communicate with their clients and other professions in slightly different ways and with different purposes (a33).*

There is general acknowledgement that inter-professional team working is occasionally appropriate for all health professions. Further, IPE helps students extend knowledge about their own profession, to learn how each other's professions contribute and communicate with their clients in a particular way.

The requirement for knowledge about one's own profession is illustrated by: '*Meaningful IPE does rely on students having an existing knowledge of their own profession so that they can share and provide fellow IPE students with the relevant information (Pod3a28a16+5)',* with student 19 saying IPE (LIP) should be focussed in the final year: '*No LIP in 1st year, more in 3rd year. You need to know what you are talking about (Pod3a19a16+6)'*. Student support for LIP is illustrated by '*The principle of LIP is good, regarding the opportunity to work with other professions (Pod3a15a33+5)'* and an appreciation of IPE's ultimate objective being shown by '*Working as part of a team to provide best possible patient care (Pod3a5a33+6)'.*

Four factors also disagree or strongly disagree with statement a21:

> *IPE swamps the students with information they are not ready to receive (a21).*

To a lesser degree, there is disagreement or more negative ambivalence towards:

IPE picks up on the theory of practice in year one and the reality of practice in year three (a26).

IPE aims to turn all the student professions into generic health care workers (a48).

Early in IPE all students seem equally convinced of their own profession's value and uniqueness (a57).

An individual's resistance to IPE can be anticipated from their chosen profession and their age (a59).

All IPE modules should be formally assessed and count towards the final award (a60).

The students do not support the formal assessment of IPE. In addition, they do not perceive IPE as generalising healthcare, nor did they see themselves as having pre-conceived values or automatically resistant to IPE (because of age or profession).

Involvement with IPE was supported: *'I think students should always be ready to receive information from IPE, and in general all the students agree with the information of the IPE day (Pod3a13:a21-5)'* whilst another student found insufficient substance: *'…I wanted to learn at the last LIP day but found a lack of information to absorb (Pod3a24:a21-5)'.* With regards generic health care workers, *'IPE is not trying to homogenise the professions - it is trying to increase understanding of how professions work (Pod3a17a48-4)'.* In addition, *'Age or profession does not have any relation to individual resistance to IPE (Pod3a4:a59-4)'* and as regards LIP assessment, one student recognises its post-graduation aspects: *'…IPE will be learnt along the way and [it] should not add pressure and more work on what people already have (Pod3a29:a60-4)'* with others perhaps indicating the time pressures of their final year: *'There is enough pressure without the added one of LIP (Pod3a23:a60-5)'* and *'Formal assessment not required (Pod3a10:a60-5)'.*

The following statement drew no special attention from any of the attitudinal factors, perhaps indicating that students have limited knowledge of some aspects of their course planning:-

Health policy is gradually forcing all higher education institutions to undertake IPE (a53).

However, it did receive one student comment in its support: *'IPE is important for multi-disciplinary teams (Pod3a4a53+6)'.*

Factor A1: Appreciative of other professions

Within the above Areas of Consensus, the first factor to be extracted by Q factor analysis from the participants' attitudinal grids, representing the greatest correlation is represented by grid layout below:-

Table 3: Grid layout for Factor A1

Strongly disagree | Strongly agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
				53	52						
			58	50	46	2					
		59	57	45	44	51	47				
		48	20	32	36	33	40				
		25	38	17	26	35	31	30	43		
	60	24	34	15	23	18	11	27	42	49	
12	56	22	8	14	10	16	5	19	41	39	54
6	21	13	4	3	7	9	2	1	28	29	37

Rankings for Factor A1

-5   -4   -3   -2   -1   0   +1   +2   +3   +4   +5   +6

Within this grid, the statements expressing strongest agreement and strongest disagreement comprise:-

Good IPE increases a student's values and respect of other professions	a54	(strongly agree) +6
IPE gives students a greater understanding of how a healthcare team works	a37	+6
IPE aims at better 'joined-up' working for improved patient care	a49	+5
IPE encourages students to appreciate different professional perspectives	a39	+5
IPE is not about knowing everything about every profession, but knowing that these other professions contribute in a particular way.	a29	+5
All IPE modules should be formally assessed and count towards the final award	a60	-4
Early in IPE all students seem prejudiced against other professions	a56	-4
IPE swamps the students with information they are not ready to receive	a21	-4
Some teaching staff don't feel that IPE is important	**a12**	-5
Team working and IPE is just not relevant in a lot of what some professions do	**a6**	(strongly disagree) -5

This viewpoint supports consensus statement a29 with regards to knowing how other professions contribute. It encompasses podiatry students who agree that IPE gives a greater understanding of healthcare teams, their working and the different professional perspectives, their values and respect. IPE is relevant for all professions to improve patient care. Whilst feeling capable of handling IPE, these students are against its formal assessment.

The working of other professions is illustrated by: *'Before IPE I had no idea what social workers and occupational health professions did, and how I could / would work with them (Pod3a7:a37+6)'*. Its usefulness is indicated by *'IPE is relevant in all health professions to provide patients with the best treatment (Pod3a28:a6-5)'* and *'Different professions working together allows for a multi-disciplinary view (Pod3a18:a37+6)'*. Staff support for IPE was also indicated: '*They have ALL encouraged us to participate (Pod3a7:a12-5)'* and *'I think teaching staff understand the importance of IPE (Pod3a13:a12-5)'.*

This factor is also distinguished from others by the following additional statements:

IPE encourages better team working in general	**a42**	(agree) 4
IPE enables students to work across professional boundaries	**a43**	4
IPE: what a team looks like, who is who and how it works	**a28**	4
IPE encourages greater collaboration with other professions	**a41**	4
IPE allows a student to practice agreeing and compromising with others, whilst maintaining their professional standards	**a47**	3
IPE is intended to help students after they graduate	**a30**	3
IPE uniquely allows different professions to learn to work and problem-solve together	**a18**	1
Students could better use their IPE time doing clinics, study, revision etc	**a10**	0
It is necessary that the IPE student has had some previous clinical experience	**a17**	-1
Some student professions don't see themselves as having to use IPE skills in their professional life	**a15**	-1
IPE has its limitations: uni-professional teaching is more relevant in some areas	**a34**	-2
IPE results from a political agenda	**a25**	-3
IPE should be integrated into the curriculum, not simply be an add-on	**a24**	(disagree) -3

This factor is differentiated by team working, collaboration and professional boundaries, with disagreement that IPE is political or that it should be integrated into the curriculum. There is less concern over its clinical and post-graduation aspects, or time spent doing it.

The students appreciate the professional boundaries encountered within IPE: '*Overcoming boundaries is key to IPE (Pod3a17:a43+6)'* and *'I think IPE encourages better team working in general, because it makes you understand better how other people work. [It] gives different professional perspectives (Pod3a13:a42+6)'.* This may be seen as aiding collaboration: *'If other health professionals work is understood, the collaboration between them will be easier (Pod3a13:a41+6)'* and *'IPE is useful for knowing how other health professionals contribute in the community (Pod3a10:a28+5)'.* However, on a more dissonant note, *'I don't think it should be incorporated into the curriculum whilst its relevance to the course is in question (Pod3a24:a24-5)'.*

Summarising further to produce an inclusive, distinguishing headline:

> IPE encourages understanding of professional boundaries and team work.
> It is relevant and important, not driven by politics

This may be interpreted as an appreciative viewpoint of IPE and its objectives, defined by the sorts of eight podiatry student participants.

Factor A2: Scepticism of relevance of IPE to clinical practice or team working

Within the above Areas of Consensus, the second factor extracted was:-

Table 4: Grid layout for Factor A2

Strongly disagree

												Strongly agree
				58	54							
			45	57	53	**56**						
		60	43	49	46	52	55					
		47	39	**44**	**28**	33	29					
	59	**41**	24	37	27	25	20	**23**				
	42	48	40	22	**31**	**17**	15	13	16	34		
50	**32**	36	30	**18**	19	8	12	11	9	5	**51**	
38	21	**35**	**26**	1	**6**	3	**10**	2	7	4	**14**	

Rankings for Factor A2

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

The statements expressing strongest agreement and strongest disagreement comprise:-

If you can't relate IPE back to practice, then students don't value it.	**a51**	(strongly agree) +6
Some student professions participate more readily in IPE than others	**a14**	+6
IPE has its limitations: uni-professional teaching is more relevant in some areas	a34	+5
There are occasions for all health professions, where inter-professional team working is the right approach	a5	+5
There are some big divides in how professionals relate to each other, which are unlikely to be fixed by IPE	a4	+5
IPE encourages better team working in general	a42	-4
IPE is a useful learning experience, just one tool amongst many useful learning tools	**a32**	-4
IPE swamps the students with information they are not ready to receive	a21	-4
Interprofessional learning is an example of the way students will continue to learn once they've graduated	a50	-5
IPE falls into place and really helps later on in the course and in practice	**a38**	(strongly disagree) -5

This viewpoint supports consensus statement a5, acknowledging occasions for inter-professional team working. It encompasses podiatry students who value IPE when it relates to their practice. However, IPE has its limitations and this viewpoint does not see it as a useful learning experience, nor helping later in the course or after graduation, nor as encouraging better team working. They see IPE as unlikely to fix the divides between professions, though some professions participate more readily.

A clinical focus is illustrated by: '*It is important to use clinical examples when teaching IPE as it helps to drum into students the value of interprofessional practice and shows each profession's role within the team (Pod3a28:a51+6)*' and '*It is important that IPE is related to practice for a more clear understanding of how a team will work (Pod3a13:a51+5)*'. That said, there was concern expressed that this was not being achieved for the podiatry students. For some there was an imbalance in the materials: '*I find LIP removed from reality. I don't find the case studies discussed have relevance to podiatrists - they are frequently focussed on social worker experiences (Pod3a24:a51+6)*' and '*All scenarios were unrelated to podiatry and generally surrounded mental health and social issues (Pod3a15:a51+6)*'. For one, the format was an issue: '*IPE is limited in its guided case study orientated format. More was learned about each other over coffee! (Pod3a1:a34+6)*'. With some students this imbalance may have been perceived as making IPE irrelevant: '*More emphasis is made on certain professions and students can feel frustrated that they have to attend an 'irrelevant' course (Pod3a10:a51+6)*' and '*What is the point of learning from our experience if it bears no relevance to the real world? (Pod3a22:a51+6)*' and finally there '*Needs to be relevant to students' course or [IPE is] seen as irrelevant (Pod3a8:a51+6)*.

For one student, the imbalance was not seen in the materials, but within the students participating: '*Even if different professions are balanced within IPE groups this is ruined by non-attendance (Pod3a1:a14+5)*'. For another the imbalance was perceived as familiarity with IPE: '*I think that certain professions were far more familiar with IPE, and therefore knew what to expect and participated more easily (Pod3a2:a14+5)*'. A third commented: '*I know that podiatry students are reluctant to participate as they struggle to find its relevance to their learning (Pod3a24:a14+5)*'.

The usefulness of multi-disciplinary teams with complex patients was commented upon: '*Every patient is different and individual. Therefore certain patients require the knowledge and experience of an interprofessional team to help them and provide them with the best treatment (Pod3a28:a5+6)*' and '*Multi-disciplinary teams can be vital - particularly where high risk patients may require multi-factorial expertise (Pod3a22:a5+5)*'. However, some of the issues that this presents are also recognised: '*Boundaries can be deeply engrained and hard to overcome (Pod3a17:a4+5)*' and '*Different languages, ethos, teaching - forcing the issue doesn't help (Pod3a8:a4+6)*'. One student commented: '*Level 3 IPE had little relevance for podiatry - we sat and argued with adult nurses as to how best to manage diabetic ulcers! (Pod3a22:a32-5)*', which illustrates IPE difficulties and that the pertinence of the argument was not appreciated within this one group. The comment shows that there were IPE issues within the case studies (diabetic patients) which were in fact relevant to podiatry students!

The divide between professions was also demonstrated by: *'Other professions tend to know little about the role of podiatry - only once they have actually worked alongside them does this change - which only rarely occurs (Pod3a22:a4+6)'.* The better team working statement also solicited the comment: *'completely counter-productive - causes abject hostility (Pod3a8:a42-5)'.* Team working was also seen as an irrelevance by two other students: *'Mostly irrelevant to our profession. Expected to comment on teamwork when no education received on this in 1st year; no clinical out of university experience (Pod3a1:a32-5)'* and *'As a podiatrist I doubt I'll have many team meetings with a social worker and midwife (Pod3a23:a50-4)'.*

Questions about the relevance of IPE to podiatry were raised with regards graduation and future practice: *'Interprofessional learning does not relate or link to student graduating (Pod3a4:a50-5)'* and *'I struggle to see the relevance in my future professional career, in private sports related practice (Pod3a15:a38-5)',* with further dismissal of its relevance to podiatry training or podiatric practice: *'IPE does not help in the course (Pod3a10:a38-4)'* and *'No I didn't find the LIP days have benefited me in practice (Pod3a24:a38-4).*

This factor is also distinguished by the additional statements:

IPE students appreciate it most when they're working on something real	**a23**	(agree) 4
Early in IPE all students seem prejudiced against other professions	**a56**	2
Students could better use their IPE time doing clinics, study, revision etc	**a10**	2
IPE is understanding what a team looks like, who is who and how it works	**a28**	1
It is necessary that the IPE student has had some previous clinical experience	**a17**	1
IPE enables students to have a greater empathy for some other professions	**a44**	0
IPE is about mutual respect and understanding other peoples' perspectives	**a31**	0
Team working and IPE is just not relevant in a lot of what some professions do	**a6**	0
IPE allows students to understand the contexts in which they will be working	**a45**	-1
IPE uniquely allows different professions to learn to work and problem-solve together	**a18**	-1
IPE allows a student to practice agreeing and compromising with others, whilst maintaining their professional standards	**a47**	-2
IPE encourages greater collaboration with other professions	**a41**	-2
IPE picks up on the theory of practice in year one and the reality of practice in year three	**a26**	-2
IPE groups reflect as a team to appreciate their different professional perspectives on practice	**a35**	(disagree) -3

It is distinguished by its appreciation of 'something real', deemed to mean clinical practice and illustrated by *'Case studies are very interesting to discuss and very relevant to podiatry learning, but only if the examples discussed might occur in real life and relevant to podiatry, which they invariably aren't (Pod3a24:a23+6)'.* The factor is further distinguished by its relative unconcern about previous clinical experience, empathy for other professions or their perspectives, or working contexts.

Summarising further, the concepts relating to clinical practice and relevance (or lack of) seem to be to the fore amongst the students' comments. There seems to be little empathy for the other professions and their perspectives, aside from an acknowledgement that sometimes IPE is the right approach. IPE was not regarded as useful or as helping team working.

> IPE must relate to my practice to be relevant.
> It better suits certain professions and occasions. It is unlikely to fix the professional divides or to encourage team working.

This may be interpreted as a viewpoint more sceptical about the benefits or relevance of IPE, again defined by the sorts of 8 podiatry student participants.

Factor A3: A wider clinical & political perspective; prior experience

The third extracted factor was:-

Table 5: Grid layout for Factor A3

Strongly disagree   Strongly agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
					60	50					
				58	53	47	54				
			42	57	40	45	44	49			
			38	**56**	39	43	31	35			
		52	22	48	30	41	34	27	**46**		
	59	36	20	32	24	33	15	16	19	37	
55	**26**	6	13	28	23	29	11	**14**	12	18	**25**
51	10	3	4	21	2	8	1	5	7	9	**17**

Rankings for Factor A3

| -5 | -4 | -3 | -2 | -1 | 0 | +1 | +2 | +3 | +4 | +5 | +6 |

Statements expressing strongest agreement and strongest disagreement are:-

IPE results from a political agenda	**a25**	(strongly agree) +6
It is necessary that the IPE student has had some previous clinical experience	**a17**	+6
IPE gives students a greater understanding of how a healthcare team works	a37	+5
IPE uniquely allows different professions to learn to work and problem-solve together	a18	+5
Students first need to be clear about their own profession, before learning from other professions as part of IPE	a9	+5
An individual's resistance to IPE can be anticipated from their chosen profession and their age	a59	-4
IPE picks up on the theory of practice in year one and the reality of practice in year three	**a26**	-4
Students could better use their IPE time doing clinics, study, revision etc	a10	-4
Good IPE helps students to appreciate the stereotypical images	**a55**	-5
If you can't relate IPE back to practice, then students don't value it	**a51**	(strongly disagree) -5

This viewpoint encompasses two podiatry students who see IPE as having a political agenda, *'I think the 'statement' speaks for itself (Pod3a15:a25+6)'*. It sees IPE as relying upon previous clinical experience and of being clear about your own profession, in order to work and problem-solve together. IPE is time usefully spent, helping with team work but not with stereotypes.

The reliance on professional experience led to one student commenting: *'No LIP in 1st year, more in 3rd year. You need to know what you are talking about (Pod3a19:a9+6)'*. Its strong disagreement with statement 51 is opposite to factor A2, perhaps indicating its

value for students in relating IPE back to practice?   Unfortunately, no comments were provided by the students.

This factor is distinguished by its disagreement with the concept of first year theory being picked up in final year practice: *'The reality of practice is that most AHPs have to communicate with a GP rather than directly referring to each other, although there are exceptions (Pod3a22:a26-4)'* and *'No relevance from day 1 to the final day! (Pod3a15:a26-4)'.*   There was also disagreement regarding resistance to IPE: '*I think that your age or profession doesn't mean you will [have] resistance stereotyping (Pod3a18:a59-5)'* and '*Age has nothing to do with opinion (Pod3a19:a59-5)'.*

This factor is also distinguished from others by the following additional statements:

IPE allows opportunistic social learning between the student professions	**a46**	(agree) 4
Some student professions participate more readily in IPE than others	**a14**	3
Early in IPE all students seem prejudiced against other professions	**a56**	(disagree) -1

It has an appreciation of opportunistic IPE learning, illustrated by: *'Good opportunity to meet and open lines of communication (Pod3a19:a46+5)'* and that some professions participate more readily in IPE.   As with factor A2, it also recognised that some professions were more at ease with IPE than others.

Summarising further, to produce an inclusive, distinguishing heading:

IPE is political and opportunistic, needing previous clinical experience; Useful with regards team working but not stereotypes

This viewpoint may be interpreted as having a wider political and clinical perspective on IPE, defined by the sorts of two podiatry students.

Factor A4: A longer term view; unimportant for some staff

The fourth factor to be extracted was:-

Table 6: Grid layout for Factor A4

Strongly disagree   Strongly agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
					47	37					
				59	46	30	58				
			57	53	43	25	51	45			
			50	52	41	19	49	55			
		60	42	32	36	16	40	39	44		
	22	48	28	9	35	15	24	33	34	18	
56	**17**	21	**27**	6	26	3	13	31	20	12	54
10	8	14	7	2	23	1	11	29	4	5	**38**

Rankings for Factor A4

| -5 | -4 | -3 | -2 | -1 | 0 | +1 | +2 | +3 | +4 | +5 | +6 |

Statements expressing strongest agreement and strongest disagreement are:-

Good IPE increases a student's values and respect of other professions	a54	(strongly agree) +6
IPE falls into place and really helps later on in the course and in practice	**a38**	+6
IPE uniquely allows different professions to learn to work and problem-solve together	a18	+5
Some teaching staff don't feel that IPE is important	a12	+5
There are occasions for all health professions, where inter-professional team working is the right approach	a5	+5
IPE students should learn about clinical auditing	a22	-4
It is necessary that the IPE student has had some previous clinical experience	**a17**	-4
Students start IPE without first knowing their professional identity	a8	-4
Early in IPE all students seem prejudiced against other professions	a56	-5
Students could better use their IPE time doing clinics, study, revision etc	a10	(strongly disagree) -5

This viewpoint is defined by the participating IPE course developer and the researcher, perhaps having a longer term view of helping later in the course and in practice, equipping different professions to work together on occasions, appreciating each others' values. At the course outset, students are not considered to be prejudiced against each other and they already know their professional identity, so prior clinical experience isn't necessary. IPE is time well spent, yet some teaching staff does not feel it is important.

The lack of early prejudice was mentioned by one student: *'I can't speak for everyone - I didn't find this in my LIP group (Pod3a5:a56-5)'. T*he idea that novice students do not

have a professional identity was refuted by a student, also commenting: *'You need to know your profession to advocate for it (Pod3a18:a8-5)'.*

As with factor A3, this viewpoint supports the way that IPE increases the understanding of healthcare teams and other professions, with recognition that it is time well spent: *'IPE is definitely required within health professional courses and it only takes up a small amount of student time (Pod3a28:a10-4)'* and *'Other course aspects are important, but not so important as to disregard IPE (Pod3a17:a10-5)'.* The course developer did not return any comments with the Q sorts. The researcher's comments receiving strongest agreement were as follows:-

> *'Working together and problem solving is the aim of the multi-disciplinary team in order to improve patient care. Therefore a valid focus of IPE (AcaDa2:a18+6)'.*
>
> *'A unique selling point of IPE: Contact and interaction in a safe environment with no patients at risk from poor care (AcaDa2:a19+6)'.*
>
> *'In extremis, the different professions might sometimes be considered as coming from different planets, so different are their values and ways of thinking - a deliberate facet of their respective training (AcaDa2:a33+5)'.*

Comments associated with attitudinal statements, receiving strongest disagreement:

> *'This is shared, bulk learning and fails to highlight the unique perspectives of different professions. Therefore it is not IPE, except perhaps through opportunistic interaction (AcaDa2:a7-4)'.*
>
> *'If students think normal studies are better than IPE, then the facilitators have failed to convey its unique learning opportunities to the students (AcaDa2:a10-5)'.*
>
> *'IPE will never achieve the generic health worker, nor should it attempt to do so. However, this may be construed as an aim of early IPE policy (AcaDa2:a48-5)'.*

This factor is also distinguished by the statement:

IPE needs to focus on producing a workforce that is fit for purpose for future	**a27**	(disagree) -2

There is a sense that whilst IPE does help the student later on, there's no necessity to anticipate such things prior to graduation, also reflected in a response to the statement encompassing clinical auditing: *'I don't need to learn this now (Pod3a37:a22-5)'.*

Summarising further, to produce an inclusive, distinguishing heading:

IPE is useful and uniquely orientated to future working together of different professions. Some staff don't feel that IPE is important.

This viewpoint may be interpreted as having a longer-term view of the aim of IPE and its teaching staff, defined by the sorts of the course developer and the researcher.

5.5   FINDINGS – CONCERNS ABOUT IPE

This second pack of statements evolved naturally from the sorting and refining process of Development of Q Packs to piloting stage – Q Pack 3. They reflect experiences of IPE that might be encountered by the students. There is a bias towards staff issues, due to their origin in Study 1 from IPE course developers. However, it was considered worthy of investigation, to establish how the podiatry students perceive their IPE experience.

Areas of Consensus

Before proceeding with describing the four concerns viewpoints found, areas of common agreement exhibited by all the participants are outlined. With reference to Q Pack statement rankings (58) for 4 concerns factors, it can be seen that all four factor agree or strongly agree with statement c53:

> *The ideal IPE staff member is someone with an understanding of working with other professions (c53).*

Thus there is a general and not unreasonable expectation that IPE facilitating staff should have an understanding of working inter-professionally.

To a lesser degree, there is general agreement or more positive ambivalence towards:

> *IPE requires facilitation of small groups of mixed professions (c21).*

> *Students frequently enter IPE with erroneous, pre-conceived notions about their own and other professions (c45).*

There is appreciation of IPE being focussed on small groups of differing professions, with students often starting with incorrect stereotypes about each other (*stereotype: noun – disapproving - a fixed idea that people have about what someone or something is like, especially an idea that is wrong[8]).* Some students may see their facilitator as being able to correct mis-conceptions held within the group: *'Staff members should have an understanding of all medical professions in attendance so that they can offer genuine knowledge and or experience to the group (Pod3c12:c53+5)'.* However, others may regard the group itself and its diversity as the source of the knowledge and experience they require: *IPE requires small groups with mixed professions to assist to identify each role and function (Pod3c4:c21+6)'* and *'Mixed professions are needed as this is the purpose of IPE. Otherwise we would not experience other professions' opinions or practices (Pod3c21:c21+5)'.*

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[8]   Cambridge Advanced Learner's Dictionary [online].   Available from www.wordwebonline.com. Accessed 17 Jul 2009.

In contrast, there are those students who see small groups as a less daunting arena in which to contribute, to make friends: *'Small groups allow you to feel more comfortable (Pod3c10:c21+6)'* and *'Smaller groups are less intimidating and it is easier to discuss matters, plus it is a good opportunity to get to know one another better (Pod3c12:c21+6)'.* It is perhaps within casual conversation that *'previously held views about what is involved in other health professions or what they do is evident (Pod3c25:c45+6)'.*

In addition, all four factors disagree or strongly disagree with:

> *IPE is too health focused (c19).*
>
> *IPE staff do not need any specific training (c28).*
>
> *Personal IPE reflections should be written in a reflective journal that is assessed (c38).*

The latter could be objecting to assessment of IPE in general, or to reflective journals. For one student: *'I am not sure that I find the reflective journals helpful - I do not re-read or relate to them after the session (Pod3c12:c38-5)'.* Another student addresses the experiential nature of IPE: *'How can you assess an experience? What is a good experience or a bad one? (Pod3c22:c38-5)'.* Whilst a third considers assessment as a burden: *'Don't make it any more effort than it already is - students will get even more pissed off with it! (Pod3c5:c38-5)'.* Two students also raise concerns over the assessment of reflections: *'IPE should not require any assessments - personal reflections cannot be assessed (Pod3c10:c38-5)'* and *'Some students can't see the value of IPE and [find it] difficult to express or do their reflections. Not fair to assess: reflection is a personal thing and can't be graded (Pod3c20:c38-5)'.* In conclusion, whether it be IPE assessment, assessment of personal reflections, or reflective journals themselves, the students seem to hold some strong views against them.

Students bring specific IPE staff training to the fore, such as their partiality and direction of the groups: *'Staff need to be impartial and enable groups other than their own speciality (Pod3c1:c28-4)'* and *'If the staff members have no specific training there is a good chance the sessions will digress off the subject (Pod3c12:c28-5)'.* Broadening staff professional experience is cited as another reason for IPE training: *'Staff should have some knowledge of all professions present (Pod3c14:c28-5)'* and *'IPE staff need training to help them understand the students experience at different stages of our roles (Pod3c11:c28-4)'.* Perhaps as a consequence of a poor IPE experience, another student comments: *'It is clear that staff do need training for IPE, although it seemed that many of the facilitators were not interested. This is why it was of little benefit (Pod3c2:c28-4)'.*

For many of the students, the IPE focus on health care was seen as obvious: *'If you are on a health course, health focus is good (Pod3c10:c19-4)'* and *'How could it not be health focussed? (Pod3c5:c19-5)'.* However, some students appreciate the social aspects of IPE: *'We are all doing health and social care - case studies include social implications (Pod3c26:c19-5)'* and *'Health Professions need to understand each others' complex roles, as do other professionals such as social workers (Pod3c22:c19-5)'.* Even so, some seem to think their own profession should be more to the fore: *'IPE covered all aspects of the health professions. Perhaps they were too in favour of social work types of scenarios. Too little podiatry scenarios (Pod3c11:c19-5)'* with an interesting comment regarding the diversity of professions within the small groups: *'IPE sessions are not health based enough. The spread of professions was not enough to gain any real benefit to future practice (Po3c2:c19-4)'.*

To a lesser degree, there is disagreement or more negative ambivalence towards:

> *Staff see IPE as getting in the way of uni-professional outcomes (c42).*

Indicating that students may perceive staff as supportive of IPE, in so far as it does not intrude on their usual professional teaching.

The following statement drew no special attention from any of the concerns factors:-

> *It is not necessary to be specific over which model of reflection to use when it comes to IPE (c34).*

Thus it may be surmised that personal, critical reflection does not play a key part in these students' studies, or perhaps as one student commented; *'IPE learning is based on all models of reflection (Pod3c4:c34-5)'.*

Factor C1: A stereotyped minority requiring examples and authoritative staff

Within the above Areas of Consensus, the first factor to be extracted by Q factor analysis from the participants' concerns grids, representing the greatest correlation, is represented by the grid layout below:-

Table 7: Grid layout for Factor C1

Strongly disagree											Strongly agree
				54	52	**58**	55				
			47	37	50	51	46	56			
			42	36	48	35	39	**49**			
		32	40	34	27	23	22	31	41		
	43	30	10	33	**20**	16	17	25	**18**	53	
44	28	26	8	24	7	14	11	21	**12**	45	**57**
38	19	15	4	5	2	**13**	6	9	1	29	**3**

Rankings for Factor C1

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

The statements expressing strongest agreement and strongest disagreement are:-

When IPE groups comprise numerous students from the same or similar professions, the minority can feel 'swamped'	**c57**	(strongly agree) +6
An early IPE challenge is to overcome the level of ignorance, myths & mis-information over different professions	**c3**	+6
The ideal IPE staff member is someone with an understanding of working with other professions	c53	+5
Students frequently enter IPE with erroneous, pre-conceived notions about their own and other professions	c45	+5
IPE staff training needs to be inter-professional and inter-departmental	c29	+5
Students become more comfortable with the concept of IPE towards the end of their studies	**c43**	-4
IPE staff do not need any specific training	c28	-4
IPE is too health focused	c19	-4
Students expecting to work on their own in practice will anticipate little need for IPE	**c44**	-5
Personal IPE reflections should be written in a reflective journal that is assessed	c38	(strongly disagree) -5

This viewpoint supports consensus statement c53, concerning staff understanding working with other professions, appreciating staff with both inter-professional and inter-departmental training. It encompasses podiatry students having concerns about minority professions feeling swamped, and overcoming ignorance and erroneous pre-conceived notions (stereotypes). The viewpoint anticipates a need for IPE, even for students expecting to work on their own in practice. However, the view is that personal IPE

reflections should not be assessed. It does not agree that students become more comfortable with IPE towards the end of their studies.

Feelings of isolation, of being a minority profession were illustrated by: '*Podiatry students were definitely in a minority, so I just took a back seat in the sessions as I didn't feel involved (Pod3c2:c57+5)'* and '*I have experienced being in the minority at IPE sessions and it felt intimidating (Pod3c21:c57+6)'.* However, in any IPE group there would be only one or sometimes two students from any given profession. Thus paramedic and social worker students, if not all members of the groups are in the same situation. Possibly some students regard the four nursing professions as one and the same: '*A higher proportion of nursing students mean that most groups experiences were nursing orientated and scenarios of little relevance to chosen profession (Pod3c1:c57+6)'.*

The New Generation Project (Hean et al. 2006a) identified established and consistent set of stereotypes which entry level students have about each other's professions. Two students commented likewise: '*Different professionals come to IPE with preconceptions about other professions - these barriers take a while to overcome (Pod3c21:c3+6)'* and '*Previously held views about what is involved in other health professions or what they do is evident (Pod3c25:c45+6)'.* However two other podiatry students took a narrower stance: '*…they have no idea what podiatrists can do (Pod3c30:c45+6)'* and '*They thought I just 'clipped and painted toenails'. Many people at IPE seemed unwilling to learn about my profession (Pod3c2:c45+6)'.*

Students holding this viewpoint have expectations of the inter-professional experience of their staff: '*A complete understanding of all methods of working and chains of command can only be understood by working inter-professionally (Pod3c30:c29+5)'* and '*It is very important for the staff member to be open-minded and knowledgeable about other professions (Pod3c10:c53+6)'.* Reasons given for this were: '*If a staff member cannot relate to what they are teaching then this would impact on the way they deliver (Pod3c18:c53+6)'* and '*The staff / trainer should know enough about each health profession present, as they are the authority figure (Pod3c14:c29+6)'.* Disagreement with statement c28 further supports this concept, with students commenting: '*Specific training should always be given to deliver the course effectively (Pod3c17:c28-5)'* and '*No specific training is a hindrance 'cos the staff can't see its benefits (Pod3c27:c28-5)'.*

This viewpoint is distinguished by its strong disagreement with statements c43 and c44. Statement c44 includes recognition that Podiatrists often work on their own within their normal practice. However, the students may appreciate this is not always the case, with one commenting '*Interprofessional team working is always required (Pod3c25:c44-5)'.* However, when these final year students commented upon being more comfortable with IPE towards the end of their studies (c43), there was some surprising negativity: '*After 3*

years I still don't enjoy LIP. Maybe the content not really podiatry related (Pod3c20:c43-5)' and *'Still boring and not including podiatry in case studies (Pod3c26:c43-4)'.* Both students related this to a lack of podiatry content, whilst a third may have related it to limited clinical experience with other professions: *'Still informative when only working occasionally with other health professionals (Pod3c25:c43-4)'.*

There was disagreement that there was too much of a health focus (c19), with social work being cited as a useful contrast: *'Health Professions need to understand each others' complex roles, as do other professionals such as social workers (Pod3c22:c19-5)'* and *'We are all doing health and social care - case studies include social implications (Pod3c26:c19-5)'.* The social work contrast may also permit appreciation of a more integrated, holistic approach, as supported by National Service Frameworks with a patient-centred focus (Department of Health 2005): *'I don't think it is too health focussed because there is approach on many other different angles (Pod3c13:c19-5)* and *'IPE should be health focussed as we are health professionals and patient care should be our number one priority (Pod3c14:c19-4)'.*

It is also distinguished by the following statements:

IPE is shared learning – students learn about each other when they are taught together	**c18**	(agree) 4
IPE can have the potential negative effect of reinforcing stereotypes between professions	**c12**	4
Students should be asked to evaluate all aspects of the IPE course	**c49**	3
IPE engagement can be problematic when students think their profession does not work in teams	**c13**	1
Year 1 IPE should keep to fairly generic things which do not depend upon prior professional experience	**c58**	1
IPE is well suited to studying the differences between the social and medical models of patient care	**c20**	(less concerned) 0

This viewpoint is distinguished by the sorts of ten students and has least concern about the differences between the social and medical models of care, or keeping to generic topics in the first year of IPE. However, there is recognition that IPE students can learn from each other when taught together. Two students felt that stereotypes were being re-enforced, either through staff attitude or bias in the materials: *'Certainly, if your group leader has a bad attitude (Pod3c5:c12+6)'* and *'I feel that IPE did reinforce stereotypes between professions. Podiatry was not an integral part of any of the case studies we were given (Pod3c2:c12+6)'.* The statement about students evaluating all aspects of the course solicited the following: *'Other aspects need to be considered: grouping, duration (days too long) and timing. E.g. year 3 are busy in doing their dissertation and may think this a waste of their time and don't enjoy it and see the value (Pod3c20:c49+6)'.*

Summarising further, to produce an inclusive, distinguishing heading:

> Podiatry is in a minority, encumbered with a difficult stereotype.
>
> IPE needs podiatry examples and authoritative, knowledgeable staff.

This factor may be interpreted as representing students with a troubled experience if IPE: feelings of isolation and non-involvement, failing to see podiatry content in the case studies, not enjoying IPE nor becoming more comfortable with it towards at the end. There is an antipathy towards IPE, with sensitivity over its erroneous *'clipping and painting nails'* stereotype, with the other professions not willing to learn about podiatry. However, they do appreciate a need for IPE and look to the staff as being knowledgeable authority figures requiring training.

Factor C2: Overcoming stereotypes through reflection and small mixed groups; staff with IP experience

Within the above Areas of Consensus, the second factor to be extracted was:-

Table 8: Grid layout for Factor C2

Strongly disagree | | | | Strongly agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
				50	57	**55**	56				
		58	49	52	51	53	46				
			35	34	48	**44**	47	41			
		54	30	33	42	37	39	36	45		
	28	38	**25**	15	40	24	**20**	29	**22**	31	
19	26	32	4	**11**	**10**	14	16	**27**	13	23	43
12	**5**	**17**	2	8	**1**	7	9	6	**3**	21	**18**

Rankings for Factor C2

| -5 | -4 | -3 | -2 | -1 | 0 | +1 | +2 | +3 | +4 | +5 | +6 |

The statements expressing strongest agreement and strongest disagreement are:-

Students become more comfortable with the concept of IPE towards the end of their studies	c43	(strongly agree) +6
IPE is shared learning – students will learn about each other when they are taught together	**c18**	+6
IPE tutors need to have experienced inter-professional practice for themselves, to be able to teach it	c31	+5
IPE requires the staff team to work interprofessionally, pulling together	c23	+5
IPE requires facilitation of small groups of mixed professions	c21	+5
IPE staff do not need any specific training	c28	-4
IPE should not include too much serious reflection by students since it can be off putting	c26	-4
An IPE course requires an identifiable champion who makes things happen	**c5**	-4
IPE is too health focused	c19	-5
IPE can have the potential negative effect of reinforcing stereotypes between professions	**c12**	-5 (strongly disagree)

This viewpoint supports consensus statement c21, appreciating the necessity of small student groups for IPE work. It encompasses podiatry students who appreciate learning from each other when taught together and includes serious reflection, becoming more comfortable with IPE in their final year. The viewpoint regards IPE staff as requiring specific training, having experience of interprofessional practice and working inter-professionally as a team. There is disagreement that IPE reinforces stereotypes or is too health focussed.

Students appreciated the necessity of the small mixed groups in IPE: *'A selection of different health professions is required for IPE to achieve its 'goal' (Pod3c25:c21+5)'* and

'*You need mixed groups to allow you to gain knowledge from different departments (Pod3c18:c21+6)'; 'in order to get input from various professionals, thus making us aware of what their role is (Pod3c16:c21+5)'.*

Students viewed IPE shared learning as allowing a broader perspective: '*When people are taught together, you get more information in one go compared to when you work isolated within your own group (Pod3c14:c18+6)'* and '*When students are taught together with others the benefit is higher, [since] they can share different points of view (Pod3c13:c18+5)'.* Confidence also increases towards the end of the course: '*During the last year the students have had time to work with other professionals, allowing them to gain more confidence (Pod3c18:c43+5)'*, which is contrary to factor C1.

In support of IPE staff having experience of inter-professional working, one student remarked: '*It immediately becomes apparent if tutors lack inter-professional experience and knowledge (Pod3c31:c31+6)'*, with others explaining it thus: '*how else can one teach something they don't agree with or haven't got any experience on? (Pod3c16:c31+6)'* and '*whatever someone wants to teach, they need experience on it (Pod3c13:c31+6)'.*

There is strong disagreement with c12 about IPE re-enforcing stereotypes. Students commented: '*I believe that discussion and greater communication rarely reinforces stereotypes (Pod3c17:c12-5)'* and '*I really don't believe that IPE reinforces stereotypes (Pod3c27:c12-5)'*, with another seeing IPE very positively: '*IPE plays a positive role in diminishing the stereotypes - to learn each other's roles (Pod3c11:c12-5)'.*

The strong disagreement with c26 also indicates a positive view of reflection: '*Reflection is required to stimulate student's thoughts / ideas (Pod3c25:c26-5)'* and '*Reflection is the main part of IPE -> increasing understanding (Pod3c 17:c46+6)'*, even if on unpalatable topics: '*[We] need to know all aspects of working life and what can go wrong (Pod3c30:c26-4)'.* Another student may view this as drawing out the client perspective: '*Serious reflection is needed as any job in the health professions and working with patients should be taken seriously (Pod3c14:c26-4)'.*

This factor is also distinguished by the following additional statements:

An early IPE challenge is to overcome the level of ignorance, myths & mis-information over different professions	**c3**	(agree) +4
IPE requires separate study time and numerous rooms set aside, in order for the student groups to get together	**c22**	+4
IPE staff development is an ongoing process - there's always new staff coming on board	**c27**	+3
IPE is well suited to studying the differences between the social and medical models of patient care	**c20**	+2
The way an IPE group works is influenced by non-professional things such as student ability and the role of the facilitator	**c55**	+1
Students expecting to work on their own in practice will anticipate little need for IPE	**c44**	+1

Getting year one IPE students to do a reflective account is difficult	**c10**	0
A shared IPE module needs representatives from every professional group to be involved in its development and in its delivery	**c1**	0
Interprofessional learning is a means to an end, it's not the end itself	**c11**	-1
Year 1 IPE should keep to fairly generic things which do not depend upon prior professional experience	**c58**	-2
IPE should foster an awareness within students of clinical systems that facilitate or prevent interprofessional working	**c25**	-2
IPE is limited by patterns of student attendance and where they are normally based	**c17**	(disagree) -3

Distinguished by the sorts of four students, this factor is differentiated by the facilities required to support the small group work and ongoing staff training. The students disagree that there are issues associated with attendance or that an awareness of clinical systems is required. They have least concern about reflective accounts in the first year, or that every professional group should be represented in IPE development and delivery.

Summarising further, to produce an inclusive, distinguishing heading:

> IPE overcomes stereotypes, through small groups and serious reflection.
> The staff team needs inter-professional experience and to pull together.

This factor may be interpreted as representing students with an affirmative view of IPE, seeing the benefit of small groups of mixed professions to aid learning from each other and about roles, through reflection and increasing confidence through the course. However, there is concern that IPE staff training should include inter-professional experience and demonstrate multi-professional co-operation (practice what they preach).

Factor C3: A clinical perspective with IPE timing issues

The third factor to be extracted was:-

Table 9: Grid layout for Factor C3

Strongly disagree   Strongly agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
				51	52	54	41				
			43	50	48	**49**	36	**57**			
			40	42	34	**26**	**30**	47			
		46	39	35	**32**	22	25	45	58		
	38	24	37	27	23	11	21	44	55	31	
33	28	18	**20**	15	9	6	17	29	16	**10**	**56**
19	**7**	8	5	12	4	3	14	13	**2**	1	53

Rankings for Factor C3

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

The statements expressing strongest agreement and strongest disagreement are:-

Timetabling a quite a barrier when bringing multiple student professions together	**c56**	(strongly agree) +6
The ideal IPE staff member is someone with an understanding of working with other professions	c53	+6
IPE tutors need to have experienced inter-professional practice for themselves, to be able to teach it	c31	+5
Getting year one IPE students doing a reflective account is difficult	**c10**	+5
A shared IPE module needs representatives from every professional group to be involved in its development and in its delivery	c1	+5
Personal IPE reflections should be written in a reflective journal that is assessed	c38	-4
IPE staff do not need any specific training	c28	-4
Core IPE team working by students is achieved in the preparation for a joint assignment	**c7**	-4
It is difficult to develop intentional IPE opportunities in a clinical setting	**c33**	-5
IPE is too health focused	c19	(strongly disagree) -5

This viewpoint is strongly supportive of c56 with regards to timetabling being a barrier, a defining statement for this factor. It considers staff training and their understanding and their experience of IPE to be important. First year reflections can be difficult and should not be assessed. IPE should be developed by a team of all professions, with a health focus, which is not difficult within a clinical setting.

With regards to timetabling issues for IPE (Learning Inter-Professionally), the following comments were recorded: '*Certainly in the case of podiatry the LIP sessions are often just before an important deadline. As a result it is often badly attended and begrudged (Pod3c12:c56+6)*' and '*LIP has come around at inconvenient times - before exams (in*

year 1 & 2) and year 3 needed time for dissertation (Pod3c26:c56+6)'. Thus there seems to have been a poor choice of days on which to hold the IPE course, sofar as the podiatry students were concerned. However, it raises the question of when is the best time, which would suit all the professions with their disparate placement patterns? Another student comments upon the first year in particular: *'At this point of any course, participants have little professional experience to draw upon (Pod3c22:c58+6)'.*

Another possible reason for begrudged attendance was supplied by strong agreement with statement c1, with regards to all professions being involved: *'only when all professions are represented will true interprofessional working take place (Pod3c30:c1+6)'.* Implicit within this may be that students from some profession(s) were absenting themselves within some of the small groups, further exemplified by *'when we had LIP we lacked a couple of students from the social care side and almost all the case scenarios we had needed a social care input (Pod3c16:c32-5)'.* However, it may also refer to the lack of physiotherapy and medical students at this particular institution, concurrent with four different nursing professions: *'IPE sessions are not health based enough. The spread of professions was not enough to gain any real benefit to future practice (Po3c2:c19-4)'* and *'if anything, there were not enough professions there, particularly ones relevant to podiatry i.e. physios and GPs (Pod3c2:c32-5)'.* The comment *'needs to also be linked into each profession (Pod3c26:c1+5)'* may question how IPE is presented within the courses themselves.

Alongside negative responses to c7 and c33, student comments indicate a preference for clinical learning of IPE: *'Core IPE team working comes from understanding how and why other professions work, which can only be learnt / understood by practical live work (Pod3c7:c7-5)'* and *'Far more easy to learn from other professions in real life setting, rather than simulation (Pod3c20:c33-4)'.* This is a strong point of the New Generation project, with its 700 clinical facilitators enabled by government pump-priming funds (Freeth et al. 2005). Meanwhile, another student found personal interaction to be more informative than the course materials: *'I have learnt more about other professions by friendly chat rather than the 'assignments' (Pod3c26:c7-4)'.*

It is also distinguished by the following additional statements:

All IPE courses feel experimental in the first couple of years	**c2**	(agree) 4
When IPE groups comprise numerous students from the same or similar professions, the minority can feel 'swamped'	**c57**	3
IPE teaching methods may initially seem very strange to those student professions which are used to being taught via lectures	**c30**	2
Students should be asked to evaluate all aspects of the IPE course	**c49**	1
IPE should not include too much serious reflection by students since it can be off putting	**c26**	1

It can be appropriate to have just a couple of professions doing IPE together	**c32**	0
The challenge is getting students to recognise opportunistic clinical IPE when it is encountered, and then to learn from it	**c51**	-1
IPE is well suited to studying the differences between the social and medical models of patient care	**c20**	-2
Students need to reflect within IPE, to take account of other professional perspectives	**c46**	(disagree) -3

There is recognition that early IPE endeavours may feel experimental, with feelings of being swamped by the other professions. Reflection is not required for students to appreciate other profession's perspectives. There is least concern over the amount of reflection, recognising opportunistic clinical IPE, or having just a couple of professions doing IPE. This viewpoint is distinguished by four podiatry student participants and a course developer. Unfortunately the course developer did not record any additional comments.

Summarising further, to produce an inclusive, distinguishing heading:

IPE timetabling can be difficult and IPE can feel experimental
Staff training and experience is important

This viewpoint may be interpreted as representing those with a clinical perspective, concerned with the inappropriate timing of IPE and the experience of IPE staff. This supports more general arguments for including IPE as part of post-graduation studies.

Factor C4: IPE champion for staff training; exploring models of care

The fourth factor to be extracted was:-

Table 10: Grid layout for Factor C4

Strongly disagree												Strongly agree
		39	**46**	56	51							
	57	27	43	54	45	53						
	55	16	41	36	35	37						
	38	49	9	40	34	**33**	25	58				
	42	32	48	8	30	**31**	22	13	44	**50**		
28	18	26	47	7	3	29	15	11	23	**20**	**52**	
19	10	12	24	4	2	17	6	1	21	**14**	**5**	

Rankings for Factor C4

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

The statements expressing strongest agreement and strongest disagreement are:-

The experience of doing IPE is often more important than outcome of the set IPE task	**c52**	(strongly agree) +6
An IPE course requires an identifiable champion who makes things happen	**c5**	+6
The attitudes towards inter-professional education of some IPE staff are not conducive to student's learning	**c50**	+5
IPE is well suited to studying the differences between the social & medical models of patient care	**c20**	+5
IPE facilitation is quite an alien experience for some staff	**c14**	+5
Staff see IPE as getting in the way of uni-professional outcomes	c42	-4
IPE is shared learning - students learn about each other when they are taught together	c18	-4
Getting year one IPE students to do a reflective account is difficult	c10	-4
IPE staff do not need any specific training	c28	-5
IPE is too health focused	c19	(strongly disagree) -5

This viewpoint is defined by one mature podiatry student and the researcher, who see the need for a champion for IPE, since some staff may find IPE uncomfortable and their attitudes may get in the way. Specific IPE training should attend to the experience of working together and to the different models of professional care. Year one reflection is not difficult for students and IPE is not simply about students being taught together.

Two students expressed concerns over the attitudes of their IPE staff: 'I strongly feel that negative staff attitudes to IPE rubs off on the students and makes it difficult to take it seriously (Pod3c27:c50+6)' and 'some staff have damaged the reputation of IPE through their attitudes (Pod3c31:c50+5)'. Given the participants were the 3rd and 4th cohort of

podiatry students to complete the IPE course (its 5th and 6th year of operation), this is a rather concerning accusation.

One of the students also saw beyond the particular IPE case studies and activities: '*obviously the benefit is from the process, not the specific tasks (Pod3c31:c52+5)*', with another giving implicit support for the multi-professional aspects of IPE: '*I have not seen any uni-professional outcomes yet (Pod3c4:c42-3)*'.

The factor is distinguished by strong agreement with statement c20, which was derived from the following Study 1 utterance: '*probably whether it's a social or a medical model of care, I believe is the main difference. And that certainly is an area right for interprofessional learning, that we certainly haven't addressed here, yet. (Int2-30:00)*'. The researcher's comments receiving strongest agreement were:

> '*[Social and medical models] These represent the extremes of rational / relative thinking that differentiate the health professions - all are at different points on this continuum (AcaDc2:c20+6)*'.

> '*Small group work best exemplifies the experience of small team collaboration which may be expected in clinical / community practice (AcaDc2:c21+6)*'.

> '*The IPE staff in developing the module should all work together across professional boundaries: richer examples / cases and practicing what they preach! (AcaDc2:c23+5)*'.

Comments associated with concerns statements, receiving strongest disagreement:

> '*Shared learning is only shared: working with each other for economy of bulk teaching. Any IPE would be serendipitous (though still valid), since no focus in learning from and about each other (AcaDc2:c18-5)*'.

> '*IPE staff are invariably uni-professional by experience and need fore-thought and preparation in order to avoid professional assumptions and bias (AcaDc2:c28-5)*'.

> '*Whilst the mix of professions is pragmatic, IPE only works if there is a contrast in thinking between the participants, reflecting what they are likely to encounter in practice (AcaDa2:c32-4)*'.

It is also distinguished by the following additional statements:

It is difficult to develop intentional IPE opportunities in a clinical setting	**c33**	(agree) +2
IPE tutors need to have experienced inter-professional practice for themselves, to be able to teach it	**c31**	+1
Students need to reflect within IPE, to take account of other professional perspectives	**c46**	0
The way an IPE group works is influenced by non-professional things such as student ability and the role of the facilitator	**c55**	(disagree) -2

There is some agreement about IPE in a clinical setting being difficult to develop, and some disagreement that student ability and the role of the facilitator affects IPE group

working.   Least concern is given to reflection, as the key to understanding other perspectives.

Summarising further, to produce an inclusive, distinguishing heading:

> IPE requires a champion to direct staff attitudes and IPE approach.
>
> Different models of care are seen as appropriate; reflection is not difficult

This viewpoint may be interpreted as concerns over staff attitudes, with the approach to IPE being focussed by an IPE champion.   It may be considered has having a more philosophical, longer-term approach befitting this research.

5.6   DISCUSSIONS

This section considers factors that may affect the reliability of the study and locating the researcher within those findings.   It then contrasts different factors, in preparation for a wider discussion in the next chapter.

Q Pack development

It was found difficult to encompass attitudes and concerns about IPE within statements comprising simple, tight propositions (Rogers 1995), suitable for rapid Q sorting by the participants.   Upon analysis, it became clear that there were statements containing multiple concepts.   For example, with regards to statement c46 it might be argued that participants might have found have been simpler to have two statements:-

> *Students need to reflect within IPE, to take account of other professional perspectives (c46)*

Might have become:-

> *Students need to reflect within IPE (c46a)*

> *Students need to take account of other professional perspectives (c46b)*

The issue for Q Pack development was that the context and reason for reflection is being removed from its activity.   If not by personal reflection, how else might students demonstrate to themselves and others, that they have learnt to take account of other perspectives (and what were they?).   Thus IPE course design aspects are integrated into some questions, hopefully triggering deeper consideration by participants.   The cost of doing so was greater time and effort by the participants: '*Shorter statements should have been written as it is quite tedious having to read such long statements (Pod3a4)'.* This may have contributed to a reduced recruitment rate.

In general, the students did not support statement a26, that IPE *'picks up on the theory of practice in year one and the reality of practice in year three'*. It was originated from one of the IPE course developers, perhaps considering the way that students are introduced to simple situations at the start of their course, which develops to complex, real-life situations towards the end of the course. The complexities of some clients may be better addressed with the skills and resources of an inter-disciplinary team, the focus of IPE (Jessup 2007). The students disagreed, which may be surprising. Possibly the term 'theory of practice' was unfamiliar to the students, or perhaps they did not recognise its application to their clinical training.

Q Factor Analysis

As a mathematical instrument, the central procedure of Q methodology is the pair-wise inter-correlating of participants' Q sorts, with the resultant correlation matrix subjected to factor analysis (Rogers 1995). A Q factor (or pattern) analysis mathematically reduces the matrix of correlations between the Q sorts by assuming that they reflect the action of a small set of independent factors or viewpoints. To yield interpretable factors, it is first necessary to derive a best estimate of that factor in terms of a weighted average of Q sorts, in terms of their loading on that factor. It is required that the loading of each Q sort should be large on one factor and trivial on the others, as evaluated by a process called rotation. This can be conducted by a visual procedure called hand rotation, or by mathematical criteria - for example Centroid or Varimax rotation, all of which are available within PQMethod.

Centroid factor analysis was used in the early days of Q Methodology by Stephenson and has no single solution (Brown and Robyn 2004, Brown 2006b). Its indeterminate nature suits the character of subjectivity, with Stephenson using the factor rotation as a way to incorporate into the enquiry the investigator's guesses, hunches and predilections, as arise in relation to events under scrutiny. Since this study is an exploration of the attitudes and concerns of podiatry students towards IPE, a concern was not to bias findings with the researcher's own predilections and personal experience of an early IPE course. Thus it was decided to keep to Varimax rotation, which being most popular seeks to mathematically maximise loading onto the first factor without any understanding of (or bias of) underlying data.

There are occasions when it is appropriate to use hand rotation to skew one factor in relation to another, so that it more closely represents the Q sort of a particular participant (perhaps a reputable academic representing a particular theoretical position) (McKeown and Thomas 1988). On occasion, hand rotation may also be used to closer represent bipolar views (participants clustering around opposite ends of a factor's axis).

Whilst considered, neither of these approaches were considered appropriate for this exploratory study, in an arena such as IPE where there is no firm underpinning of theory to support such decisions.

Locating the researcher within the research

As reported within [Q Study recruitment](), the final act of data collection was for the researcher to perform Q sorts of both packs of attitudes and concerns statements and to record comments. This data and that of the participating IPE developer is included within the analysis of student data since it has no influence upon expressed student viewpoints. However, so doing improves the reflexivity of the research and acknowledges that the researcher forms a part of the research process (Flick 2006). Meanings are assigned to the revealed Q Methodology factors by their interpretation by the researcher, aided and illustrated by explanatory comments from participants (McKeown and Thomas 1988). Thus indications of factors upon which the researcher contributed a definitive Q sort may show any unintentional bias or favouritism.

Without any prior data conditioning or planning, the researcher and the other academic participant comprise the defining sorts for attitudinal factor A4, regarding future-working and staff attitudes. This is illustrated by the contrast between factor A4 which strongly supports the statement A38, and all other factors which disagree or strongly disagree that 'IPE falls into place and really helps later on in the course and in practice'. This longer term view was not representative of the final year podiatry students and may reflect their shorter term interest, of successful graduation.

The researcher and one mature student comprise the defining sorts for concerns factor C4, regarding IPE champions, reflection and care models. This mature student happened to be one of those who piloted the initial Q packs in her second year. She also had experience of clinical podiatry practice prior to embarking on her course, hence may have had a wider view on the application of IPE. However, there may have been an inadvertent influence in casual discussion in her second year, since it was not anticipated that she would be involved directly in the study the following year.

Whilst the stability of factor C4 cannot be assured, due to its low number of defining Q sorts, it is pertinent in demonstrating a distinctive viewpoint, and one that is differentiated from the other course developer. A part of the latter differentiation may be the time tabling issues to the fore in factor C3, for which the developer is a defining sort.

Issues of IPE relevance to students

In planning IPE within a healthcare setting, Reeves *et al.* (2007a) suggest that providing relevant learning experiences is a key element to adult learning. The findings of this study provided some contradictory viewpoints which are now discussed

Student readiness for IPE

The Literature Review refers to a broader discourse of whether IPE should comprise part of pre-registration training, or part of post-graduation CPD activities in a clinical setting. IPE is intended to be a safe practice environment for multi-professional team working, resulting in improved patient care (once students have graduated) (Anderson et al. 2006). Some suggest that this may be too far in the future to meet immediate learning needs (Reeves et al. 2007a), with a view that IPE can only be performed in actual practice, when the need and motivation is clearer. However, IPE policy in the literature review dictates that it should be implemented pre-registration, sharing core values, communication skills and common learning (Department of Health 2001d).

Factor A3 reveals that some students feel that clinical experience is preferred before commencing IPE. However, this is contrary to an aspect of IPE that seeks to promote early inter-professional development, so as to avoid a uni-professional 'silo' mentality (Allen et al. 2006). However, additional comments reveal that for some students, the issue may be the timing of IPE activities so close to the end of the academic year:

> *LIP is always put in during exam time or 3rd year dissertation time. I'd rather spend my time working (Pod3a28:s10+5)* **_Versus_** *IPE is definitely required within health professional courses and it only takes up a small amount of student time (Pod3a28:s10-4); Other course aspects are important, but not so important as to disregard IPE (Pod3a17:s10-5)*

Thus the students were sensitive to the timetable aspects of IPE (two concurrent days per year at this particular institution). This echoes comments from one of the Study 1 participants who reported similar issues with his IPE sessions being time-tabled on Friday afternoons. Whilst there may be no easy solution to this problem, some students demonstrated that they do appreciate the benefits of this inconvenience.

IPE assessment

A significant finding was a consensus from these podiatry student participants that IPE should not be formally assessed (disagreeing with statement a60), that IPE should not be made more difficult by this and that reflections cannot or should not be assessed in any case. For the participating students, IPE amounted to six full days (1½%) of their 90

weeks undergraduate course. There may be justification that the assessment of such a short component of their course should not be onerous. However, Study 1 found that IPE was more generally embedded and assessed within other modules, or had its own allocation of course credits (therefore explicit assessment) towards the final qualification. Freeth et al (2005) associate lack of assessment with lower learner priority:-

> *You also need to take account of the priorities each learner will attach to any particular part of a long programme of study... those that lose out are likely to be the ones thought of as lower status, those that are the least personally relevant or appealing to each learner, where the experience or assessment is most easily repeated later and learning outcomes are not assessed.*
>
> *(Freeth et al. 2005, p.78).*

To meet the students' demand for no assessment of IPE may risk it being seen as less relevant or of lower importance at the time.

Professional arguments between students

Diabetes is a chronic and progressive disease that has an impact upon almost every aspect of life (Department of Health 2009). It is the leading cause of blindness in people of working age in the UK, with an estimated 2.35 million people with diabetes in England. The government is committed to improve diabetic care, publishing a National Service Framework for diabetes in 2001, with twelve standards to cover all aspects of diabetes care and prevention (Department of Health 2001c). The quality of diabetes care can be improved by using the skills of multidisciplinary teams (Department of Health 2000a, Craddock and O'Halloran 2004), which can comprise the following professionals:

- *senior podiatrist (clinic co-ordinator who also performs triage when any tests, imaging, bloods, microscopy, culture and sensitivity, vascular etc are ordered)*
- *diabetes consultant*
- *microbiology consultant*
- *pedorthist (orthotist available if requested in advance)*
- *silver chain liaison nurse (community nursing)*
- *radiologist (on call)*
- *vascular surgeon (on call)*
- *diabetes educator nurse (on call)*
- *social worker (on call)*

> *(Gurr 2007)*

Thus the podiatrist can have a pivotal role in treating the ulceration and infection associated with diabetic feet, and of orchestrating care provided by other professionals. However, factor A2 expresses scepticism about the clinical relevance of IPE, with strong disagreement with statement a32, that IPE is a useful learning experience. The following explanation was recorded by a podiatry student:-

> *Level 3 IPE had little relevance for podiatry – we sat and argued with adult nurses as to how best to manage diabetic ulcers (Pod3a23:a32-5)*

This is remarkable statement on several counts:-

> ➢ They were discussing diabetic ulcers in their final year IPE, which is relevant to both nurses and podiatrists
> ➢ They were discussing client care, which is the principal focus of IPE
> ➢ There was argument about 'how best to…'

There is an inherent contradiction, with the student saying that the final year IPE has little relevance, yet exemplified IPE activity that was relevant to diabetic patient care. From the tone of the comment, 'sitting and arguing', it may be inferred that the discussion was prolonged and heated, raises concerns about the IPE activity precipitating the argument. Whilst each student had some practical know-how to contribute, the argument would attest to the failure to communicate it to each other: they had professional contact but exemplified an ineffective primary care team (Sargeant et al. 2008). According to Social Identity Theory and Allport's Contact Hypothesis (Hewstone and Brown 1986), positive change will occur only when there is equal status, a cooperative atmosphere, positive expectations with a common goal and institutional support. The student's support of Factor A2 might indicate a non-receptive frame of mind, that it was not a good IPE day. However, the two remaining conditions specified by Allport may indicate how the situation might have been resolved: There should also be institutional support, and the participants should be aware of group similarities and differences. As Sargeant et al acknowledge, contact is not enough and *'a unique aspect of interprofessional learning is explicitly becoming aware of professional perspectives that differ from one's own (Sargeant et al. 2008, p.229)'*.

Relating IPE to clinical practice

Statement A51 was strongly supported by Factor A2 but strongly refuted by Factor A3:-

> *If you can't relate IPE back to practice, then students don't value it (a51)*

Taken initially from an IPE developer, it seems to suggest that students must see how IPE relates to practice. However, it contains a double negative and with hindsight it could have been more succinctly phrased '*Students value IPE when it relates to practice*'. With hindsight, it comprises two different concepts:

- • IPE does not relate to practice
- • Students don't value IPE

All the additional comments from students strongly agreed with the original statement, ranked as +6 (strongly agree) within factor A2; there were no comments provided by students disagreeing with the statement, ranked as -5 within factor A3 (it is more neutral

for factors A1 and A4).   Thus this statement may be garnering support from students with a negative view of IPE, in that they don't see its relevance to practice or value it. It may also be supported by students having the idea that IPE should relate to practice, in which case it might be regarded as self-evident and not warranting further comment. Care has therefore been taken to look at other statement responses, particularly in factor A2, to determine the level of negativity it may indeed encompass. Thus the expressed negativity, within the context of the areas of consensus, was interpreted by the researcher to be scepticism ('*inclined to question or doubt accepted opinions' – Compact Oxford English Dictionary*), particularly regarding the relevance of IPE to podiatry.

Professional divides

Factor A2 strongly agrees with statement a4, concerning the big divides in how professionals relate to each other, supported by student comment: '*Boundaries can be deeply engrained and hard to overcome (Pod3a17:a4+5)'*.   Such characteristics of professional groups may be apparent as the stereotypes about each other's professions (Hean et al. 2006b).   However, another student commented that barriers encompass '*Different languages, ethos, teaching - forcing the issue doesn't help (Pod3a8:a4+6)',* then going further with regards to their experience of IPE team working to comment, '*completely counter-productive - causes abject hostility (Pod3a8:a42-5)'.* Thus the IPE students seem to recognise the practical problems of inter-disciplinary working (Zwarenstein and Reeves 2000). However the scepticism attributed to A2 and the abject hostility comment suggests that for some students their IPE experience has not equipped them to overcome the 'big divides'.

Politically motivated without clinical relevance

Factor A3 strongly agrees with there being a political agenda behind IPE, reflecting the IPE stakeholders identified in literature review and their influence on IPE development reported in Study 1. The students defining this factor comment upon their perceived relevance of IPE: for Pod3a15 there was no relevance for IPE from the first to the last day of IPE, perhaps explicated by another comment indicating a specific interest in sports-related practice; another student's comments may indicate their clinical experience: '*The reality of practice is that most AHPs have to communicate with a GP rather than directly referring to each other, although there are exceptions (Pod3a22:a26-4)'.* This appears to be a narrow view of the General Practitioner as the gatekeeper to NHS resources (Department of Health 2006), perhaps indicative of the student continuing to think from a uni-professional framework, with IPE imposed as a political necessity.

The podiatry minority and their preparedness for IPE

The literature review identifies podiatry as a relatively small player within the allied health professions and within IPE, less that 7% of AHPs registered with the HPC and in less than 2% of IPE endeavours identified by the World Health Organisation. Minority awareness is evidenced in concerns factor C1, also students' comments about not feeling involved and observation about the higher proportion of nursing students within the IPE groups. Reeves et al highlight such problems within group dynamics:

> 'An equal mix of professionals is crucial, because a group skewed too heavily in favour of one profession can inhibit interaction, as the larger professional group can dominate (Reeves et al. 2007a, p.234)'.

However, the issue remains that there four times the number of nurses to be trained as there are podiatrists (Bowen 2008). At undergraduate level nurses have a common first year, then branch into nursing specialisations of adults, mental health, learning disabilities or children's nursing (Nursing & Midwifery Council 2004), added to which are the midwifery students. The question therefore arises whether the podiatry students perceive all nurses within their IPE groups to be one and the same, or whether they appreciate the different skill sets developed by the various branches? Another aspect that could also be drawn to students attention, is that the social work students, radiologists and other professions are also 'minorities' within IPE, that the ideal IPE group would have only single representatives from a diverse range of professions.

IPE and the authoritative figure

Factor C1 encompasses the view that the IPE staff / facilitators are authority figures (Pod3c14), that they need to be open-minded and knowledgeable about each profession present (Pod3c10) and that they require specific training (Pod3c17 and Pod3c27). This may be construed as the students regarding the IPE facilitator as 'the expert' within their more familiar didactic teaching environment. This is counter to the experiential nature of IPE's small, multi-disciplinary groups, with Merriam suggesting that transformational adult learning is more about:-

> 'the mental construction of experience, inner meaning, and reflection… and is dependent on adult life experiences and a more mature level of cognitive development than is found in childhood (Merriam 2004, p.206)'.

Given that this factor is the most stable and defined by the Q sorts of ten students, it raises questions over the expectations of podiatry students within IPE and what their facilitator may be willing (rather than able) to do for them. For podiatry students, this approach to learning may be uncomfortable and this use of reflective skills may not be within their syllabus. This contention is further exemplified by contrasting factors C2 and C3. Factor C2 agrees that reflection is key to learning from IPE opportunities (statement

c39) and that it allows appreciation of other professions' perspectives (statement c46). However, Factor C3 strongly disagrees that students need to reflect about others' perspectives (c46), or that reflections should be written in a journal and assessed (c38).

Also in relation to facilitator staff, statement a12 is the only one to explicitly refer to staff within the attitudes Q Pack: *Some teaching staff don't feel that IPE is important (a12).* It receives strong agreement from Factor A4 and moderate support from factor A3. However it encounters strong disagreement from Factor A1 (defined by eight students), with some students feeling that all teaching staff support IPE. Taking a more organisational stance, factor A4 (defined by a course developer and the researcher) holds awareness that some facilitators are unsupportive of IPE, at least initially and prior to appropriate training as drawn out in Study 1. Thus the sensitivity of Q Methodology is demonstrated, highlight contrasting views held by groupings within the participants rather than reporting on the lowest common denominator or average.

5.7 STUDY SUMMARY

From a small sample of final year podiatry students, this study sought to explore the attitudes and concerns of podiatry students towards their IPE course, as they approached their final year examinations. Q methodology revealed eight factors which expressed independent viewpoints, interpreted by the researcher with the aid of explanatory comments recorded by the students. The views of the researcher and a course developer from Study 1 were also included in the analysis, revealing a distinctive attitude towards IPE, and sharing differently some of the concerns about IPE expressed by the students.

The podiatry students held a consensus that their IPE course (two days per year, for three years) should not be assessed, somewhat at odds with some institutions in Study 1 which allocate 10 or 20 course credits to IPE, implying specific summative assessments. The students record their IPE activities and reflections within their portfolios of work, for discussion with their personal tutors. There is a further consensus that reflective journals should not be assessed.

One attitudinal factor expressed a firm appreciation of IPE, of its relevance to understanding professional boundaries and teamwork. However, another factor was much more sceptical, with its view that IPE needs to relate to practice, is better suited to other professions, is unlikely to fix the professional divides or encourages team working. Anecdotal evidence was provided by one student, reporting argument with adult nurses on the management of diabetic ulcers – clinical and relevant to collaborative care – yet declaring that IPE has little relevance for podiatry. There appears to be a dichotomy in the attitudes of these podiatry cohorts which warrants further consideration.

Whilst the NSFs for Older People and Diabetes give scope for podiatrists to be active in multi-professional collaboration, findings indicate that some podiatry students retain a perspective that does not appreciate the relevance of IPE to their future practice. Some also see themselves as a minority within their IPE groups, acutely aware of their 'nail cutting' stereotype and feel that their contribution to healthcare is being ignored. However, a wider viewpoint was also demonstrated, that the small groups can help to overcome stereotypes and that students can share different points of view.

Whilst in general considering that teaching staff consider IPE to be important, the podiatry students held some concerns over their preparedness. Some student appear to expect the IPE facilitator to be an expert about all health and social care professions, rather than facilitating the students' exploration of their own experience and understanding of the issues highlighted within the IPE case studies. This leads to concerns about the preparedness and IPE expectations of the students themselves.

Thus the second study has revealed some quite diverse, if not contradictory attitudes and concerns about IPE, held by two successive cohorts of final year podiatry students. These differ from the longer term view and concerns for time tabling and staff enabling attitudes expressed by the researcher and participant from Study 1. Thus the final discussions chapter seeks a tentative understanding of what may be underlying these contrasting views and approaches to IPE.

6 DISCUSSION OF FINDINGS

This final chapter re-considers the emergent themes that have developed from the two studies, to inform ongoing development of the IPE curricula for podiatry students and other minority health and social care professions. There is a re-statement of the research question and an acknowledgement of the constraints and limitations of this exploratory research. There then follows discussion of a number of IPE themes, drawing from the findings and literature review, with recommendations for practice and future research. There is a brief consideration of how the researcher's viewpoint has changed during this research, leading to a proposal for ongoing research. Finally, there is consideration of how this research has contributed to knowledge.

6.1 THE RESEARCH AIMS, OBJECTIVES AND LIMITATIONS

This research seeks understanding of podiatry as a health profession participating in IPE. The literature review described the context of IPE as a new adjunct to the curricula of the health and social care professions over the past decade; also the national and international drivers for the integration of IPE within pre- and post-registration training. It also identified podiatry as a profession with limited representation in terms of number of practitioners or opportunities to be involved in IPE, with few specific requirements for IPE within its profession-specific regulation or its professional bodies. There is little in the literature that addresses the specific concerns of podiatry students involved with IPE.

Therefore research objectives were encompassed within two related studies:-

Study 1) To appreciate how IPE is delivered by the thirteen UK higher education institutions which are educating podiatry students alongside other AHP students, nurses and social work students at undergraduate level.

Study 2) To explore the attitudes and concerns of podiatry students towards their IPE course as they approach their final examinations.

Within the literature reviews, there was no clear educational theory found to be underpinning IPE as a whole. The thesis is therefore exploratory, without the benefit of a theoretical lens through which to filter, prioritise and weigh the findings. In terms expressed by Kelle (1997), it is using heuristic concepts derived from the stock of common sense knowledge, using the theories of the investigated culture. Thus a Critical Rationality stance is taken, as outlined in the Methodology chapter, assuming there is a simple truth to be found, even if it can only be imperfectly known. Thus the discussion is a mixture of criticality and pragmatism. The criticality looks to challenge some of the 'taken for granted' assumptions (Finlay 2006) within IPE development and

implementation. The pragmatism considers meanings to be fluid (Finlay 2006), accepting that participants' stories reflect something of their subjective perceptions of their experiences of undertaking IPE at whatever level. The qualitative nature of the research and limited number of participants reduces the generalisability of the findings. However, tentative suggestions may be based upon a deeper understanding of the issues found.

The intention was to include IPE curricula into the analysis of Study 1, with requests for such in the [Introductory letter sent to heads of podiatry](). Unfortunately little usable material was forthcoming, to enable incisive questioning with regards IPE assessment, in particular when course credits were reported as allocated to the IPE module.

The Study 1 interview participants represented one half of the UK institutions teaching undergraduate podiatry. Whilst representing a range of endeavours, only one was of the smallest scale (two professions) and one was of the largest scale (1,500 students). Extension of the study inclusion criteria to encompass institutions without podiatry students might have located more evidence for the more extreme scales of IPE.

It became apparent in the interviews and the times spent discussing the various topics, that the participants did not have a great deal to say about podiatry as a profession, either about podiatry facilitating staff or podiatry IPE students. They did report some issues concerning other 'minority IPE professions' such as radiography, pharmacy and social work students. This might have been followed up in post-interview clarifications or a focus group called to validate a draft chapter of the study and its interpretations.

All the podiatry students participating in Study 2 attended the same institution, thus limiting their IPE experiences to the opportunities provided at that institution. The reported attitudes and concerns may therefore be biased by particular aspects of their course and may not be generalised to podiatry students as a whole. Had resources permitted, further Q sorts might have been sought from podiatry students at other UK institutions, seeking IPE endeavours that include radiology students (another minority AHP) and medical students (another major player in IPE). Nonetheless, as an exploratory study, a diverse range of attitudes and concerns were uncovered which may inform IPE initiatives that include minority professions such as podiatry.

6.2 EMERGENT THEMES FROM THE RESEARCH

The scales of endeavour involved with IPE

In common for all endeavours described in Study 1 was the facilitation of small students groups from contrasting professions using adult learning approaches. Seven interviews

were conducted with the lead developers of IPE for half of the podiatry courses in the UK. As a convenience sample, they represent a broad range of IPE endeavours and the mix of students involved (from two to ten different health and social care professions). This has been summarised in the figure below, which loosely categorises small, medium and large scales of IPE endeavour represented by the participants:-

Figure 15: Different scales of IPE endeavour
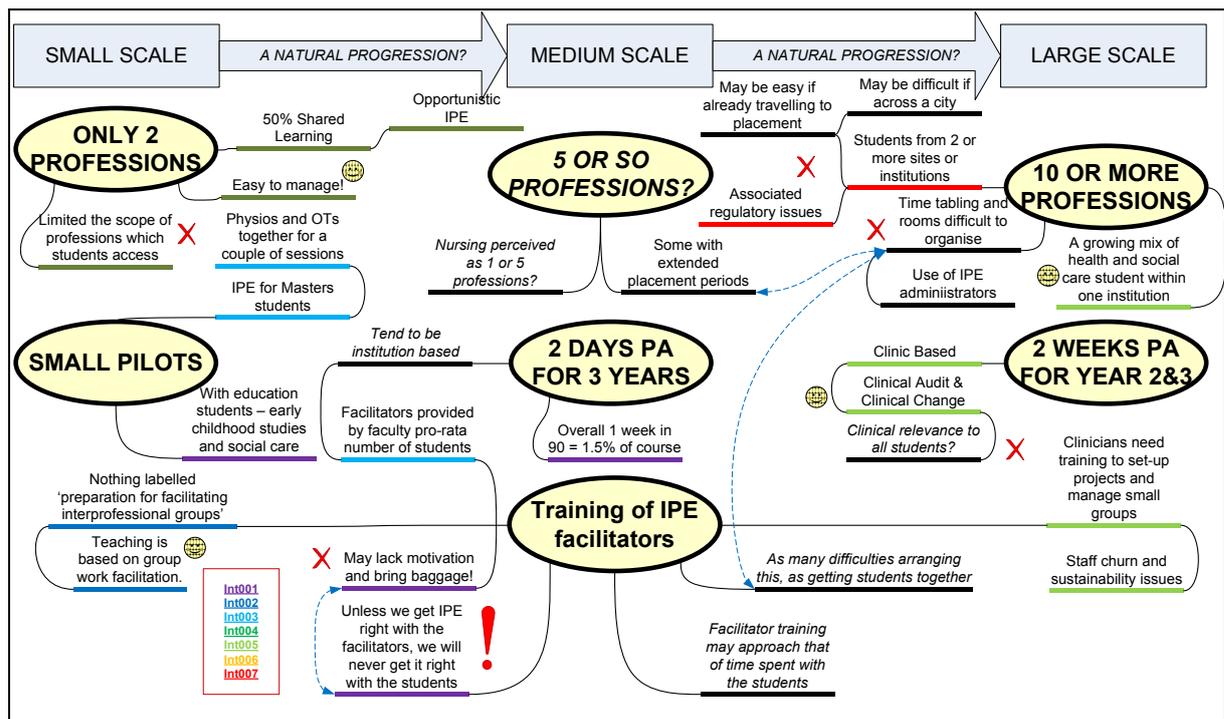
The Study 1 participants portrayed pragmatism with regards the mix of IPE professions: a more diverse mix being available when a larger number of students is available. One participant reported the merging of three higher education institutions to have joint awarding powers and an IPE funding bid based upon ten programmes that this brought together. At the other extreme was a much smaller IPE endeavour which comprised of only physiotherapy and podiatry students. Obliging the students to travel between sites is one reported means of improving the available mix, seen as the norm for one institution and as impossible by another (perhaps relating to local traffic congestion). The fact that all students have to travel to their clinical placements means that for some, this is regarded as an opportunity to mix the professions more easily (on placement at the same time, pre-arranged as two week blocks for one large-scale endeavour).

Thus there appears to be an approximation between the scale of endeavour, the diversity of professions that may be involved, the number of students undertaking IPE and the duration of their IPE endeavours. One might consider that if large numbers of students are involved in IPE, then the course must have sufficient impact and duration to make

the required arrangements effort worthwhile. The participants report no economies of scale in IPE, but that it is resource intensive with regards to its cross-faculty development and its facilitation in small groups.

One of the issues raised by Study 2 is whether nursing and midwifery students are perceived by other students in the IPE groups as a single profession, or as five distinct professions. This may have particular impact for medium scale endeavours, where minority professions may feel intimidated by the 'larger group' of nursing students. Under such circumstances, the contrasting of skills and aptitudes between adult, paediatric, geriatric and mental health nurses and midwives may benefit, so that they are not viewed as stereotypically being all the same.

The driving forces behind IPE

Within the UK, the NHS declares its motivations for collaborative care to be various well reported failures such as the Bristol Royal Infirmary heart cases and the lack of professional care provided to Victoria Climbié (Laming 2003). Within Health Canada, the impetus seems to be the necessity of rural practices to better use limited resources in some form of skill and decision sharing between the professions (Moaveni et al. 2008). Perhaps the NHS direction for common foundation modules and the ability to change career directions has association with the skill-sharing objectives in Canada? Whilst supposition, this may explain why some antagonists to IPE may accuse it of creating generic health workers; also why one of the participants strongly refutes that IPE is *'turning everybody into some blobby, generic health care worker (Int5-28:59)'.*

The literature review found a number of stakeholders with declared interests in developing the IPE curriculum within higher education: the QAA, the HEA, regulatory bodies and professional bodies. Some Study 1 participants also reported perceived compulsion to introduce IPE into the undergraduate curriculum, in particular from the Strategic Health Authorities having responsibility for funding the required number of healthcare student places within the UK's universities. Some SHAs are distributing government funds, with what appears to be conditions attached in the form of requiring adherence to current government policy. Thus IPE implementation may be considered to be policy-driven, politically from on high, rather than evidence-driven from the practice and social experience of patients or clients - the declared focus and beneficiaries of IPE. A political perspective was also found within factor A3 within Study 2, as defined by two of the student Q sorts.

In contrast, it was also found that some IPE leaders consider inter-professional working to be a general trend, a means to remove barriers from between professions. Perhaps supportive of this, some institutions were reported as giving strategic support for IPE in

their funding of specific IPE developer posts, in some cases staff training and for another bi-weekly inter-departmental staff meetings. Institutional changes and course revalidations were also reported as opportunities to introduce IPE, sometimes associated with bids for innovation and research funding.

Thus the complex forces behind IPE became apparent: not necessarily all pulling in the same direction, though IPE has a generally agreed aim of improved client / patient care. The research findings demonstrate that after ten years of wide ranging endeavours, there remains limited consensus on what areas to cover within IPE, or how to present it to undergraduate students in the UK. There appears to be no underlying, unifying theory as to how IPE should be structured or its impacts assessed, only piecemeal references to adult learning, problem based learning and social contact theories.

Revealed strata of IPE facilitation

Study 1 participants indicated there are relatively few staff actively promoting IPE and developing its materials. Upon closer consideration, it may be perceived that there are three strata of participants involved in the IPE activities:-

1)   The IPE lead facilitator – the participants in Study 1.

2a)   A small group of more motivated staff developing IPE materials.

2b)   A larger group of co-opted lecturers or facilitators delivering the materials.

3)   The large population of IPE students, in small mixed-profession groups – represented by the podiatry students in Study 2.

Splitting the IPE facilitators into two groups may help to explain the contrast in IPE experiences reported by the Study 2 students, that some IPE facilitators seem uninterested or lack the required skills or motivation, whilst other facilitators are encouraging and are reported as understanding the importance of IPE. Whilst not evaluative, Study 2 also indicated stability for two quite contrasting views, one supportive and one rather sceptical of IPE, having concerns that staff should be authoritative and have inter-professional experience. Thus there may be a hiatus in the transfer of knowledge and motivation between the two facilitator levels. For those from differing faculties discussing and developing IPE materials, there is a natural sharing of ideas and illustrative cases concerning multi-professional working. However, it is questionable whether these ideas can be promulgated down to the co-opted lecturers through work books and facilitator notes. It seems unlikely that aberrations of IPE facilitation can be attributed in the main to individual personalities, as suggested by two participants. Colyer's limited survey of academic staff involved with IPE suggested that

some who are hostile or ambivalent to IPE may be perceiving a loss of professional identity, precipitating feelings and behaviours associated with loss – ascribed to a phenomenon of cultural lag (Colyer 2008).

This leads to a closer consideration of the preparations provided by the institution to the level 2b facilitators. This was found to range from no specific IPE training for some of the smaller endeavours, to fortnightly 2 hour meetings for some mid-scale work, and ongoing retraining of facilitators on the largest endeavour, to account for staff turn-over. Thus it is perhaps in this area of co-opted lecturer - facilitator training that the studies indicate there is potential for significant improvement, at least so far some students' experience of IPE is concerned.

Development of IPE course materials is challenging

There are issues in developing IPE materials pertinent to all the students' professions. In some cases, only a portion of the professions can be included in a given set of materials. How is this perceived by the 'excluded' professions' students? How are student expectations of IPE managed in these circumstances? The findings indicate instances when these issues are not addressed, resulting in students perceiving a lack of relevance.

IPE courses tend to be on the forefront of course development, using innovative approaches to placements, web resources, time-tabling and resource provision. It tends to be novel for staff and students alike, reported as taking both parties out of their comfort zones. IPE module development tends to be by mixed teams of university staff, practicing what they preach. However, making arrangements for these teams to meet is every bit as difficult as getting the groups of IPE students together. Some get around this by faculty providing regular time (once fortnightly) for the IPE staff to get together and to develop the materials. Reeves et al provide pertinent points regarding staff preparation:

> *Initial preparatory support is required for understanding the roles and responsibilities of the different professions, issues of professionalism and the learning strategies for interprofessional groups. It is also suggested that ongoing regular opportunities for discussion and reflection by faculty can provide valuable support... (Reeves et al. 2007a, p.233 precis)*

> *Facilitators are pivotal with their understanding of group learning theories, practical skills, experience and confidence to meet the demands of an interprofessional group. They require knowledge of the health and social care professions, current practice issues, the aims of the IPE program and experience of interprofessional collaboration… (Reeves et al. 2007a, p.232)*

Perhaps IPE staff preparation might also involve their undertaking the IPE course materials themselves, as a mixed team of professionals? They might experience some of

the conflicts and issues being experienced by the student groups, with opportunity to share examples and discuss different approaches with fellow facilitators.

Podiatry student learning styles

'*…I wanted to learn at the last LIP day but found a lack of information to absorb (Pod3a24:s21-5)'.* There is an expectation here, that the student anticipated didactic tuition, being spoon-fed with information to learn and be tested upon. This is echoed in the C1 concerns factor with its requirement for knowledgeable authority figures. However, this runs contrary to adult education principles and the small group communications skills being nurtured by IPE. This raises questions over how expectations of learning and methods of learning IPE are being set for the students, particularly when differing from a student's norm.

Personal, reflective logs or self-assessment journals or portfolios received numerous mentions within IPE (Clark 2009), as well as within the research findings. There is debate on whether and how such can be assessed, particularly if they document failure or raise a cause for concern that must be addressed. Indeed two of the Study 2 students raise their concerns that reflective accounts cannot be assessed. Clark also reports that reflective accounts may be uncomfortable for some of the 'divergent' health professions that rely more on abstract conceptualisation and active experimentation, such as may apply to podiatrists with their technical-rational approach and didactic lectures.

'*I am not sure that I find the reflective journals helpful - I do not re-read or relate to them after the session (Pod3c12:s38-5)'.* It is interesting to observe that this student may have expected to re-use her reflections after the session. Should the reflection be considered as some form of précis, a set of revision notes for exam cramming? If there were an IPE examination, perhaps they might have been used as such! However, another view of critical reflection is that it is the process, going through Kolb's experiential learning cycle in one form of another, which seeks to prevent the student from repeating past 'mistakes'. In particular, the latter stages of invoking some form of critical examination or research to find other ways to resolve a problematic situation, enables a tentative plan or resolve for a different, future course of action. In such a scenario, re-reading or relating back to them would be a process of self-realisation: that with hindsight changes or learning has come about.

This raises the question of how the podiatry student was introduced to critical reflection and what expectations were set? Critical reflection may not be a familiar learning method for some institutions teaching podiatry, though for Brighton University it is an ethos that underpins many of their health related courses (Tate and Sills 2004). Critical reflection can be introduced to podiatry students as 'useful for IPE'. However, it might be

perceived as more relevant for documenting CPD after graduation, since as part of ongoing registration with the HPC, podiatry practitioners must document their training. When this is through informal means, such as consideration of a research report or new guidelines, recording of the activity through a critical reflective log can document the required CPD activity. This is an area that might be addressed within the podiatry faculty, rather than within an IPE setting where "*it was the podiatrists within the group who said 'we don't reflect' (Int1-01:08:05)*".

Ensuring that IPE is a positive learning experience

There is concern that IPE should be a positive learning experience for the students involved. There is recognition that in practice there are imbalances in decision-making power and authority, typically between nursing and doctors (Zwarenstein and Reeves 2002, Miller et al. 1999), hence the setting of ground rules for students entering IPE. For example, the opinions of all students are regarded as being equally valid, regardless of profession. Care is taken within IPE to avoid enforcement of previously established negative stereotypes between professions.

Opinions was found to be divided, whether to highlight the stereotypes and assumptions held about and by different professions, or whether highlighting them might undermine what IPE is trying to achieve. When IPE disputes arise about client care, there may a rush to re-assert concord within the group, rather than to explore the underlying professional reasons. Providing a good experience of IPE may be viewed as most important, at cost of exploring the issues that undermine multi-disciplinary collaboration.

The students reported contradictory views on this: *"I feel that IPE did reinforce stereotypes between professions. Podiatry was not an integral part of any of the case studies we were given (Pod3c2:c12+6)."* versus *"I really don't believe that IPE reinforces stereotypes (Pod3c27:c12-5)"*. The Study 1 participants also expressed contrasting opinions about whether the cultural differences between the professions should be made explicit to the students. One argued that paying attention to cultural differences may undermine what you are trying to do. However, another IPE lead reported the use of humour and self deprecation when addressing stereotypes head-on. Thus the research reveals contradictory positions on whether and how to handle cultural difference, at both student and IPE developer levels. The following section considers the researcher's perspective on this, developed during this thesis.

The timing of the IPE endeavours

There is a contention between those students wanting IPE to be in their final year, when they have knowledge about their own profession, versus those who see IPE as a

distraction in their final year, when under pressure to complete their research project. The latter students might argue that all IPE should be delegated to post-graduate studies, or a part of continuous professional development. However, to do so would not obviate the unintentional enforcement of stereotypes and the silo mentality, which IPE seeks to overcome. This raises questions on what reliance IPE should make upon students' self awareness of their own profession, being able to verbalise its unique traits. The podiatry students might be for-warned of the requirement to 'defend their profession' within the IPE sessions, or at least extend the understanding of the other group members about their specialist skills and abilities.

The diversity of IPE experience

Podiatry represents a 1½ % minority of the UK healthcare professions, taught mainly at thirteen higher education institutions. A finding was the diversity of IPE experience these institution provide to their students, all aspiring to improve multi-professional patient care upon student registration in their own way. This may make it very difficult for curriculum validating bodies such as the QAA, HPC and individual professional bodies to compare the IPE components of these courses. In addition, the findings suggest a lack of a clear theoretical underpinning for IPE. This makes it difficult to comprehend what best practice might be, thus adding to difficulties in making comparisons.

It is conceivable that the differing scales of IPE endeavours and the different mixes of student professions were contributory to the disparate mix of theory, approaches and assessment methods reported in the findings; that with greater representation by other institutions some uniformity of theory might have become apparent. This cannot be refuted within an exploratory study. However it raises concerns about readiness to practice, if podiatry students can graduate with diverse experiences and competencies regarding multi-professional collaboration.

6.3   THE RESEARCHER'S VIEWPOINT

As declared in the Position statement of the researcher, the author commenced this investigation as a newly qualified podiatrist, amongst the first cohort to complete a recently re-validated curriculum that included IPE. As such, his views might be expected to fall within the range of views expressed by the final year podiatry students in Study 2. However, inclusion of the researcher's Q sorts within the analysed data set showed views that were distinct and apart from those of the students, and also from the participating IPE developer. This section therefore reflects upon how and when these changes may have occurred and what impact they may have upon the research findings.

Whilst this research is submitted at M.Phil level, the aspiration was for a Ph.D. with anticipation of a third study to focus upon a particular IPE aspect for theory development. As discussion topics were assembled for transfer, the researcher drew parallels between the well established quantitative – qualitative paradigm (Robson 2002), and Becher's hard-applied and soft-applied sciences (Becher 1994). This resulted in consideration of how health professions might be mapped onto a hard-applied, soft-applied continuum, and how medical and social models of thinking relate to their knowledge:-

Figure 16: Cognitive mapping of the professions
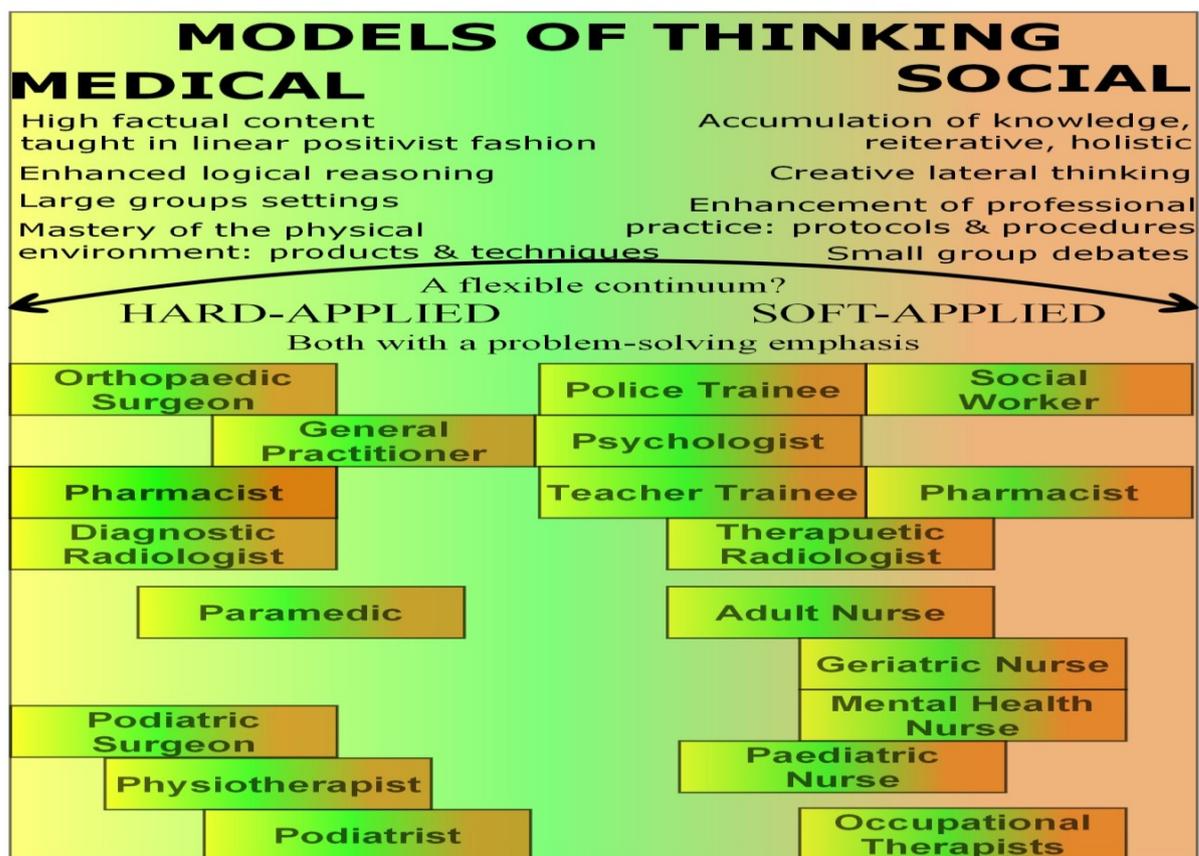
The above figure recognises that each profession encompasses its own unique mix of hard and soft evidence and application. The placement of a profession, towards one or other end of the proposed spectrum could be a cause of endless discussion, even dispute!   However, underlying any particular positioning, there are philosophical assumptions about what constitutes important knowledge, what is construed as evidence and best practice which future IPE endeavours might address.   In addressing these issues explicitly, students may appreciate issues associated with multi-professional team working, enabling them to develop their communications and negotiation skills.

The above tentative understanding was developed into Appendix E: Study 3 proposal, which could be performed as a Q Methodology study, or developed into an IPE activity.

It does not rely upon the technical knowledge of the students, nor does it focus on assumptions and stereotypes of other professions. Thus it is suitable as an introductory IPE activity. It asks students individually, then as a multi-disciplinary group, to consider where a variety of 20 quite different health and social care professions may lie on a flexible, problem-solving continuum, between the medical model and the social model of thinking. It may assist students in exploring the cultural differences between their professions, which Barnes et al (2000) considered necessary for the contact hypothesis to take effect. Prompts within the scene-setting grid may lead to considerations of objectivity and subjectivity, of the assumptions behind relativistic and positivistic philosophies, to the contrast between quantitative and qualitative research methods. Production of a group view of the grid may lead to discussions that reveal differences in values and ways of thinking (exemplifying the problems of multi-disciplinary group working in practice). As such, the activity may prompt reflections upon the nature of the context in which students may find themselves working within multi-professional teams, as suggested by Miller et al (2001).

The above extrapolation of the research findings and reading the literature surrounding IPE go some way to explaining why and how the researcher's concerns about IPE now differ from those of the podiatry students and also the IPE course developer. This disparity may be considered as supporting evidence that the reported findings have not been biased by the researcher to support his own ideas, alongside the rigour with which the analytical processes have been applied.

6.4   THE RESEARCH'S CONTRIBUTION TO KNOWLEDGE

The selection of podiatry as the focus of research was both pragmatic and purposeful. It was pragmatic with regards the research funding, his own recent experience of IPE and the availability of research subjects. However, it was also purposeful in that podiatry represents one of several health and social care professions that generally work in isolation, amongst their own kind. They may therefore perceive IPE as having limited application and therefore of less relevance at undergraduate level. These might include radiology students, paramedics, pharmacy and social work students. Thus the research represents in part, a minority viewpoint of IPE, as opposed to the research usually focussed on nursing and medical students.

This exploratory study found that the participating UK institutions take a highly pragmatic approach to IPE development, especially the size and mix of student professions, the

course materials and the supply and preparation of IPE staff. It was unable to draw any conclusions as to what is being viewed as best practice within IPE, even after ten years of specific IPE endeavours driven by the UK's NHS Plan.

Podiatry students were not especially viewed as difficult or having difficulty with IPE, by the interviewed lead IPE developers. However, within the Q Methodology studies, it is clear that, podiatry students have both appreciative and sceptical views about IPE. In its exploration of what may be behind these views, the research has drawn attention to the preparations given to students and to their facilitating staff, particularly regarding their participation in small groups of contrasting professions. Thus the research has given a voice to a previously unheard profession, one that might not fit as easily as expected into the regular IPE discourse between the nursing and medical professions.

The researcher propounds that IPE students need to advance their knowledge beyond the roles of other professions and how they work, to appreciate why such professions act and respond the way they do. In the parlance of Bloom's Taxonomy of Educational Objectives, this implies going beyond the knowledge and comprehension of other professions, to its application within collaborative teamwork, to analyse why problems arise and even synthesise new ways of overcoming traditional professional barriers. This deeper, more philosophical understanding could be centred upon the division between positivism and relativism, represented by contrasting quantitative and qualitative research methods. Since all health and social care students must address an element of personal research in order to attain their honours degrees in the UK, this may provide a cross-fertilisation of ideas between a Research Methods module and the students' IPE activities, broadening their perceptions of self-worth and how their profession fits-in, thereby making IPE more relevant (even to minority professions).

7   APPENDIX A: LITERATURE FINDINGS

HEFCE sponsored CETLs 2005 – 2010 associated with IPE

The following ten Centres for Excellence for Teaching and Learning (CETL) have a research focus within the area of IPE. These are extracted from a list of CETLs published by the Higher Education Funding Council for England (Higher Education Funding Council for England 2005):-

Figure 17: UK CETLs associated with IPE

CETL	Description	Institution	Budget
Centre for Excellence in Inter Professional Learning in the Public Sector (CETL:IPPS)	group-based interprofessional learning opportunities for students from these services to prepare them for the team based working… An interprofessional 'Learning Hub' as part of the library…	University of Southampton	£800K capital, £200k recurrent Apr 2005 – Mar 2010
Centre for Excellence in Professional Development Through the Use of Relevant Technologies (ExPERT Centre)	The ExPERT Centre is designed to provide students in health-related sciences with exciting and innovative ways to learn and develop professionally… the ExPERT team will embed the use of blended learning and research how this impacts on the student experience.	University of Portsmouth	£2m capital, £500k recurrent Apr 2005 – Mar 2010
Centre for Excellence in Teaching and Learning in Developing Professionalism in Medical Students	We will further develop in our students the professional attitudes which are increasingly important in the NHS in the 21st century, better preparing them for their future careers. We will do this by: developing robust mechanisms to assess attitudes and behaviour of medical students…	University of Liverpool	£2m capital, £500k recurrent Apr 2005 – Mar 2010
Inter-disciplinary ethics across subject disciplines (IDEAS)	The IDEAS CETL builds on the established excellence in ethics teaching in the Leeds medical course where subject specialists and ethicists help students integrate the diverse ethical issues in the course into a coherent Ethics Theme which crosses subject and	University of Leeds	£800k capital, £350k recurrent Apr 2005 – Mar 2010

	year boundaries… extending these successful features of ethics teaching to other programmes of study across the university, including biosciences, business, computing, education and engineering.		
Interprofessional Education (IPE): Curriculum and Assessment Development	The proposal builds upon successful collaboration between five Schools at Queens University Belfast. The Schools of Dentistry, Medicine, Nursing and Midwifery, Pharmacy and the Graduate School of Education will establish an Interprofessional education (IPE) curriculum and assessment development (CaAD) team.	Queens University Belfast	Funding not specified Apr 2005 – Mar 2010
Placement Learning in Health and Social Care	The CETL for Placement Learning in Health and Social Care aims to enhance health and social care students practice/placement learning. Various strands of development work relating to placement learning and teaching are planned: preparing and training staff, supporting students with disabilities, evaluating learning assessment tools, evaluating interprofessional learning opportunities, auditing and enhancing the learning context, and the role of OSCEs.	University of Plymouth	£2m capital, £500k recurrent Apr 2005 – Mar 2010
4E CETL for Clinical and Communication Skills	This collaboration between two institutions in an established strategic alliance, will enhance communication and clinical skills in students from five healthcare disciplines. It has grown from a shared clinical skills facility where staff are recognised nationally and internationally for groundbreaking work in helping students acquire and continuously improve professional practice skills.	Queen Mary, University of London	£1.4m capital, £350k recurrent Apr 2005 – Mar 2010
Centre for Excellence in Healthcare Professional Education	This CETL will work with a range of partners across the region to design and deliver innovative learning and teaching	University of Newcastle upon Tyne	£2m capital, £500k recurring Apr 2005 – Mar

(CETL4HealthNE)	for future health professionals - in order to meet the changing expectations of patients. Increasingly, healthcare students will learn together in the workplace, with simulated and real patients (and communities), and will learn to involve patients to best manage their care. Partner Institutions: University of Northumbria at Newcastle, University of Durham, University of Sunderland, University of Teesside		2010
Centre for Excellence in Interdisciplinary Teaching and Learning in Mental Health	This CETL will develop a dynamic and collaborative partnership between six schools in the university and the mental health service user, practice and policy communities. Through this partnership it will enhance and expand the delivery and evaluation of innovative, interdisciplinary mental health programmes within higher education and the mental health sector.	University of Birmingham	£1.4m capital, £500k recurrent Apr 2005 – Mar 2010
Centre for Inter-Professional e-Learning (CIPeL) in Health and Social Care	CIPeL will develop and disseminate solutions to barriers that hinder integration of inter-professional learning within health and social care education. Innovative e-approaches will enable students to engage in collaborative exploration resources, shared through the CIPeLs web portal. CIPeL will be a beacon of best practice, promoting inter-professional e-learning nationally and internationally, and will build on innovative developments in both universities, such as web-based patient journeys, multimedia accounts of patient/client experience and virtual learning groups	Coventry University	£800k capital, £500k recurrent Apr 2005 – Mar 2010

From the above, the HEFCE commitment to IPE is apparent, with initial research funding capital exceeding £13.2 million, and ongoing recurrent expenditure of £3.8 million per annum to March 2010.

8   APPENDIX B: STUDY 1 PROCESS

Introductory letter sent to heads of podiatry

***   Division of Occupational Therapy
Head of ***   School of Podiatry
                                                       School of Health
                                                       The University of Northampton
                                                       Park Campus
Dear ***,   ***

I am supervising a PhD research degree student named Gary Denby, who qualified as a Podiatrist in the summer 2005. He is exploring how podiatry can inform the interprofessional education (IPE) agenda, including establishing how IPE is conducted within podiatry education. This research has obtained ethical approval from the School of Health Ethics Panel, The University of Northampton. We would very much appreciate your assistance in this endeavour, as Gary is seeking a broad representation of the thirteen UK institutions which teach podiatry at degree level.

Gary is seeking the following information at your earliest convenience:-

➢   A copy of your institution's podiatry curriculum (paper or electronic), as pertaining to interprofessional education.

➢   A podiatry lecturer contact who is teaching interprofessional education to podiatry and other healthcare students.

➢   The contact details for your institution's lead or champion for the development of interprofessional education.

➢   Return of the attached single page questionnaire indicating of the scope of IPE education within your institution, along with the above contact details.

Gary would like your permission to approach your institution's IPE lead in the next month or so, to arrange an on-site, semi-structured interview (1 hour) concerning your institution's ethos, staff training and support with regards the IPE. At a later date Gary would like to arrange a subjective exploration of IPE issues (utilising Q methodology) and a follow-up interview with your podiatry IPE lecturer, again on-site and taking perhaps 1 hour.

In so far as it is practicable, Gary will seek to maintain the anonymity and confidentiality of all institutions choosing to participate in his research. If you wish, Gary is willing to make preliminary findings from his podiatry educational research available to you, prior to the full publication of his thesis, so that you might beneficially compare your institution's IPE approach to others around the UK.

    Gary's contact details are: Gary Denby, PhD Student, Knowledge Exchange, The University of Northampton, Park Campus, Boughton Green Road, Northampton. NN2 7AL. Email: gary.denby@northampton.ac.uk Telephone (Research Office): 01604 892101

Yours sincerely,

Dr Susan Corr PhD
Reader in Occupational Science
P.S. For your background information, I have attached a synopsis of Gary's research proposal.

Introductory Questionnaire

Interprofessional Education (IPE) scope and contacts

1. Please indicate the subject areas <u>in which IPE is included</u> within your institution's undergraduate teaching (delete any which do NOT apply; add any omissions)

   Social work, Sports rehabilitation

   Podiatry, Midwifery, Homeopathy

   Medicine, Dentistry, Dental Nursing, Pharmacy, Radiology, Dietetics

   Occupational Therapy, Physiotherapy, Speech & Language Therapy, Art Therapy

   Nursing (adult), Nursing (child), Nursing (mental health), Nursing (learning disability)

   Others (please specify)…

2. Do <u>all</u> the above groups of students experience IPE similarly? Yes / No

   (delete as applicable)

   If No, please indicate how different groupings might differ in their IPE experience…

3. A podiatry lecturer who may be contacted regarding their teaching of IPE to podiatry and other healthcare students

Name		Role		E-mail Telephone	

4. Your institution's lead or champion for the development of IPE

Name		Role		E-mail Telephone	

5. Your name and your teaching institution

Name		Role		Institution	

Thank-you for supplying these details. Confidentiality will be respected.

Please return to: gary.denby@northampton.ac.uk or Gary Denby, University of Northampton, Knowledge Exchange, Park Campus, Boughton Green Road, Northampton. NN2 7AL

Synopsis of research proposal

An investigation into how Podiatry may contribute to the UK's Inter-Professional Education (IPE) agenda

Introduction and Rationale

The National Health Service (NHS) in the United Kingdom comprises a range of professions in order to deliver healthcare. *The NHS Plan* (Freeth et al. 2005, p.11) is regarded by many as the start of the most major reforms to the UK health service since its inception in 1948. The plan announces a sustained increase in funding over the following five years and the steps needed to transform the health service so that it is designed around the needs of patients. It proposes modernised joint training across professions (para. 9.18), endeavouring to break down the barriers between them and enable more flexible team working.

In their examination of the development, delivery and evaluation of effective Interprofessional Education, Freeth *et al* use the following definition for interprofessional education:-

> *Occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care (Secretary of State for Health 2000a).*

They emphasise learning *with* each other to acknowledge the potential for generating new knowledge when issues are explored by two or more students from different professions.

The NHS Plan was augmented by *Meeting the Challenge: a strategy for the allied health professions* (Smith 1995) which includes Podiatrists amongst the 50,000 members in 14 professions working alongside doctors, nurses and scientists. It recognises that the Allied Health Professions (AHPs) are in the forefront of interprofessional education (para. 4.12) and that "learning together" can deliver added value for practitioners, through developing an understanding of the roles of other professionals and in building team-working skills from an early stage in the curriculum. Further, the Government intends to build upon successful initiatives to make IPE a key feature of NHS education over the next few years (para. 4.13).

Thus it is reasonable that podiatry should be included within interprofessional education. However, there is a paucity of evidence to suggest why and how this should be the case, or to determine the attitudes towards Podiatry which may impinge upon IPE and subsequent inter-professional collaboration.

Study aims and objectives

This research aims to add to the understanding of podiatry as an Allied Health Profession (AHP) involved with Inter Professional Education (IPE). It considers the driving forces behind IPE in relation to podiatry, the issues arising from teaching inter-professionalism to AHPs and nurses which include podiatry students, and the perceptions of AHP and nursing students with regards to podiatry.

The research objectives are:

1. To identify the stakeholders, beneficiaries, objectives and participants of IPE in health care, in order to distinguish the associated policies, motivations, intended benefits and concerns about *inter-professional* allied health professions.

2. To identify the delivery approaches of IPE from the thirteen UK institutions which are educating Podiatry students alongside other allied health students and nurses at undergraduate level. This encompasses the methods of student assessment, together with underlying educational theory, to develop an understanding of how IPE is presently being taught and the issues surrounding the implementation of IPE courses.

3. To explore the attitudes of first and final year AHP and nursing students and staff (from a mix of nursing, midwifery, occupational therapy, social welfare and podiatry professions) towards their own and other professions (inter-professional stereotypes) and the differences of views between those who have engaged in IPE and those who have not yet done so.

Thus this research will aid the ongoing development of IPE curricula for podiatry students and will also inform the IPE of other AHPs whose practitioners operate in similar isolation.

Methodology

This research comprises three studies using a mixed methods approach. This enables the triangulation of information in order to understand why podiatry is within the IPE agenda, how its educational needs are being taught and assessed and whether IPE is affecting the professional stereotypes held by other AHPs and nurses about podiatrists and vice versa. Study 1 is a literature review to ascertain the policy, arguments and supporting evidence presented for AHP and nursing engagement in IPE. Study 2 uses a review of published curricula and the IPE concepts therein, as the start point for semi-structured interviews of IPE champions. This is followed by transcription and content analysis to gain an understanding of IPE and its implementation issues from the course developers' viewpoint. Study 3 is an application of Q-methodology to determine stereotypical perceptions of various AHP and nursing students about one another, looking for common attitudes towards podiatry.

Study 1: Reviewing AHP engagement in IPE

This study seeks to evaluate the arguments for podiatry, other AHPs and nursing as being inter-professional healthcare professions, identifying the stakeholders, beneficiaries, objectives and participants of IPE in general.

Study 2: Delivery approaches of IPE

This study compares and contrasts the delivery approaches to IPE from multiple educational institutions, identifying common and novel approaches to IPE teaching and methods of student assessment, together with underlying educational theory.

This study starts with a review of published health and social care course curricula for each profession of the thirteen schools of health which encompass Podiatry students. There is a quantitative coding and classification process to determine the core IPE

competencies being taught by all the schools of health and to compare and contrast these with their mix of health and social care courses being taught.

This analysis will also identify the more exceptional competencies being taught at each school of health, which will act as the starting point of a semi-structured interview (Smith 1995) with identified IPE champions within each school. The IPE course champions are identified by referral from the published course contacts for the schools of Podiatry, having explained the purpose and aims of this research. The recorded interviews will cover areas such as a school's history of involvement with IPE to date, the school's motivations, query the reasons behind any of the more unusual course competencies, the IPE assessment criteria and any theoretical underpinning. Where possible the interviews will be performed face-to-face, having obtained prior written consent to participate and record the session. Telephone interviews or video / web conferencing may suffice for the locations most remote from the English Midlands, where the researcher is based.

The interviews will be transcribed by the researcher and coded to identify themes, issues and meanings from the participants' experience of IPE course development (2003). Separate independent coding will not be performed, given the limited resources available.

Content analysis will be performed to compare the IPE competencies presently being taught and assessed in the UK against those anticipated by the driving factors behind IPE, together with the educational models being used for course assessment.

Study 3: Student attitudes to each other's professions and to Podiatry

This study identifies and compares health and social care student attitudes to their own and to other professions. It is also extended to their tutors, since many will be former or current practitioners and their attitudes may pass onto their students.

When assessing attitudes, many studies use questionnaires capable of quantifying simple ideas (scales) over potentially large populations of respondents. For example, Hind et al (Parsell and Bligh 1999) used a questionnaire including the Health Care Stereotypes Scale, the Professional Identity Scale and the Readiness for Interprofessional Learning Scale (2004). Pollard and Miers (Pollard et al. 2005) developed and validated the Entry Level Interprofessional Questionnaire comprising the Communication and Teamwork scale, the Interprofessional Learning Scale and the Interprofessional Interaction Scale, to which they later added the Interprofessional Relationships Scale (1996).

Brown (Rogers 1995 p.189) sees Q methodology as combining the strengths of both quantitative and qualitative research traditions, as a method for revealing the subjectivity involved in any situation using factor analysis. Respondents are asked not only to rate statements on a Likert-type scale of strongly agree to strongly disagree, but also to indicate their relative importance to themselves by placing the statements onto a quasi-normal distribution grid. Thus in the case of AHP and nursing students from different professions, they may reflect factors describing underlying shared perceptions about each other.

A Q-Pack of attitude statements will be derived from first principles using findings from Studies 1 and 2. It will be reviewed for coverage and non-duplication by the researcher's supervisory team together with an academic responsible for IPE

provision at the University of Northampton. It will be validated on a small scale using five volunteer 1st year students (not included in the main study), with revisions being made as appropriate.

The Q-Pack, along with a request for demographic details, will be administered to 10 volunteer 1st year University of Northampton (UoN) Podiatry students, along with balanced sets of 10 UoN students studying adult and children's nursing, midwifery, occupational therapy, social welfare and sports & exercise science (70 students in total). This will be performed during the student induction weeks, prior to any IPE teaching. The same Q-Pack will also be administered to similar numbers and groups of final year volunteer students, towards the end of their IPE teaching and also to all willing UoN IPE educators. The volunteers will be first asked to sort the Q-pack statements with regards to their own profession, into piles of agree, disagree and don't know. They will then be asked to rank them into those with which they have the strongest opinions and to place onto the quasi-normal grid (having only a couple of slots at the extremities). The grid positions of the cards will be noted regarding their own profession, together with any comments proffered about their most positive and negative selections. The volunteer will then be asked to re-arrange the cards to reflect their opinions about one of the other AHPs or nursing professions (selected at random), the revised grid and comments noted and the process repeated until all professions have been considered.

Data analysis of the Q-Sort distribution grids will be performed using the PQMethod PC computer program to find associated factors and correlations to participants. The derived factors and associated demographic groupings of students and associated comments will then be analysed by the researcher to determine underlying explanations.   Interpretation may be aided by theory, previous research and / or cultural knowledge , as derived from studies 1 and 2.

E-mail to arrange IPE Lead interview

From: Denby Gary [Gary.Denby@northampton.ac.uk]
Sent: Thu 07/12/2006 15:58
To: ***
Subject: University of ***, Interprofessional Education research - yourself suggested by ***, Head of Podiatry

Dear ***,

Your contact details have been provided to me by ***, the Head of Podiatry at the ***. He suggested that you may be able to assist my research into *how Podiatry may inform the Interprofessional Education (IPE) Agenda* (4 page synopsis attached). Ethical approval for my research was granted by the Ethics Advisory Group of the University of Northampton in March 2006.

I am seeking a semi-structured interview with the IPE course leaders / champions from the all thirteen UK universities which teach / facilitate IPE to podiatry students (amongst many other AHP and nursing students). *** has supplied me with some initial details and suggested that you may be best able to advise on the development and facilitation of your university's IPE course.

The interview takes a maximum of one hour and explores the following topics, plus any others which you consider to be pertinent, as to how Interprofessional Education (IPE) is presented to and perceived by facilitating staff and healthcare students:-

1. **The IPE background of the university and yourself**

2. **Approaches taken in planning the IPE course / component**

3. **Your experiences in developing and motivating the local course**

4. **IPE course acceptability by the facilitating staff and the students**

5. **Differences in expectation or reaction to IPE by the different student / staff professions, if any**

My query at this time, therefore, is whether you consider yourself to be the most appropriate contact? If so, might you be available for interview next month, after the holidays? A final point, considering my distance from you, is to consider the most effective means for conducting the interview: my driving to meet you for a meeting in person, use of an ISDN video conference facility (£1 per minute), use of an Internet video conference facility (least cost) or a pre-arranged telephone call (I could email you a picture of myself!)? What do you think?

Yours sincerely,

Gary Denby,
PhD research student, The University of Northampton.
01604 892101 (Research Office, most Thursdays)

IPE lead semi-structured interview schedule

Study 2 Interview Schedule from December 2006

Themes Questions Potential Prompts & *Probes, **if required***	Min
1. The IPE Background of institution and of the interviewee	5
a) **Why do you think your university or school of health is adopting IPE into the healthcare curriculum?** General trend? Legislation? Regulation? Course Validation? Staff fulfilment? Preparation of students for team-working? *Did your institution consider setting a separate budget for its IPE activity? Ought it to have done so, do you think?*	
b) **How would you describe your university's mix of healthcare professions and age groups?** Bias in numbers to AHP's / medics / nurses? Different levels of maturity within / between professions? *What range of student professions is required for effective IPE? Can it be effective with just two or three related or contrasting professions within a group?*	
c) **Why may *you* have chosen to lead the development of the IPE course?** Experience? Interest? Aptitude? Special training? Availability? *Did you have prior experience in organising a course utilising staff from multiple professional backgrounds? What special skills were required to encourage these individuals in working together as a team?*	
2. Approaches taken in planning the IPE course / component	15
a) **Was a team approach taken in designing the IPE course? Whom?** Students? Staff (which professions)? External advisers? *How might this have been improved, with hindsight? In what ways did this exemplify multi-disciplinary team collaboration?*	
b) **What educational thinking or ideas were used in the development of the IPE course?** Adult learning? Team working? Experiential? Critical Reflection? QAA validation? *At what stage might a theoretical basis be useful when designing and developing a course?*	
c) **What forms of teaching and facilitation have you employed in the IPE course?** Lecture? Discussion? Group-work? Simulation? Case study? PBL? Observation? Practice? Training ward? E-based? *Would adult learning contracts be of benefit or hindrance?*	
3. Experiences in developing and motivating the local course	25
a) **What did you find most challenging about the development of the IPE course?** Funding? Clarity of purpose? Assessment methods? Failed students? Mix of young / mature students? *It what ways has the medium to long term sustainability of the course been considered? IPE training / placement funding? Clarity and adoption of the IPE concept?*	
b) **How does the course adapt to the uniqueness of the learners and the learning situation for the different student <u>professions</u>?** Cultural differences between the professions? Different clinical approaches? Different experiences and expectations? *How can professions which operate in clinical isolation be encouraged to adopt IPE within their thinking and practice?*	
c) **What is your course's approach to assessing the IPE learning of the students? Are course credits given?** Reports? Presentations? Clinical log? Reflective log?	

Can you think of an example of the assessable evidence of IPE learning, which is produced by your IPE students? What assessment criteria are used and by whom?

4. IPE course support by the facilitating staff   35

    a) What feedback have you received from the staff delivering the IPE course?

        Burdensome / Enlightening? Training requirements? About themselves? About their students?

        How would you describe the ideal staff member for delivering an IPE course?

    b) What preparation has been provided to the staff for IPE?

        External training? Internal preparation? Group work?

        How essential is it for the facilitating staff to have <u>themselves</u> taken part in collaborative teamwork or practice?

    c) What differences in expectation or reaction were encountered, between the professions delivering IPE?

        Experiences of inter-professional working? Support or commitment to IPE?

        Does any particular profession stand out as being best equipped to facilitate IPE, and if so, why?

    d) Do the facilitating podiatry staff stand out in any way?

        Enthusiastic / Reluctant? Clear / Confused by IPE aims?

        *How do you think others regard the contribution of the **podiatry lecturers** to the IPE course?*

5. Expectations and responses to IPE by the students receiving IPE   45

    a) What feedback have you received from the students receiving the IPE course?

        Positive? Negative? Student course books? Assessments?

        Did any responses encompass benefits to future patient care?

        Is there anything in the feedback, which indicates that students regard podiatrists in a different way?

    b) What differences in expectation or reaction were encountered, between the student professions receiving IPE

        Scepticism? Attendance? Professional culture? Stereotype?

        How might the IPE curriculum be configured to meet the different needs or expectations of different professions? In particular, for podiatry students?

    c) Were the podiatry students in any way remarkable in their contributions or responses to IPE?

        *Within the groups, how do you think the **podiatry students** fit in?*

6. Any other IPE issues you feel are important or should be addressed   55

        *Finally, are there any questions **I** should be taking away or be considering, in our last few minutes together?*

IPE lead thank-you letter

****   Knowledge Exchange
                                                                The University of Northampton
                                                                Park Campus
                                                                Boughton Green Road
                                                                NORTHAMPTON
                                                                NN2 7AL

                                                     Tel: 01604 892101 (Research Office)

                                                                18 June 2007

Dear ****,

I wish to express my gratitude and appreciation for your kind assistance in my inter-professional education (IPE) research earlier this year. I have now completed the transcription of all the interviews, including your own (see attached). I have extracted quotations which represent attitudes and concerns about IPE. These were developed into two packs of statements for my third study, which utilises Q Methodology to draw out the most important and the more subtle issues, from the perspectives of various groups of academics and students.

I am now about to commence a more in-depth content analysis of the interviews, comparing experiences across a range of institutions which teach IPE to different healthcare professions, which encompass podiatry. My research supervisory team have recommended that I also seek your confirmation that the transcription is a fair and reasonable representation of our interview, to the best of your recollection. To this end, please also find attached Confirmation Form for signature and return to myself. On the form, you can also clarify any points arising, if you feel it appropriate.

A by-product of my initial analysis and transcription into Microsoft Excel, was a coloured annotation of the questions being posed to you, together with your respective response durations – perhaps a crude measure of relative importance. These were converted into the attached charts, supplied simply for your information and as an overview of the whole interview.

Having contributed to the breadth of issues and attitudes surrounding IPE, you may also wish to let me know the most important issues, from your perspective. If so, you can also indicate your willingness to participate further on the Confirmation Form. If you are willing, I will in due course send you a participant information sheet, instructions and data collection materials. Participating further will take about 40 minutes of your time.

Again, many thanks for your past and perhaps future assistance. I have enclosed a stamped addressed envelope for the return of your Confirmation Form.

Yours sincerely,

Gary Denby
PhD research student,
The University of Northampton.

Interview Transcription Confirmation form

<u>Interview Transcript Confirmation Form</u>

<u>having participated in a research interview with regards to</u>

<u>How Podiatry may contribute to the UK's Inter-Professional Education (IPE) agenda</u>

I hereby confirm that so far as I can recall, the interview transcript

Int………… is / is not* an accurate representation of my interview on ……………..

If appropriate, I wish to make the following comments or clarifications:-

I am / am not* willing to participate further in this research

Signed: .... Print Name:

* Please delete as appropriate   Date:

Please return this form to:-

Gary Denby, PhD Student, Knowledge Exchange, The University of Northampton, Park Campus, Boughton Green Road, Northampton. NN2 7AL.

Email: gary.denby@northampton.ac.uk Telephone (Research Office): 01604 892101

Transcript Analysis Process

Having removed all preamble and sign-off texts, all seven transcripts were merges into a single spreadsheet which retains the original interview number and time stamp against each paragraph. Each row also retained the original simple keyword hierarchy used for the initial overview analysis, plus an attribution as to which part of the interview schedule was being addressed. For example:-

GJD	Interviewer:	General question			
GJD	Interviewer:	Probing question, seeking further detail or clarification			
GJD	Interviewer:	Caution - maybe passing an opinion or influencing subsequent discussion			
Int001	38:47	GJD	How is that work assessed then?	Q3c	assessment - uni prof
Int001	38:50	AE	The work? A lot of the first year work is assessed uni-professionally. Erm, because the nursing and midwifery courses are now re-validated and have interprofessional learning written into their curriculum…	Q3c	assessment - uni prof
Int001	39:04	GJD	Now compulsory?	Q3c	assessment - uni prof
Int001	39:05	AE	Yes, it is now compulsory. It always was… But they now have… at the end of each of the events the students have to reflect and to put this reflection into their portfolio. OK? Erm, the nursing students actually have to submit their reflection and it will be marked by that course team.	Q3c	assessment - summative
Int001	39:31	AE	As a summative piece of work. Social work students have to submit an essay which is marked by the course team. The occupational therapy students also have to submit a reflective piece… a part of the module of interprofessional learning… So the work is summatively assessed.	Q3c	assessment – summative
Int001	39:50	GJD	How do the podiatrists manage on that score?	Q3c	assessment - portfolio
Int001	39:53	AE	I think it's included in their clinical hours. I'm not aware that it's assessed, otherwise in podiatry.	Q3c	assessment – portfolio

A second phase of assessment was performed in which short keyword or key-phrase codes were developed into a hierarchy, the lowest level is (L1) most inductive and specific, with higher levels indicating the context and connecting successive utterances made by the participant. The fifth level (L5) became more deductive, drawing similar themes together from differing participants.

Int	Time	Inits	Text – Utterance	QNo	L1	L2	L3	L4	L5
Int004	47:30	GJD	(laughs) A bit traumatic, but you know, the results are there. OK. We come to our final topic area, then really, which is sort of looking at the expectations and responses of the students towards interprofessional education.	Q5a				IPE student f/b	
Int004	47:48	JP	That's an interesting one.	Q5a				IPE student f/b	identity

Int004	47:54	JP	A very mixed… yes. Erm… and when we first started, we had eighteen podiatry students and a hundred physio students. ``	Q1b		startup	100 physio, 18 pods	IPE mix	
Int004	48:09	JP	So… but actually we had three hundred physio students, because we only had one year of students here - podiatry students here - and three with the physio students. OK. So they did feel swamped.	Q1b		feeling swamped	300 physio + pods	IPE mix	
Int004	48:24	JP	They felt, 'Are we doing a physiotherapy course?' (GJD laughs) That was where they started. And their process of admission had been very traumatic.	Q5a				IPE student f/b	identity
Int004	48:35	JP	Because of all the news stuff in the newspapers.	Q5a				IPE student f/b	identity
Int004	48:38	JP	You know, they'd come through clearing… It was just a nightmare for them as well. Erm, so we did a lot of… shoring-up.	Q5a				IPE student f/b	identity
Int004	48:53	JP	Erm, and also students, of those eighteen, there were some who would probably say their experience was bad and some who say, 'No, it was alright at the end of the day', really. They always say… I mean, I have to say, we have a programme committee and the podiatry students are terribly positive - much more so than the physios - they've always got nice things to say (laughs together) It's quite a pleasure to go to their meetings where the students, you know... 'you got any feedback from the student?', 'Oh, yea, we thought this was really good and we thought that was really good.'. And you go to the physio programme committee and you say, 'Have you got any feedback from the students?', they always have a whinge.	Q5b	physion always have a whinge, pods always have nice things to say	programme committee - student feedback	phyiotherapy - podiatry perspective	IPE student prof'ns	Between profession

As the utterances were drawn together and included into associated mind maps, so their key-phrase hierarchies were colour-coded to indicate their inclusion. This drew attention to those items that had been left behind, so that none of likely consequence were omitted.

9 APPENDIX C: STUDY 1 FINDINGS

1st analysis: detailed breakdown of topic times

All seven transcripts were brought into a single spreadsheet of just over 2,500 rows. Introductory preamble and sign-off texts were removed, along with any brief words of encouragement by the interviewer. The remaining, predominantly interviewee utterances were individually reviewed and assigned to a corresponding sub-topic within the interview schedule. This allowed sorting to bring together responses for the same topics, overcoming the fact that many responses were provided out-of-sequence by the interviewees. These results are shown in Figure 18: Breakdown of topics.

Unsurprisingly, nearly a quarter of the time (T1: 22%) was spent on the first theme, with the interviewees introducing themselves and why they and their institution are involved in IPE; Nearly a third of the time (T2: 30%) discussed approaches taken in planning the IPE course or component; Just over one fifth of the time (T3: 21%) regarded interviewee experiences in developing and motivating the local course; 15% of the time considered IPE course support by the facilitating staff; 6% of the time considered the expectations and responses by the students receiving IPE; Finally 6% of the time considered other issues (T6) which the interviewees considered important or might be addressed in the research.

Figure 18: Breakdown of topics by duration
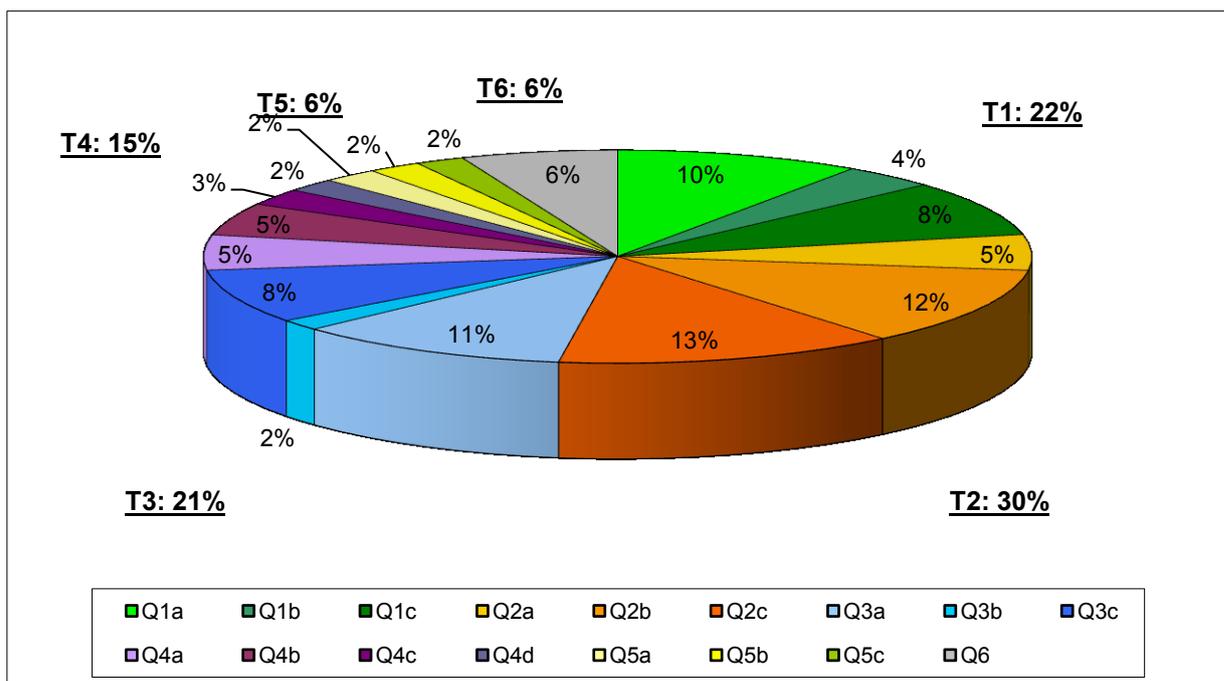
1st analysis: overview of discussed subject areas

Each utterance was also allocated a single keyword to indicate the broad subject area. Re-sorting of the 1,500 rows again grouped common themes, again to indicate very approximately what was of relative importance to the IPE course developers. Overall 69 keywords were inductively derived, the most prolific 23 being shown below. The green columns represent 52% of all utterances, the yellow columns a further 26%. Podiatry is mentioned in approximately 1.3% (20) of utterances, compared with 'staff' in 11% of utterances. Thus it might be suggested that the participants did not have much to say about podiatry in particular.
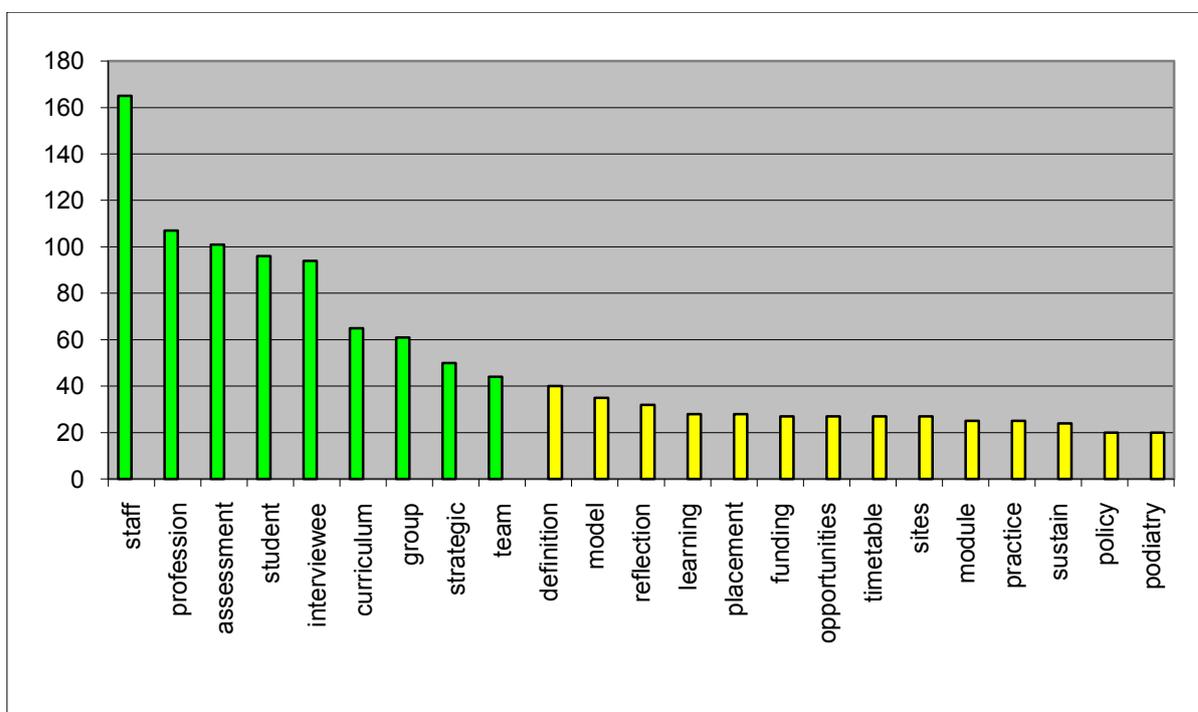
A further issue with these derived keywords is that they are insensitive to context or any great detail. This led to a more detailed 4-level keyword hierarchy being developed for the 2nd interview analysis.

2nd analysis: thematic overviews using mind maps

Each utterance was allocated more expressive keywords or short phrases. Complex utterances were spilt into a sequence of simpler ones (with successive time stamps) to assist the analysis. These were allocated common, higher level keywords or phrases as appropriate. Thus a complex utterance becomes a sequence of simpler utterance with higher level common themes and more specific lower-level keywords or phrases. Each simple utterance was allocated to a sub-topic in the interview schedule, with topic's phrases grouped together and illustrated by the following mind maps.

Figure 19: Mind map 1a - Reasons for adopting IPE and commitment
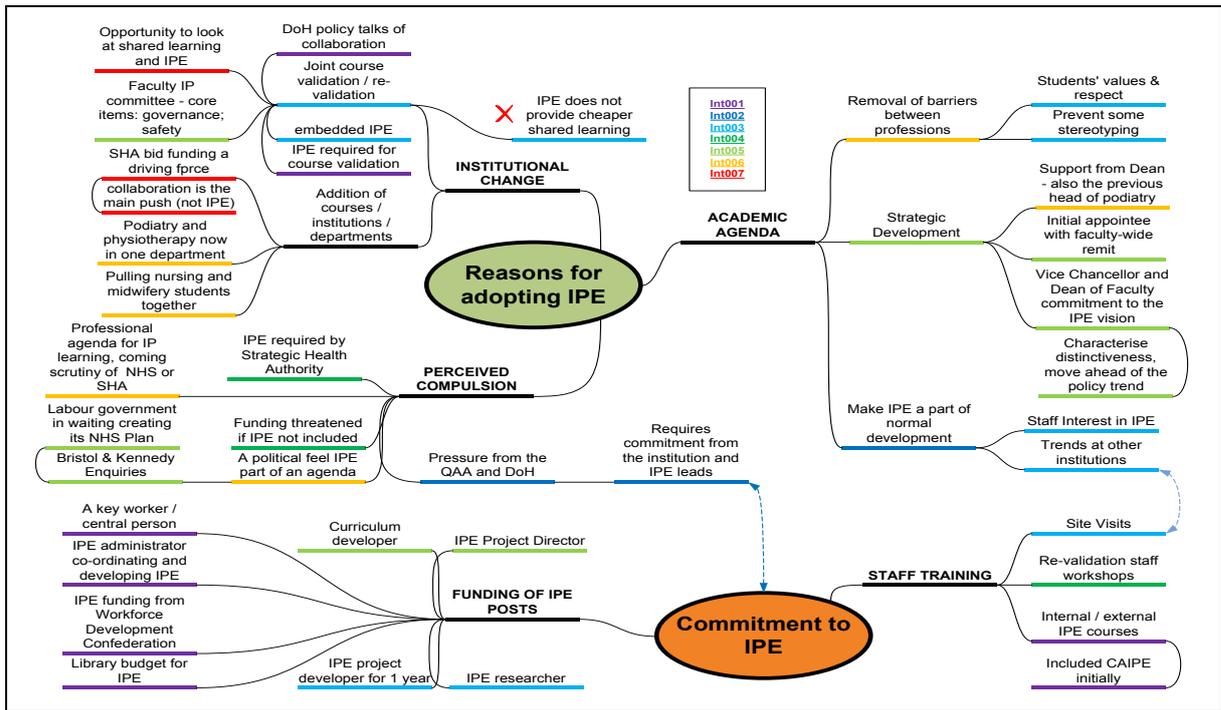
Figure 20: Mind map 1b - Mix of professions
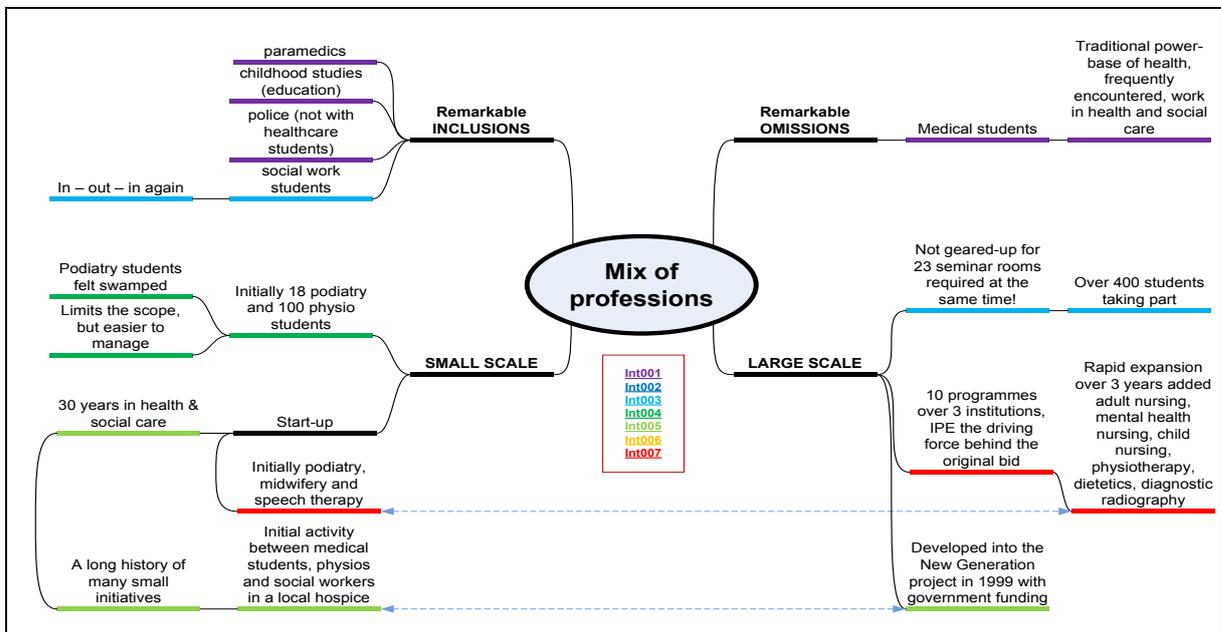
Figure 21: Mind map 1c - Personal selection as IPE lead
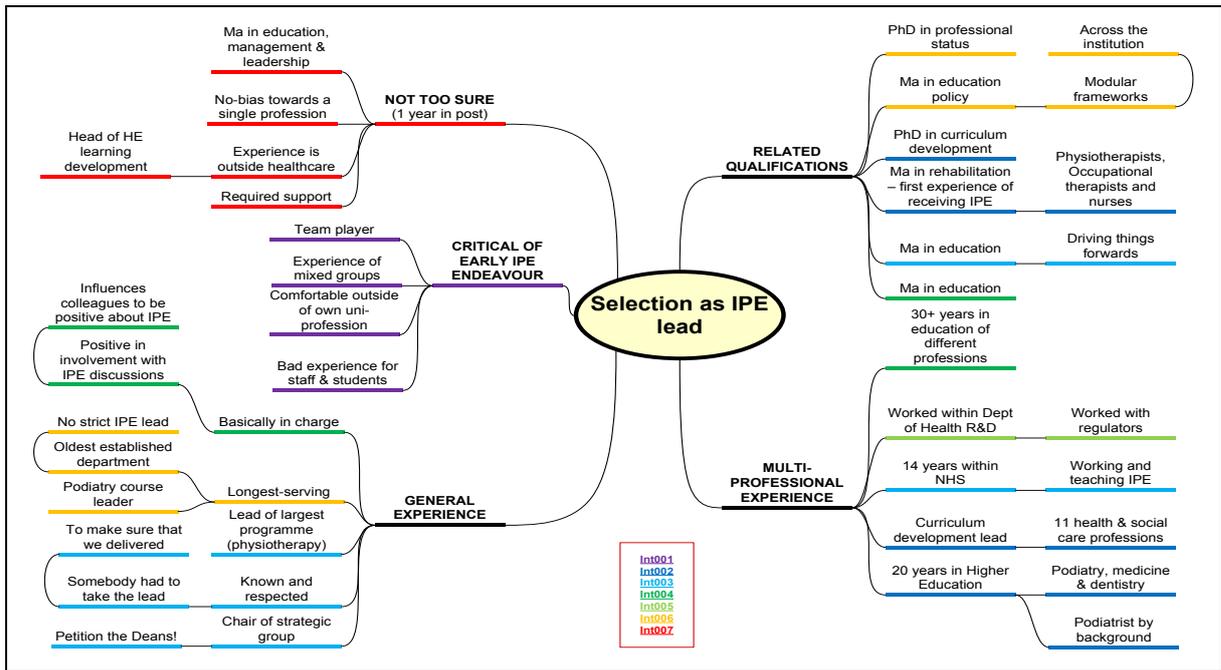
Figure 22: Mind map 2a - Team approach to developing IPE

Figure 23: Mind map 2b - IPE thinking / theory
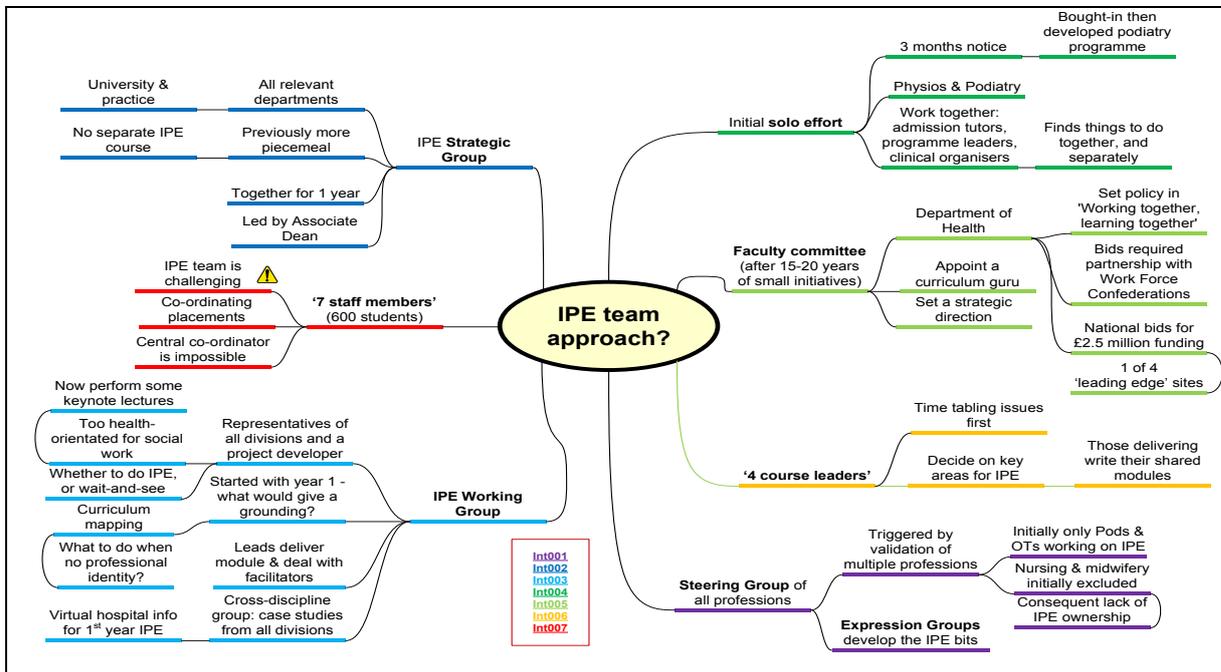
Figure 23: Mind map 2b - IPE thinking / theory

Figure 24: Mind map 2c - IPE approaches
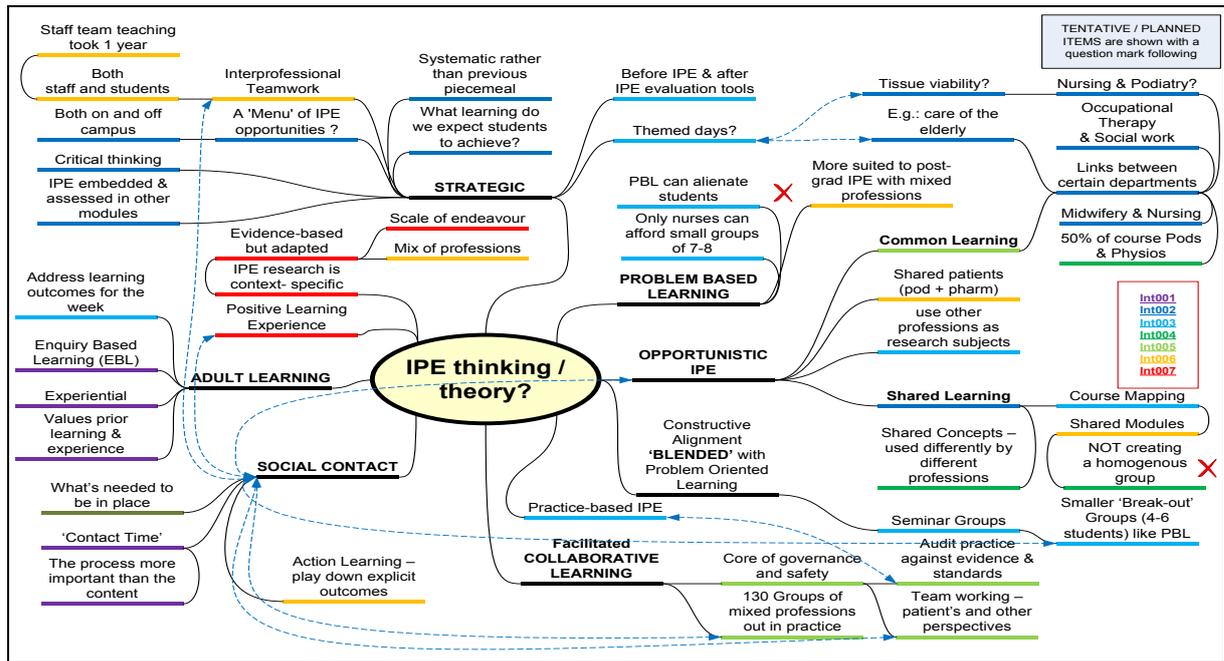
Figure 24: Mind map 2c - IPE approaches

Figure 25: Mind map 3a - Development challenges
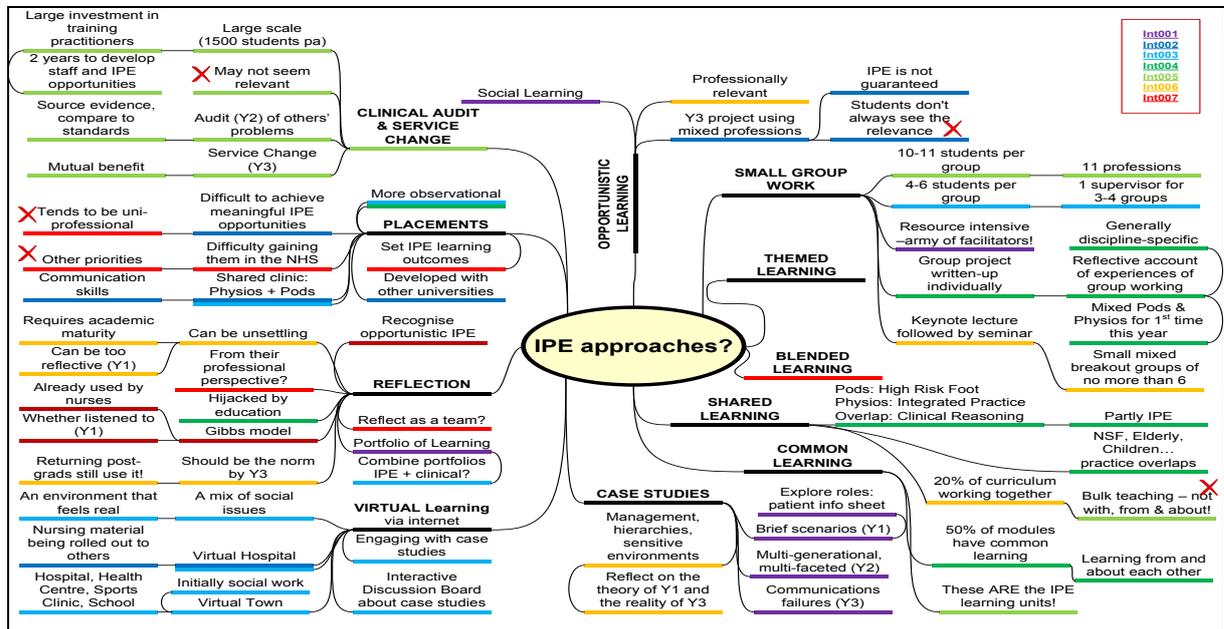
Figure 25: Mind map 3a - Development challenges

Figure 26: Mind map 3b - Adapting to learners and professions
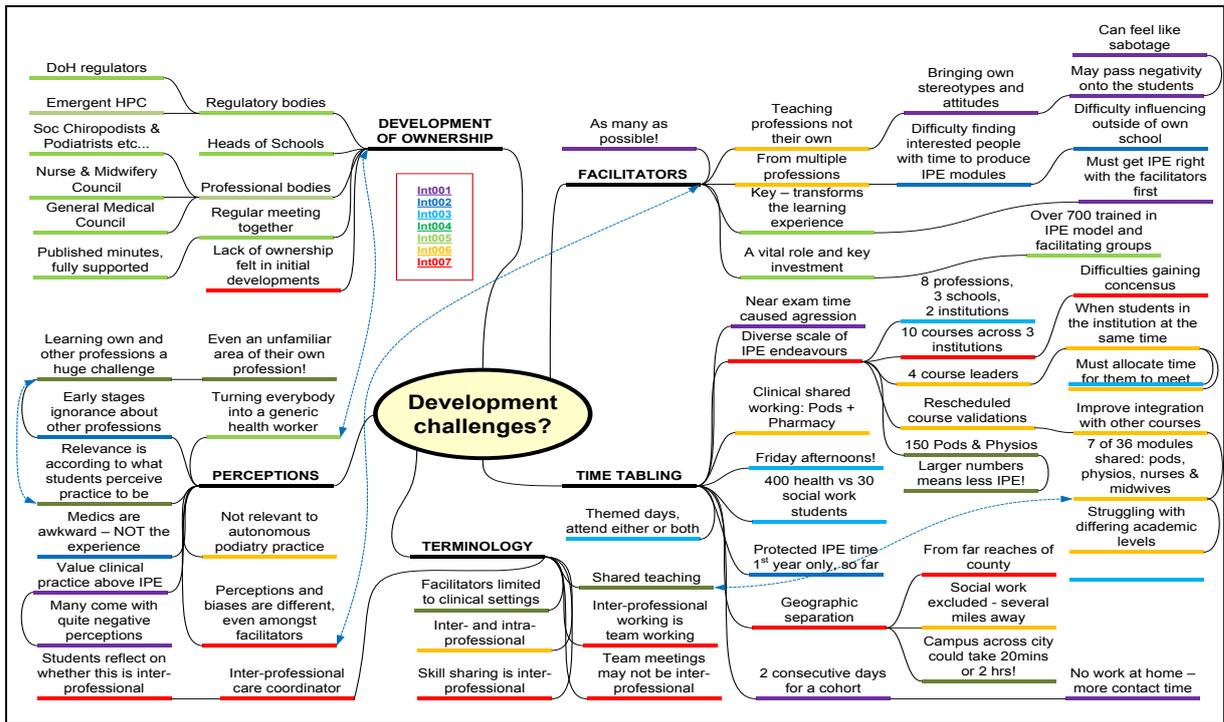
Figure 26: Mind map 3b - Adapting to learners and professions

Figure 27: Mind map 3c - Assessment of IPE

Figure 28: Mind map 4a - IPE staff feedback

Figure 29: Mind map 4b - IPE staff preparation

Figure 30: Mind map 4c - Differing staff professions?

Figure 31: Mind map 4d - Podiatry staff?

Figure 32: Mind Map 5a - IPE student feedback

Figure 33: Mind Map 5b - Differing student professions?

Valuing your professional knowledge in that engagement

Not creating a generic health professional

Meaningful IPE means you do need to come with professional knowledge

STUDENTS IN GENERAL

Int001
Int002
Int003
Int004
Int005
Int006
Int007

Huge socialisation forces at play

Media sense of what it might mean to be a...

Enter profession with a self-constructed view about how they're going to learn to be

Arrive with fairly fixed pre-conceptions of what it means to be a...

Often at odds with the reality in practice

BEFORE....

...AFTER

Differing student professions?

STUDENTS AND CLINICIANS

Clinical placements brings a realism to it

Very much shaped by the senior clinicians they work with

Their stereotypical views of professions, whether their profession is valued...

Want to know if you've practiced, still practicing or researching in that area

Clinician opinions are more valuable than some others

Authority figures – as they see them

A programme committee – the podiatry students are terribly positive – much more so than the physios

BETWEEN PROFESSIONS

Professions that are clear about their role – includes podiatrists - don't see themselves as big players in health and social care

It was the podiatrists in the group that said 'we don't reflect'

There are some big divides… IPE won't make everyone cosy and non-territorial

Some professions more entrenched… more didactic in their teaching… evident in podiatry

Early days social work students saying they didn't quite get IPL – it was a health thing

Students put you [lecturers] in a particular box

Podiatry probably sees itself clearly in the health, more so than the social care

You could see other students' hackles going up

At the end of 2nd day these students said 'we really enjoyed this, we've learnt a lot and its given us a lot to think about'.

A greater understanding of their own worth, their own position within a team, how it works… a greater empathy for some other professions

Most difficulties with engagement from radiography, less so radiation oncology

The way they perceive their profession… they don't see where they're working in teams

Highly skilled technicians, part of a very narrow team

Figure 34: Mind Map 5c - Podiatry students?

None has been about podiatrists

I get anecdotal evidence

No feedback that podiatry students any better or any worse

No significant difference in terms of outcomes from assessments

There's very little difference between the professional groups

There's some good work in the professions and some not so

NO DIFFERENCE

Podiatry students?

Int001
Int002
Int003
Int004
Int005
Int006
Int007

It all gets down to personalities

Some people are really positive and really good

IT'S INDIVIDUALS

Quite often you can be dealing with individual personalities

As opposed to a vein in a profession

Early issues were with podiatry and podiatry tutors

A NEGATIVE VIEW OF IPE

The podiatry student were used to quite delivered teaching

We don't see that we will use this in our professional life

Sometimes the podiatry students come with what others see as a chip on their shoulders

Sometimes portrayed themselves as not up for IPE

In this module they have to contribute and have to be responsible

Its not a large part of what they do

Our course team don't see this as important

the podiatry students in my group were really quite angry and aggressive during the first day, because it was the middle of the exams and they felt quite annoyed at this

It was the podiatrist in the group who said 'we don't reflect'

Taken up with the podiatry course

Its not a large part of their undergraduate education, either

Its rubbing off on you (the podiatry students)

The podiatry team were involved in planning the dates

They were very negative

They realised they did reflect, though not using a model of reflection

2nd day when they came back, we had the best discussions ever

10 APPENDIX D: STUDY 2 PROCESS

Original 'Quotable Quotes' derived from Study 1

There is a requirement within Q Methodology that the Q Pack offers a balance of positive and negative statements, against which the participant can demonstrate their point of view. Neutral statements are also of use, though there must be a contention within the conditions of instruction provided, for the participant to hold a viewpoint. Thus the key contains a colour-coding of the neutrality of the statements, from the researcher's subjective viewpoint. There is also a suggestion that you should start with around three times the number of statements in the final Q pack, so that there is scope to remove statements having very similar meaning, or causing confusion in piloting.

Key:

31%	54	Positive approach to IPE
39%	68	Neutral approach to IPE
29%	51	Negative approach to IPE
	173	

Int001	01:24	IPE aims at better joined-up working for improved patient care
Int001	05:44	IPE should include medical students
Int001	07:22	Interprofessional Education is too health focussed
Int001	07:22	IPE should include social care students
Int001	17:20	IPE time could be better used in practice, study, revision etc - it's causing students to miss out on these other important things
Int001	21:59	Some teaching teams don't rate IPE, they don't feel that it's important.
Int001	23:40	Facilitators have as much to learn about IPE as the students - they have some negative stereotypes and attitudes.
Int001	25:30	There needs to be contact and interaction time, learning how to work together and how to problem-solve together.
Int001	25:30	Reflection is key, since there are lots of interprofessional working opportunities that people can learn from.
Int001	47:22	In addition to the student portfolio, a workbook gives a feeling of something real to do, particularly in the early stages of IPE.
Int001	54:05	Podiatry staff and students don't feel as committed to IPE as they sometimes say that they are.
Int001	55:24	Podiatry students don't see themselves as having to use IPE skills in their professional life, particularly often.
Int001	57:02	As you engage with IPE, so you find it more meaningful.
Int001	57:02	People need to know what you think of IPE, in a constructive way. People need to know what bits about this, you value.
Int001	01:00:26	Relatively isolated professions need encouragment to realise their role and seek their opportunities as interprofessional players in health care.
Int001	01:03:38	Due to pressures of working, the opportunities for informal collaboration, the informal chats, the opportunities to pick up something not necessarily referred to you has stopped happening.
Int001	01:05:13	Interprofessional Education teaches you how to work inter-professionally, which you will have to do if something untoward happens.
Int001	01:06:55	Podiatry students can sometime come along to IPE with what other students regard as a 'chip on their shoulders'.

Int001	01:10:12	IPE can be really enjoyable for podiatry students, giving them a lot to think about and to learn from and with other professions.
Int001	01:10:12	A good early learning experience is key for IPE, engaging students from the very beginning.
Int002	12:42	Some IPE students recognise what they have learnt from working together in a group, and some less so.
Int002	13:45	It is good for students to have some experience of working in a group where the cultural norms are different.
Int002	14:30	One of the criticisms that the students make is that they don't always see the exact relevance of their final year group dissertation project.
	17:26	There's still a tendancy to think of IPL more along the lines of shared learning: 'If you put them together, they'll automatically learn about each other.'
Int002	17:58	We are considering whether developing criticality and critical thinking would lend itself to an interprofessional approach.
Int002	23:17	It is very difficult for staff to develop meaningful interprofessional learning opportunities for the students.
Int002	26:12	Getting the timetable together for multiple student professions can be quite a barrier.
Int002	28:34	One has to be very careful that cultural differences aren't just prejudices on behalf of the organising committee.
Int002	29:12	If you pay too much attention or make explicit statements about cultural differences, actually you undermine what you're trying to do in overcoming them.
Int002	29:12	The way that a group functions can depend on things aside from professional culture, for example entry qualifications.
Int002	29:12	An area right for interprofessional learning would be the difference between the social and medical models of patient care.
Int002	30:24	One of the biggest things to get over at the beginning of IPE, is the level of ignorance, myths and mis-information over different professions. An early challenge!
Int002	31:24	Early in the IPE course, all students seems equally prejudiced against other professions, and equally convinced of their own profession's value and uniqueness.
Int002	31:40	In some ways nursing was much less open and ready for interprofessional education than medicine was.
Int002	32:06	Medical students don't hesitate to voice their opinion, but actually they are very open to learning from others.
Int002	32:06	It was pharmacy and audiology in the project who were actually well ahead of everybody else in IPE.
Int002	34:12	Some professions see themselves much more easily as belonging to a multiprofessional team, others truggle to see where they might fit into such a team.
Int002	34:33	Some professions come with a high level of ignorance about other professions, because they don't have clinical placements as a part of their training, yet they still have much to contribute and learn in IPE.
Int002	35:53	Our staff do not have any specific training for the facilitation of interprofessional learning - their existing teaching qualifications suffice.
Int002	36:30	Our IPL staff come from a whole range of professional backgrounds, and bring with them their professional baggage. The baggage is probably not particularly well handled.
Int002	37:22	The tension for IPL staff is always that the could be doing, should be doing something that's uni-profession at any given time, or do they see IPL activity as contributing to uni-professional outcomes?
Int002	39:19	IPL is like everything else in health professions: if you can't relate it back to practice, the students don't value it.
Int002	43:23	We're doing quite a lot of clinical IPE opportunistically. The difficulty is in developing more formal interprofessional learning opprtunities within the clinic

		setting.
Int002	45:00	We found that students were getting evaluation overload, when asked to complete questionnaires on every module, so we no longer evaluate them all seperately.
Int002	48:52	For some IPE facilitators, facilitating small group work of quite mixed abilities and different professional norms was an alien experience.
Int002	50:52	Social Contact theory is one of our underpinning theories, which indicates what you need to have in place [contact time?] and the particular perspective to be taken.
Int002	54:25	IPE by and large does provoke a stong response - either very positive or very negative.
Int002	55:34	Given that sufficient resources are in place to make IPE sustainable, you just have to support the staff while they get over the newness of it. After that it's easy.
Int002	56:40	The important thing for IPL is the commitment from within the higher education institutions and the professional leads within those institutions. You can then make it happen.
Int002	59:50	One shouldn't undervalue the opportunistic social learning that goes on within interprofessional learning, just spending time with students from other professions will help them after they graduate.

Int003	04:10	IPE should increase a student's values and respect of other professions
Int003	04:10	IPE should prevent some professional stereotyping.
Int003	05:51	Different levels of professional autonomy can make IPE more difficult.
Int003	05:51	Mixing students at different stages of their training can make IPE more difficult.
Int003	20:03	IPE can be seen as swamping the students with information that they are not ready to receive.
Int003	21:22	IPE causes alienation, since it so different in its ways of teaching and learning, compared to other modules.
Int003	23:05	It is helpful to have seperate study time and rooms provided for IPE, otherwise the student groups could never meet to work together and get to know each other.
Int003	25:48	It is important to have had actual clinical experience before undertaking the year 2 and 3 themed days
Int003	30:39	The student's IPE portfolio rightly stands apart from their professional development portfolio.
Int003	33:02	When certain staff are not committed to interprofessional learning, this soon becomes evident to the students and to their fellow staff. This can be undermining and needs to be tackled head on.
Int003	34:12	Some staff do not have a good grasp of professions apart from their own, which can marginalise certain student professions in the class. Staff need to ensure parity across all the professions being taught.
Int003	35:25	The ideal IPE staff member is someone not entrenched in their own profession, who has an understanding of the working of others, able to demonstrate principles of respect, openness and values. A kind of collegiate approach.
Int003	35:25	IPE is not about knowing everything about every profession, but knowing that these other professions contribute in a particular way.
Int003	36:21	Professions that are more used to be taught from the front may find the participation required by IPE somewhat hard to handle, at least initially.
Int003	36:49	Practitioners which do not see themselves as a part of a team when they go out into practice, may have difficulties in engaging with some of the IPE concepts.
Int003	38:50	Students readily adopt the values and attitudes of the senior clinicians and authority figures whom they encounter, without considering for themselves where those views are coming from.
Int003	40:50	You don't need to experience everything first hand, to teach it. Nor, necessarily, do IPE tutors need to have experienced inter-profesional practice for themselves, though it helps.

Int003	44:35	A balanced IPE course needs staff representation from each and every profession, to be seen taking part in at least one keynote lecture, to be key to the development of at least one IPE module, as well as facilitating the groups.
Int003	46:04	You cannot say that staff from a particular profession are more or less likely to be good at leading IPE - it is more to do with an individual's personality, background and experience.
Int003	47:25	Problems arise with students' engagment with IPE, when they think that their profession does not work in teams.
Int003	49:38	It really doesn't matter if you 'don't get IPE' early on - stick with it, because it falls into place and really helps later on, when you get onto other things.
Int003	51:16	Students who anticipate they will become private practitioners, working on their own, have little need to understand IPE and how NHS teams work together.
Int003	51:35	IPE allows you to understand the context in which you work, and to work with people, regardless of whether you're within the NHS or a private practitioner in relative isolation.
Int003	54:30	Each individual IPE module needs a staff champion to make it work, to motivate the development team and make it happen.

Int004	04:01	Interprofessional Education is an initiative that government policy is gradually forcing all institutions to undertake.
Int004	04:13	Interprofessional Education provides many benefits, from different professions working with each other.
Int004	05:28	The first few years of every new IPE course is going to feel experimental, because everyone has to learn how to do it - staff included.
Int004	11:34	Having only a couple of professions doing IPE together does limit its scope - but it's much easier to manage.
Int004	12:20	The larger the number of students doing IPE in an institution, the smaller the amount of IPE gets – say two days a year at level one if three thousand students, because of management issues.
Int004	13:25	At the start of IPE students are not entirely sure what their own profession is about, since they're still busy learning about themselves. It's therefore harder for them to learn from other professions.
Int004	15:50	A good interprofessional practitioner is able to agree and compromise with others, while still maintaining their desired clinical standards. It's to do with how in control they want to be.
Int004	16:24	In some health settings, the professional doesn't work with anyone else. They don't have to, in a sense, liaise with others. Some people like to work that way, hence they choose those settings.
Int004	17:25	Some health workers like to have more of a group, more of a shared experience. They probably choose to go and work in places where that happens.
Int004	28:43	It's really good, preparing a presentation with students from a different profession, because you find out so much more about how they think.
Int004	29:19	We had some interesting debates in our IPE clinical reasoning module, for example whether ankle pain came from the foot or the knee. It helped us appreciate that actually, the way another profession thinks about what they do might also be different.
Int004	30:17	All models of reflection are basically the same: describe it; discuss your feelings; explain it by relating it to your theory; think about how you will move forwards. Choose one that suits you, when it comes to IPE.
Int004	31:42	People can be put off by too much serious reflection. It is better to set up an IPE modue so that the students can't avoid doing it. This is more useful, and more relevant to what they will do when they qualify.
Int004	32:03	If students can use reflection, as part of IPE or otherwise, they get to be better practitioners.
Int004	39:24	Keynote IPE lecturers need to quote examples from beyond their own profession, otherwise some students will regard them as less relevant to how they perceive practice to be.

Int004	40:04	It is a huge task for a student to understand their own profession, let alone other health professions, when they first encounter IPE at level one.
Int004	40:45	The policy makers and fund holders should really be putting more effort into educating current practitioners into working together, since otherwise students will default to the current norm once they graduate (IPE effort I wasted).
Int004	41:45	The NHS trusts really ought to be doing IPE things with their staff, if the want real change to happen.
Int004	48:09	If some of the IPE professions are of much smaller numbers than their peers, they can easily feel 'swamped', even to the point of wondering what course they're doing!
Int004	56:12	One perspective on inter-professional communication is that different professions in fact communicate in slighty different ways and with different purposes. It is better to teach the concept and principles, expecting the students to take it away and use it quite differently in their different professions.
Int004	58:54	It is possible to put some student professions in the same room, with nothing in common at all. They will sit in their own separate groups and never even speak to each other. This is shared learning.
Int005	09:03	IPE should focus on core things like clinical governance and safety, which bring professionals together.
Int005	11:09	To move beyond small IPE initiatives, you have to put it into what you value most, the curriculum.
Int005	12:42	It is invariably important to gain strategic support at the highest levels for IPE to be successful.
Int005	19:00	Clinicians, who are going to act as the facilitators, establish a project that meets the IPE learning outcomes, focused on an audit cycle or service re-design.
Int005	19:15	Every professional should be expected to audit their practice against evidence and standards.
Int005	19:21	IPE students should learn about audit…. about sourcing evidence, about working together, about somebody else's problem.
Int005	20:35	It makes a big difference for the IPE students, when they're working on something completely real.
Int005	22:24	IPE student learning should focus on working together as a team and about each other's professions… an opening up of the world.
Int005	26:25	For the IPE facilitators and their organisation, there needs to be a mutual benefit of having the IPE students.
Int005	26:48	The relationship with the facilitator and the role of the facilitator in practice is absolutely vital
Int005	28:39	IPE aims in some way to be turning everybody into some generic health care worker.
Int005	34:32	It is necessary for IPE training to be inter-professional and inter-agency... strongly resisting calls from some schools saying, 'Just come and train our staff / students'.
Int005	37:17	IPE staff development is an ongoing process... there's always new staff coming through and people must not get complacent.
Int005	38:35	There are certain professions who might be resistant to interprofessional learning, or those of a certain age or generation.
Int005	38:35	There are certain individuals within any profession, or grouping who might be resistant to IPE.
Int005	40:23	People entering particular professions come with a self-constructed view about how they're going to learn to be one of these tribes… often at odds with the reality in practice.
Int005	42:01	There are huge socialisation forces acting upon students who are new to any profession, moulding their professional identity.
Int005	42:17	Really meaningful interprofessional learning relies upon at least some existing professional knowledge. It's about valuing your professional knowledge in that engagement.
Int005	42:52	Interprofession learning is about creating generic, flexible healthcare workers for the future.

Int005	43:06	Interprofessional learning is about team working, about mutual respect, about understanding other peoples' perspectives, to actually focus on the patient.
Int005	43:42	When IPE initiatives are funded by public money, their findings should be made readily available for all to learn from, whether successful or not.
Int005	44:28	There's nothing to stop an institution taking a strategic view and deciding how best to go about IPE, how to prepare a fit for purpose, future workforce... The curriculum can be reviewed at any time.
Int005	45:15	The IPE vision needs commitment from the Vice Chancellor and the Dean of Faculty, with a team committed… to translate that into reality, with the mechanisms available.
Int005	48:54	The focus of IPE needs to be producing a workforce that is fit for purpose for the future.
Int005	49:15	Interprofessional learning is a means to an end, it's not the end itself… it's how they're going to be working and how they are going to continue to learn.

Int006	04:16	IPE has a political feel. It is part of an agenda.
Int006	06:05	IPE is developed by people on the ground who were delivering it, who come up with some ideas about potential shared modules that could be put together.
Int006	07:50	IPE is limited by patterns of student attendance, where the opportunities arise, and is dependant on some practical issues about how they can be put them together and how they can be physically in one place.
Int006	08:37	When people actually have graduated, they're much more comfortable with the concept of IPE, than they are necessarily early on.
Int006	11:06	An IPE module can struggle if the students encompass a big difference in academic level, giving differences in terms of focus and application.
Int006	14:10	IPE student learning should comprise opportunies to share experiences and to share working with each other.
Int006	14:45	IPE is the outworking of a mutual academic agenda which says that we should be removing some of the barriers that professions have between each other.
Int006	20:44	Team working isn't so much just about the students, but it's about the staff teams as well… and about pulling them together.
Int006	20:56	Team working affects the curriculum content, is relevant to the delivery and is also how we are all working together anyway.
Int006	21:31	Implicit outcomes of interprofessional learning includes a greater understanding of each others' profession, greater collaboration and better team working, those sort of things.
Int006	21:45	The very fact of IPE students being together and learning with each other, they are going to have some learning outcomes that aren't written down and aren't necessarily assessed.
Int006	22:59	If there's a joint IPE assignment, time must be allocated for the students to be together, because they're never going to meet in the rest of the week!
Int006	23:41	In the preparation of the IPE assignment and in the subject matter of the assignment, the students are doing some of their core team working and interprofessional learning.
Int006	24:04	A student's experience of real-world interprofessional collaboration must be professionally relevant to that student, to have an effect.
Int006	24:16	Intra-professional team working is, say, a midwifery student understanding what the midwifery team looks like and who was who and how that works. It is implicit to practice.
Int006	24:49	A lot of podiatry practice is autonomous - it's not about teamwork, it's about patient one-on-one with the practitioner.
Int006	24:56	In some clinic or practice situations, IPE is appropriate; In other situations it's actually appropriate to make your own decisions and be autonomous in thinking.
Int006	25:41	IPE comes into its own in the third year, after a couple of years of quite sophisticated clinical practice… picking up on the theory of year one and the reality of year three.

Int006	27:17	By final year, students should be regularly reflecting on areas of practice, against competencies, also on their own experiences - how it worked and how it didn't.
Int006	27:35	Personal reflections can become more explicit with increasing experience and confidence, and can be written a reflective journal that is assessed in the final year.
Int006	27:57	At the start of IPE most students have deep seated, stereotypical ideas about what professions do.
Int006	28:13	Society has these deep seated stereotypical images of particularly the health professions. This can affect how our patients view us
Int006	29:44	You can ask students in year one to be too reflective, because they're too busy just trying to get their confidence and learn the basics.
Int006	30:00	Year one students can relect to an extent and they can talk about it. However, getting them to do a written reflective account is difficult, because they're so wrapped up in just getting the language right.
Int006	30:18	Reflection can be quite unsettling, so it needs a degree of academic maturity to do it thoroughly.
Int006	37:08	All interprofessional modules should be assessed and be credited towards the final degree. For example, a full IPE module being 10 CAT points.
Int006	43:45	There are not any tangible differences between the professional student groups, nor any significant difference in their outcomes from assessment either.
Int006	44:39	You should keep IPE teaching fairly generic (Research Methodology, Sociology, Psychology and Professional Studies), not building particularly on previous experience. This helps to level out the different student professions.
Int006	47:49	IPE tends to polarise people, sometimes… into, 'We should be doing this because someone told us to'.
Int006	47:58	IPE can be usefully applied in some areas and usefully ignored in areas where it's not relevant.
Int006	48:12	They like team working in podiatry - it's great with diabetic patients. However, it's just not relevant in a lot of what they do.
Int006	48:22	Some folk switch off completely from IPE, since they see it as an external agenda.
Int006	48:30	IPE is a useful learning tool, just one tool amongst many useful learning tools.
Int006	49:12	There are some big divides in how professions relate to each other. IPE is unlikely to make everyone cosy and non territorial.
Int006	49:31	IPE might give people a greater understanding of their own worth and their own position within a team, or how a team works, or how it is for somebody else – a greater empathy for some other professions.
Int006	51:31	IPE can potentially have the negative effect of reinforcing original stereotypes about each other.

Int007	06:41	To say that healthcare professionals work with other professions, does not mean that it is interprofessional work.
Int007	13:20	You are an ideal person for delivering interprofessional education, if you don't come with any health care baggage.
Int007	13:57	In the world of healthcare education, the professions are quite small and everybody knows each other.
Int007	23:26	Students complain because they must start interprofessional education without first knowing their own professional identity.
Int007	24:06	Whilst clinical placements may seek to be inter-professional, they are still very much a uni-professional experience
Int007	25:20	Reflections can contain professional bias, as well as personal bias.
Int007	26:05	Reflections about a clinical experience can differ, according to the professional perspective being taken
Int007	26:05	It is important that the clinical structure and systems facilitate interprofessional working.

Int007	26:39	When clinical staff use a care co-ordinator, they are employing somebody to communicate on their behalf between the professions.
Int007	27:07	Since we have team meetings, we must be working together as a team.
Int007	27:26	Good interprofessional teams can usually be found in rural communities, because they have to work together to survive.
Int007	28:04	Sharing common skills between healthcare professionals is true interprofessional working.
Int007	33:16	Interprofessional Education is best taught through generic skills common to all the professions, such as evidence based practice, communication, reseach methods and so on.
Int007	40:48	The important aspect of interprofessional education is to get students from different professions working together on something.
Int007	44:34	The professions of allied health, medical and nursing students differ significantly in their acceptance of interprofessional education.
Int007	47:05	Students need to feel secure within their own professions
Int007	48:45	Students reflect, but generally their reflection is isolated.
Int007	49:43	Interprofessional student groups need to reflect as a team, to appreciate their different professional perspectives on practice.
Int007	52:28	Student groups tend to agree the objectives, then each goes away to work on their own, unless obliged to work together.
Int007	52:48	Interprofessional working is team working, to do it well is very difficult.

Development of Q Packs to piloting stage – Q Pack 3

Conduct 7 semi-structured interviews
with academics responsible for developing IPE at their institutions
which teach Podiatry around the UK (approx 50% response rate from 13 institutions)
7 hours of digital recording to transcribe and analyze - approx 70 hrs actual, 200 hrs elapsed

Extract 'Quotable Quotes' from the text (remove thinking pauses etc.)
Isolate those which apply to IPE.
173 Original IPE Quotations

Annotate each Quotation with a couple of hierarchical keywords
Sort set by keywords in order to bring like Quotations together
Flag one of each duplicate pair for exclusion, also flag any 'quirky' or too subjective quotations
148 Quotations after 1st Reduction

Revise keywords into those representing **Attitudes (belief, feeling, value, disposition)**
and those representing **Concerns (process and implementation of IPE).**
Create a simplified Statement (12 words), retaining phraseology and meaning of original
Split complex or balanced quotations into multiple phrases
Flag non-IPE Attitudes / Concerns for exclusion
188 Potential Q-Pack Statements after 2nd pass

Split list into separate Attitudes & Concerns Q-Packs
Sort the two sets by keywords to bring like Statements together
Flag duplicated or very similar statements for exclusion
98 Attitudes and 86 Concerns Statements at 3rd pass

1st trial sort by Researcher without analysis
Remove confusing, vague, duplicated and statements - note reasons for doing so (bias?)
Move some statements between the two packs, where appropriate
77 Attitudes and 60 Concerns Statements for pilot test
Develop grids for initial Q-Pack recording and analysis

Q Pack 5 Attitudes Statements

Working with students from another profession enables you to find out so much more about how they think.	a1
Whether for or against, others need to know what staff and students think of IPE, in a constructive way.	a2
When students don't see themselves working as part of a team, they have difficulty with some IPE concepts.	a3
There are some big divides in how professionals relate to each other, which are unlikely to be fixed by IPE.	a4
There are occasions for all health professions, where inter-professional team working is the right approach.	a5
Team working and IPE is just not relevant in a lot of what some professions do.	a6
Students work interprofessionally when IPE focuses on the core things the professions have in common.	a7
Students start IPE without first knowing their professional identity.	a8
Students first need to be clear about their own profession, before learning from other professions as part of IPE.	a9
Students could better use their IPE time doing clinics, study, revision etc.	a10
Student IPE should encompass learning about each other's professions.	a11
Some teaching staff don't feel that IPE is important.	a12
Some students regard others as having a 'chip on their shoulders' when they commence their IPE.	a13

Some student professions participate more readily in IPE than others.	a14
Some student professions don't see themselves as having to use IPE skills in their professional life.	a15
Meaningful IPE relies upon having some existing knowledge about your own profession.	a16
It is necessary that the IPE student has had some previous clinical experience.	a17
IPE uniquely allows different professions to learn to work and problem-solve together.	a18
IPE uniquely allows contact and interaction time between different professions.	a19
IPE tends to polarise people, into those supporting it and those against it.	a20
IPE swamps the students with information they are not ready to receive.	a21
IPE students should learn about clinical auditing.	a22
IPE students appreciate it most when they're working on something real.	a23
IPE should be integrated into the curriculum, not simply be an add-on.	a24
IPE results from a political agenda.	a25
IPE picks up on the theory of practice in year one and the reality of practice in year three.	a26
IPE needs to focus on producing a workforce that is fit for purpose for the future.	a27

IPE is understanding what a team looks like, who is who and how it works.	a28
IPE is not about knowing everything about every profession, but knowing that these other professions contribute in a particular way.	a29
IPE is intended to help students after they graduate.	a30
IPE is about mutual respect and understanding other peoples' perspectives.	a31
IPE is a useful learning experience, just one tool amongst many useful learning tools.	a32
IPE helps students to appreciate that different professions communicate with their clients and other professions in slightly different ways and with different purposes.	a33
IPE has its limitations: uni-professional teaching is more relevant in some areas.	a34
IPE groups reflect as a team to appreciate their different professional perspectives on practice.	a35
IPE gives students a greater understanding of their own worth and their own position within a team.	a36
IPE gives students a greater understanding of how a healthcare team works.	a37
IPE falls into place and really helps later on in the course and in practice.	a38
IPE encourages students to appreciate different professional perspectives.	a39
IPE encourages relatively isolated professions to realise their role and to seek opportunities as inter-professional workers.	a40
IPE encourages greater collaboration with other professions.	a41

IPE encourages better team working in general.	a42
IPE enables students to work across professional boundaries.	a43
IPE enables students to have a greater empathy for some other professions.	a44
IPE allows students to understand the contexts in which they will be working.	a45
IPE allows opportunistic social learning between the student professions.	a46
IPE allows a student to practice agreeing and compromising with others, whilst maintaining their professional standards.	a47
IPE aims to turn all the student professions into generic health care workers.	a48
IPE aims at better 'joined-up' working for improved patient care.	a49
Interprofessional learning is an example of the way students will continue to learn once they've graduated.	a50
If you can't relate IPE back to practice, then students don't value it.	a51
If the individuals of a profession tend to work on their own, they will find IPE more difficult.	a52
Health policy is gradually forcing all higher education institutions to undertake IPE.	a53
Good IPE increases a student's values and respect of other professions.	a54
Good IPE helps students to appreciate the stereotypical images through which others view them.	a55

Early in IPE all students seem prejudiced against other professions.	a56
Early in IPE all students seem equally convinced of their own profession's value and uniqueness.	a57
Critical thinking and the development of criticality should be included in IPE.	a58
An individual's resistance to IPE can be anticipated from their chosen profession and their age.	a59
All IPE modules should be formally assessed and count towards the final award.	a60

Attitudes recording grid (reduced in size)

LEAST CONCERNED, I NEITHER AGREE NOR DISAGREE

I

MOST

DISAGREE

WITH

I

MOST

AGREE

WITH

| (2) | (3) | (4) | (6) | (7) | (8) | (8) | (7) | (6) | (4) | (3) | (2) |

Name (optional): _____   Profession: _____   Graduation year: _____

Age Range (please circle):   20-24   25-30   31-34   35-40   41-44   45-50   51-54   55-60   61+

Date Q-sort completed: _____   **P.T.O.**

You may wish to add some comments about your personal positioning of some of the statements. Please feel free to do so, since this may be invaluable in helping me to interpret the factors that become apparent, when your responses are merged with those of the other respondents.

STATEMENT NO   **YOUR COMMENT OR EXPLANATION**

THOSE STATEMENTS WITH WHICH YOU HAD STRONGEST AGREEMENT

THOSE STATEMENTS WITH WITH YOU HAD STRONGEST DISAGREEMENT

ANY OTHER COMMENTS

Statements causing confusion or difficulty	
Attitudes you feel may have been missed	
Any other comments	

Again, many thanks for taking the time to share your personal opinions about Interprofessional Education

Q Pack 5 Concerns Statements

A shared IPE module needs representatives from every professional group to be involved in its development and in its delivery.	c1
All IPE courses feel experimental in the first couple of years.	c2
An early IPE challenge is to overcome the level of ignorance, myths and mis-information over different professions.	c3
An institution does not have to wait for a curriculum review cycle, before deciding how best to go about IPE.	c4
An IPE course requires an identifiable champion who makes things happen.	c5
By their final year, IPE students should be regularly reflecting on areas of practice and their own experiences.	c6
Core IPE team working by students is achieved in the preparation for a joint assignment.	c7
Early in IPE, a workbook in addition to the portfolio provides students with 'something real'.	c8
Generic skills common to all the professions, such as communication skills, research methods and so on can act as a platform for delivering IPE.	c9
Getting year one IPE students to do a reflective account is difficult.	c10
Interprofessional learning is a means to an end, it's not the end itself.	c11
IPE can have the potential negative effect of reinforcing stereotypes between professions.	c12
IPE engagement can be problematic when students think their profession does not work in teams.	c13

IPE facilitation is quite an alien experience for some staff.	c14
IPE groups tend to agree the objectives of a joint assignment, then each student goes away to work on their own.	c15
IPE is difficult if the groups comprise of students at different stages of their training.	c16
IPE is limited by patterns of student attendance and where they are normally based.	c17
IPE is shared learning - students learn about each other when they are taught together.	c18
IPE is too health focused.	c19
IPE is well suited to studying the differences between the social and medical models of patient care.	c20
IPE requires facilitation of small groups of mixed professions.	c21
IPE requires separate study time and numerous rooms set aside, in order for the student groups to get together.	c22
IPE requires the staff team to work interprofessionally, pulling together.	c23
IPE should be implemented as part of a clinical audit cycle or service re-design.	c24
IPE should foster an awareness within students of clinical systems that facilitate or prevent interprofessional working.	c25
IPE should not include too much serious reflection by students since it can be off putting.	c26
IPE staff development is an ongoing process - there's always new staff coming on board.	c27

IPE staff do not need any specific training.	c28
IPE staff training needs to be inter-professional and inter-departmental.	c29
IPE teaching methods may initially seem very strange to those student professions which are used to being taught via lectures.	c30
IPE tutors need to have experienced inter-professional practice for themselves, to be able to teach it.	c31
It can be appropriate to have just a couple of professions doing IPE together.	c32
It is difficult to develop intentional IPE opportunities in a clinical setting.	c33
It is not necessary to be specific over which model of reflection to use when it comes to IPE.	c34
Management issues prevent IPE extending beyond a couple of days per year for each student.	c35
Only when current clinical staff receive IPE training, will real change happen in clinical practice.	c36
Organisations supporting IPE need to experience some benefit from it, perhaps financial, training, recruitment or the likes.	c37
Personal IPE reflections should be written in a reflective journal that is assessed.	c38
Reflection is key to IPE, since there are lots of interprofessional working opportunities that people can learn from.	c39
Reflection on difficult situations can be unsettling, so it needs a degree of academic maturity to do it thoroughly.	c40
Staff need to ensure parity across all the professions being taught, to avoid marginalising certain student professions in the class.	c41

Staff see IPE as getting in the way of uni-professional outcomes.	c42
Students become more comfortable with the concept of IPE towards the end of their studies.	c43
Students expecting to work on their own in practice will anticipate little need for IPE.	c44
Students frequently enter IPE with erroneous, pre-conceived notions about their own and other professions.	c45
Students need to reflect within IPE, to take account of other professional perspectives.	c46
Students readily adopt the inter-professional values and attitudes of the senior clinicians they encounter.	c47
Students reflect upon the origins of the interprofessional values and attitudes belonging to the authority figures they encounter.	c48
Students should be asked to evaluate all aspects of the IPE course.	c49
The attitudes towards inter-professional education of some IPE staff are not conducive to student's learning.	c50
The challenge is getting students to recognise opportunistic clinical IPE when it is encountered, and then to learn from it.	c51
The experience of doing IPE is often more important than the outcome of the set IPE task.	c52
The ideal IPE staff member is someone with an understanding of working with other professions.	c53
The student's IPE portfolio of accomplishments is distinctly different from their professional development portfolio.	c54
The way an IPE group works is influenced by non-professional things such as student ability and the role of the facilitator.	c55

Timetabling is quite a barrier when bringing multiple student professions together.	c56
When IPE groups comprise numerous students from the same or similar professions, the minority can feel 'swamped'.	c57
Year 1 IPE should keep to fairly generic things which do not depend upon prior professional experience.	c58

Concerns recording grid (reduced in size)

LEAST CONCERNED, I NEITHER AGREE NOR DISAGREE

(2) (3) (4) (6) (7) (7) (7) (7) (6) (4) (3) (2)

I

MOST

DISAGREE

WITH

I

MOST

AGREE

WITH

Name (optional): _____   Profession: _____   Graduation year: _____

Age Range (please circle):   20-24   25-30   31-34   35-40   41-45   46-50   51-54   55-60   61+

Date Q-sort completed: _____   **P.T.O.**

You may wish to add some comments about your personal positioning of some of the statements. Please feel free to do so, since this may be invaluable in helping me to interpret the factors that become apparent, when your responses are merged with those of the other respondents.

STATEMENT NO   **YOUR COMMENT OR EXPLANATION**

THOSE STATEMENTS WITH WHICH YOU HAD STRONGEST AGREEMENT

THOSE STATEMENTS WITH WHICH YOU HAD STRONGEST DISAGREEMENT

ANY OTHER COMMENTS

Statements causing confusion or difficulty	
Concerns you feel may have been missed	
Any other comments	

Again many thanks for taking time to share your personal concerns about Interprofessional Education

Participants' conditions of instruction for Q Sorting

Q Pack Sorting Instructions

<u>How Podiatry may contribute to the UK's Inter-Professional Education (I.P.E.) agenda</u>

<u>You should have available:</u>

1. **A pack** of 60 statements which express a broad range of attitudes about IPE. They have **white number** boxes (assigned randomly).

2. A corresponding **Response Grid** with mostly **white number** boxes, for you to record your results. At the bottom there's a request for some brief details about you. On its reverse is space for your optional recording of comments about particular statements, particularly those for which you had strongest agreement, or strongest disagreement, or caused you particular difficulty.

3. **And / Or a pack** of 58 statements which express a broad range of concerns about the implementation of IPE within higher education. They have **grey number** boxes (assigned randomly).

4. And / Or a corresponding **Response Grid** with mostly **grey number** boxes, for you to record your concerns results and any additional comments.

5. **A clear desk space**, so that you can have all statements visible and at arms length at the same time – it helps when comparing them.

6. **A quiet time** when you are unlikely to be interrupted – perhaps 20 minutes or so for each pack, depending upon how decisive you are. Please take your time - you are bringing to bear much personal experience and subjectivity to perform this seemingly simple task.

7. **A return envelope** for your response grids. I cannot re-use the packs.

<u>When you're ready to go…</u>

It is recommended that you first tackle the pack referring to IPE attitudes (white number boxes) and record your results, if available. Then tackle the IPE concerns afterwards (grey boxes), perhaps having a break between them if you wish.

The statements were derived and simplified from interviews with staff responsible for developing IPE at Higher Education institutions around the UK. Many of the remarks were made in passing, so they are quite naturalistic. As you view the statements, it is therefore probably best to

go with your first impressions, rather than analyse them too greatly. However, some of the nuances between similar statements may be worth a pause for thought.

The 'conditions of instruction' are:-

Your data is anonymised and analysed using a computer programme based upon Q Methodology. As you sort through a Q Pack of statements, please reflect upon them from the same perspective (a single perspective for each pack,
in this case):-

For the first pack with
white number boxes:
*From your own perspective, how do these statements represent **your attitudes** (feelings, beliefs, values, disposition…) towards interprofessional education?*

For the second pack with
grey number boxes:
*From your own perspective, how do these statements represent **your concerns** and experiences of IPE courses?*

The intent is to provide a 'balanced pack' where you might agree and disagree with approximately equal numbers of statements. However, if you find yourself disagreeing with most of them, or the contrary, please do not worry that your 'mid point' is biased to one side or other of the response grid. Q Methodology analysis strings them all into a single line, ranking from most positive to most negative, and it is not too concerned about where your 'middle position' might be. What is important is where you finally place each statement, in relation to the positions offered by the other participants. This helps me to interpret the 'big issues' that are of most importance to the different groups responding to the study.

Thank-you

Again, thank you for your interest and support of this research. If I am not available in person, please use the enclosed reply-paid envelope to return your completed grid sheet(s) and consent form to:-

Gary Denby, PhD student, Knowledge Exchange, The University of Northampton.
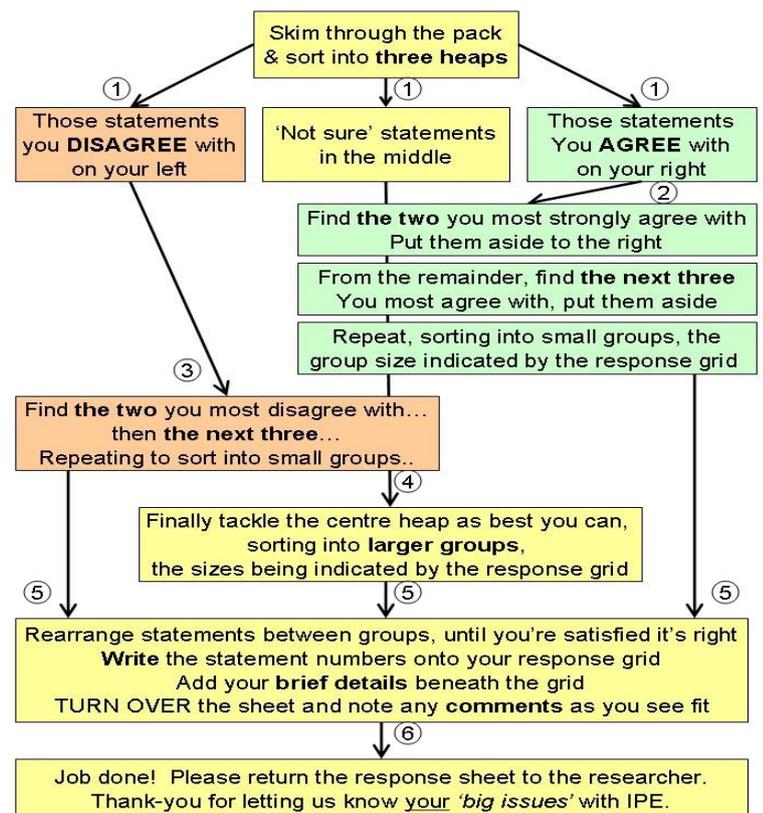
Participant Information Sheet

<u>IPE Card Sort Participant Information Sheet</u>

<u>How Podiatry may contribute to the UK's Inter-Professional Education (IPE) agenda</u>

About the researcher:

I am a full time postgraduate Podiatry student, researching for my PhD within the School of Health at the University of Northampton. My research encompasses Podiatry and Interprofessional Education and will inform future curriculum development for students of the Allied Health Professions and nurses. Dr Susan Corr, Reader of Occupational Therapy at the University of Northampton, is supervising this research

Research Title:

An investigation into how Podiatry may contribute to the UK's Inter-Professional Education (IPE) agenda

Aim of the research:

This research explores the IPE / LIP (Learning Inter-Professionally) attitudes and concerns of most importance to podiatry students and podiatry facilitation staff. It considers the driving forces behind interprofessional education and the various ways it is being taught by UK Schools of Health incorporating Podiatry students. Thus it hopes to inform the ongoing development of IPE curricula for podiatry students and for other allied health, nursing and social work students, resulting ultimately in improved patient care.

The information required:

Interviews have been undertaken with those experienced in leading and developing IPE courses at various Schools of Health incorporating Podiatry students throughout the UK. From these interviews, a list of attitudes and concerns about IPE has been compiled. What I now wish to find out is which of these many attitudes and concerns are of <u>greatest concern to you</u>. The means chosen to accomplish this is for you to sort these statements, each on a separate card, into those with which you most strongly agree, most strongly disagree and those you're not so concerned about. The cards' numbers are placed onto a grid to record their relative importance to you, and then there is an opportunity to make remarks about them as you wish. A few additional details are also recorded, pertaining to your age group and experience of IPE, to help identify any differences between those with more or less familiarity of IPE.

The sorting of the IPE cards takes place at your teaching institution, by prior arrangement. The researcher is available to answer any questions about the sorting approach and to record your final sort positions and comments, but otherwise no advice or influence is given. This is a highly personal, subjective, exploratory approach, which I

trust is responsive to your own feelings, experience and expectations. The sorting process and the recording of any comments may take an hour or so of your time.

What will happen to the information?

Your relative priority of the IPE statements is entered into a computer programme, along with those of your fellow participants. Factor analysis, which has a theoretical underpinning provided by Q Methodology, is used to 'clump together' those statements that are rated similarly by all respondents (or particular groups of respondents). The resultant factors, together with any additional comments you have provided, are then interpreted by the researcher to provide a more general understanding.

The research findings will be used by the researcher as part of a PhD thesis. A summary of findings may also be submitted for publication in a relevant peer-reviewed journal. It is hoped that the resultant studies will help raise the awareness and understanding of IPE education within the UK, as seen from a Podiatry perspective and also with a more general application.

Participant confidentiality is maintained at all times.

Not sure about participating?

There is no obligation for staff to participate in this research. However, in so doing you will be contributing to the body of evidence which is informing the teaching of interprofessional education, with the aim of improving interprofessional collaboration and ultimately enhancing patient care. You may stop the sorting process at any time.

Contact the researcher:

I hope that you have found the above details to be helpful to you and that you now have a better understanding of my research. Please feel free to contact me if you have any further questions or concerns:

> **Gary Denby,** PhD student, Knowledge Exchange, The University of Northampton, Park Campus, Boughton Green Road, Northampton. NN2 7AL

> Email: gary.denby@northampton.ac.uk   Phone: 01604   892101   (Research Office)

Who has checked this research?

The University of Northampton, School of Health Ethics Committee has approved this research. The University of Northampton's Combined Liability Insurance policy provides indemnity for students of the institution carrying out research work as part of their course.

Thank-you

Thank you for your interest and support. If you would like to participate in this research, please complete and return the consent form to the above address, or bring it with you to the arranged card sorting session. If you have any further questions, prior to the sorting session, please do not hesitate to contact me by telephone (most Thursdays) or email.

Participant Consent Form

<u>Consent for participating in the investigation of</u>:

How Podiatry may contribute to the UK's Inter-Professional Education (IPE) agenda

(Details of project can be found in attached letter and information sheet)

Please tick the boxes

I have read the study information sheet and understand what is involved.   ☐

I understand that the information I disclose will remain confidential and that my data will be destroyed after being collated.   ☐

I understand that I can withdraw my participation at any time.   ☐

I am willing to participate in this project.   ☐

Signed: ....   Date: ....

PQ Method report for attitudinal factors

These reports were generated by PQ Method 2.11 using Q Sort data supplied by 21 participants. These extracts demonstrate the initial processes and decisions taken to produce the four factors, subsequently interpreted by the researcher. An initial objective was to combine Q Sorts from different professions, and from first and final year students, hence the nomenclature below uses 'Pod3a' to indicate a Podiatry student from the 3rd year sorting the attitudes list of statements.

Explanations of the report are derived from notes taken during attendance of the Q Methodology course at the 39th Essex Summer School in Social Science Data Analysis, held at the University of Essex from 23 July 2006 to 4 August 2006, hosted by Steven R. Brown. Attendance was enabled due to an ESRC[9] bursary, gratefully received.

Having entered the sixty statements, the number of grid columns and the entries in each, then the 21 Q sorts from the participants, the following actions were taken:-

1. Perform a Principle Components factor analysis (menu option 4)
2. Perform a Varimax rotation of the factors (menu option 6) for 4 factors
    a. Allow PQROT program for adding flags (option F6, F8, *, F9)
3. Perform the final Q analysis of the rotated and flagged factors (option 7)
4. View project file (option 8), scroll to POD3a.LIS report file using F4

Figure 35: Correlation Matrix between attitudes Q sorts

```
SORTS          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21

 1 Pod3a1    100   47   31   27    6   56   14   33  -12   41  -12   16   66   19   35   16   10  -12  -11   12   -5

 2 Pod3a2     47  100    8   -7  -14   47  -14   25  -18   21  -21  -19   39   28   31   -8  -18  -30  -34   -2  -12

 3 Pod3a3     31    8  100   33   25   43   19   31   18   27   36   29   31    2   47   33   18   25   28   20   17

 4 Pod3a5     27   -7   33  100   35   30   13   14   30   19   47   15   24   25   25   30   42   30   44   30   17

 5 Pod3a7      6  -14   25   35  100   26   21   19   26   19   27   28   11    7   39   41   40   22   40   14   20

 6 Pod3a8     56   47   43   30   26  100   20   47  -22   43    5    9   59   45   43   19    0  -24   -5   32   24

 7 Pod3a9     14  -14   19   13   21   20  100   19  -13   37   16   35   13   -3   22   16    2   16    6    4   11

 8 Pod3a10    33   25   31   14   19   47   19  100  -15   29   11   -8   31   30   39   30   12    5   10    6   18

 9 Pod3a13   -12  -18   18   30   26  -22  -13  -15  100   -7   32   14  -15  -13    3   26   33   27   41    0   13

10 Pod3a15    41   21   27   19   19   43   37   29   -7  100   -2   14   48   23   25    8   10   -1   -8   -1    6

11 Pod3a17   -12  -21   36   47   27    5   16   11   32   -2  100   22   -2  -12   29   24   33   31   43   42   31

12 Pod3a19    16  -19   29   15   28    9   35   -8   14   14   22  100    4  -12    1   27   27   11   27   15   25
```

```
13 Pod3a22   66  39  31  24  11  59  13  31 -15  48  -2   4 100  39  33   8   2 -10  -8  13   2
14 Pod3a23   19  28   2  25   7  45  -3  30 -13  23 -12 -12  39 100  12  10  -4 -14   1   3   3
15 Pod3a24   35  31  47  25  39  43  22  39   3  25  29   1  33  12 100  20   5   6  13   3   6
16 Pod3a28   16  -8  33  30  41  19  16  30  26   8  24  27   8  10  20 100  47  35  49  24  24
17 Pod3a29   10 -18  18  42  40   0   2  12  33  10  33  27   2  -4   5  47 100  30  48  -1  27
18 Pod3a18  -12 -30  25  30  22 -24  16   5  27  -1  31  11 -10 -14   6  35  30 100  51   1  -5
19 Pod3a14  -11 -34  28  44  40  -5   6  10  41  -8  43  27  -8   1  13  49  48  51 100  18  27
20 AcaDa1    12  -2  20  30  14  32   4   6   0  -1  42  15  13   3   3  24  -1   1  18 100  33
21 AcaDa2    -5 -12  17  17  20  24  11  18  13   6  31  25   2   3   6  24  27  -5  27  33 100
```

This demonstrates how each participant Q sort correlates (a substantial similarity) fully with itself (1.00) and how it correlates with others. Zero represents minimal correlation or a random effect. For example, there is a quite high correlation (overlap) of 0.33 between Q sorts 20 and 21, the researcher AcaDa2 and the course developer AcaDa1.

Figure 36: Un-rotated attitudes factor matrix

Factors	1	2	3	4	5	6	7	8
SORTS								
1 Pod3a1	0.4848	0.5848	0.0433	-0.1412	-0.0710	-0.3803	-0.0483	0.2466
2 Pod3a2	0.1012	0.7114	-0.2713	-0.0544	0.1186	-0.1539	-0.2591	0.0822
3 Pod3a3	0.6684	0.0265	0.0858	-0.0504	0.3776	-0.1474	-0.1201	0.1353
4 Pod3a5	0.6594	-0.1797	-0.2593	-0.0008	-0.0366	-0.2166	0.4024	-0.1872
5 Pod3a7	0.5965	-0.2369	0.0525	-0.1193	-0.1103	0.1653	-0.2051	-0.3503
6 Pod3a8	0.6158	0.6097	-0.0470	0.2407	-0.0399	0.0429	-0.0284	-0.0341
7 Pod3a9	0.3618	0.0304	0.7411	-0.0403	0.0340	0.2383	0.2180	-0.0858
8 Pod3a10	0.5039	0.3432	-0.1044	-0.0883	0.0606	0.5486	-0.1064	0.2084
9 Pod3a13	0.2368	-0.5419	-0.2775	-0.1810	0.0132	-0.3472	-0.1909	-0.2719
10 Pod3a15	0.4509	0.4095	0.3446	-0.2042	-0.1787	-0.0526	0.1522	-0.2297
11 Pod3a17	0.5129	-0.4506	-0.0616	0.2908	0.4040	-0.0284	0.1232	-0.1582
12 Pod3a19	0.3895	-0.2604	0.5530	0.1431	-0.2497	-0.3165	-0.1663	0.0905
13 Pod3a22	0.4921	0.6068	-0.0223	-0.0739	-0.0891	-0.2422	0.1766	0.0178
14 Pod3a23	0.2666	0.4359	-0.3898	0.0047	-0.3818	0.2459	0.3383	-0.1844
15 Pod3a24	0.5721	0.2565	-0.0284	-0.1927	0.5046	0.1469	-0.2492	-0.2383
16 Pod3a28	0.6101	-0.2829	-0.0979	-0.0995	-0.2143	0.1711	-0.1634	0.4121
17 Pod3a29	0.4921	-0.4338	-0.1302	-0.2067	-0.3858	-0.0912	-0.1961	0.0424
18 Pod3a18	0.3028	-0.5308	0.0189	-0.4192	0.1965	0.0869	0.3447	0.2909
19 Pod3a14	0.5112	-0.6079	-0.1846	-0.0814	-0.0773	0.0983	0.0749	0.0924
20 AcaDa1	0.3744	-0.0690	-0.0960	0.7212	0.1469	-0.1239	0.2288	0.2199
21 AcaDa2	0.3838	-0.1950	0.0216	0.5903	-0.2298	0.2016	-0.2848	-0.0998
Eigenvalues	4.8162	3.7461	1.4444	1.4327	1.1614	1.0997	0.9808	0.8696
% expl.Var.	23	18	7	7	6	5	5	4

Principal Component Analysis was used within PQMethod to derive eight factors by default. Each factor represents a perfectly orthogonal dimension or vector: the first factor maximises the amount of overall variability that it accounts for, which is removed when deriving the next factor, repeated for all subsequent factors.

Each factor is representing a 'Group Q Sort' which extracts a commonality: there is a way to organise the statements to achieve these correlations. As such, each factor is a composite Q Sort, against which each participant is correlated to a greater or lesser degree. For example, Q Sort 1 has a high correlation of 0.58 with factor 2, whilst the Q Sort 20 from the course developer has a much higher correlation of 0.72 with factor 4.

The Eigenvalues are the sum of the squares of the factors for each column. R factor analysis tends to give more credence to factors having an Eigenvalue of more than one, which happens to apply above, to six of the eight default factors extracted by PQMethod. SPSS[10] can be used to perform factor analysis, which defaults to an Eigenvalue cut-off of 1.00 to determine the number of factors to accept. Q factor analysis arguably applies less credibility to the Eigenvalues, but looks more heuristically to the amount of variability explained by each factor. For example, factor 4 explains 7% of the overall variability and between them, factors 1 to 4 explain 54% of the overall variability. Including all eight factors would account for 74%. The remainder might represent individual views, or 'random error' from participants having no clear viewpoint on the matter in hand.

On the above basis, the researched decided to concentrate on only the first four factors for the purpose of interpretation of different viewpoints regarding attitudes towards IPE.

Figure 37: Rotating angles used between attitudes factors

```
 FTR#1  FTR#2  ANGLE      Generated By PQROT [15:19, 6/13/2007]
   4      5     -45.
   4      6     -70.
   4      7      93.
   4      6    -102.
   6      7     -60.
   4      6     -76.
   4      7     -95.
   4      7      43.
```

PQMethod includes a graphical tool called PQROT to plot pairs of factors and demonstrate how the participants' Q sorts are loading upon them. Judgemental (hand) rotation allows the researcher to more closely align participants' correlations to the axes, to improve the significance and interpretation of the final outcome.

---

[10] Statistic Package for the Social Sciences: PALLANT, J. 2001. *SPSS Survival Guide: a step by step guide to data analysis using SPSS,* Buckingham, Open University Press.

From the above, it can be seen that the system made an effort to improve the significance of the fourth factor, when compared with less significant factors 5, 6 and 7, which were about to be discarded (when electing to use Varimax rotation for 4 factors).

Figure 38: Attitudes Factor matrix with X indicating a defining sort

```
             Loadings
QSORT           1          2          3          4
 1 Pod3a1     -0.0331    0.7585X    0.1426    -0.0455
 2 Pod3a2     -0.3030    0.6428X   -0.2837    -0.0861
 3 Pod3a3      0.3984    0.4369     0.2800     0.1713
 4 Pod3a5      0.5991X    0.3173   -0.0357     0.2710
 5 Pod3a7      0.5553X    0.2081    0.2506     0.1204
 6 Pod3a8     -0.0758    0.8191X    0.0811     0.3575
 7 Pod3a9      0.0265    0.1542     0.8111X    0.0189
 8 Pod3a10     0.1548    0.6024X    0.0258     0.0545
 9 Pod3a13     0.6335X   -0.1935   -0.1434     0.0086
10 Pod3a15     0.0008    0.5726X    0.4353    -0.1183
11 Pod3a17     0.5272X   -0.0464    0.1209     0.5096
12 Pod3a19     0.2166    -0.0460    0.6579X    0.2526
13 Pod3a22    -0.0487    0.7793X    0.0784     0.0221
14 Pod3a23    -0.0111    0.5487X   -0.3268     0.0717
15 Pod3a24     0.2697    0.5843X    0.1288    -0.0140
16 Pod3a28     0.6262X    0.2002    0.1147     0.1624
17 Pod3a29     0.6948X    0.0319    0.0647     0.0454
18 Pod3a18     0.6728X   -0.1514    0.1651    -0.2164
19 Pod3a14     0.7893X   -0.0966    0.0287     0.1955
20 AcaDa1      0.0539    0.0972     0.0018     0.8135X
21 AcaDa2      0.1554    0.0106     0.1310     0.7020X


% expl.Var.       18         19         8          9
```

Varimax rotation was the used, limiting PQMethod to four factors. The report indicates the Q sorts which are defining for each factor, where it can be seen that each participant is defining for one of the four factors, with the exception of Q sort 3, with an overall account of 54% of the total variability.

The final stage of analysis produces an extensive list of how each statement ranks onto each of the four factors, in various guises, which are used with the study 3 report of findings. There were also another couple of items reported, which warrant comment:-

Figure 39: Correlations between attitudes factor scores

```
Factor    1       2       3       4
   1    1.0000  0.0080  0.2226  0.2851
   2    0.0080  1.0000  0.1711  0.1695
   3    0.2226  0.1711  1.0000  0.1507
   4    0.2851  0.1695  0.1507  1.0000
```

This is a quick verification that there is not too much correlation between the factors. Clearly each factor will correlate fully with itself (1.00), but it should not then correlate with the others (smaller is better). If so, there is the opportunity to remove the flagging X for Q sorts that are defining for more than one factor, to improve factor definition.

In this analysis there is little correlation between factors one and two, and only moderate correlations (overlaps) with factors three and four. This is indicative of a reasonable selection of distinguishing Q sorts and supports the earlier judgement to interpret four factors.

PQ Method report for concerns factors

These reports were generated by PQ Method 2.11 using Q Sort data supplied by 21 participants. These extracts demonstrate the initial processes and decisions taken to produce the four factors, subsequently interpreted by the researcher. An initial objective was to combine Q Sorts from different professions, and from first and final year students, hence the nomenclature below uses 'Pod3c' to indicate a Podiatry student from the 3rd year sorting the concerns list of statements.

Having entered the fifty eight statements, the number of grid columns and the entries in each, then the 24 Q sorts from the participants, the following actions were taken:-

1. Perform a Principle Components factor analysis (menu option 4)
2. Perform a Varimax rotation of the factors (menu option 6) for 4 factors
   a. Allow PQROT program for adding flags (option F6, F8, *, F9)
3. Perform the final Q analysis of the rotated and flagged factors (option 7)
4. View project file (option 8), scroll to POD3a.LIS report file using F4

Figure 40: Correlation Matrix between concerns Q sorts

SORTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Pod3c1	100	34	42	23	61	52	15	36	15	3	10	26	18	33	35	28	16	32	29	29	43	7	10	8
2 Pod3c2	34	100	22	24	45	39	44	32	21	21	19	33	41	42	53	41	9	51	29	51	49	27	20	13
3 Pod3c3	42	22	100	16	38	19	32	37	10	20	33	-2	6	27	23	35	17	34	12	21	44	12	21	20
4 Pod3c4	23	24	16	100	20	22	29	30	22	6	26	10	30	28	32	24	-1	25	26	17	35	2	7	4
5 Pod3c5	61	45	38	20	100	28	20	33	9	-3	6	25	34	51	43	28	33	30	28	31	45	4	25	29
6 Pod3c6	52	39	19	22	28	100	24	20	24	7	21	29	31	17	23	7	-11	40	32	50	33	24	2	-8
7 Pod3c11	15	44	32	29	20	24	100	46	20	46	36	29	5	53	25	41	24	28	25	22	36	15	9	21
8 Pod3c12	36	32	37	30	33	20	46	100	35	42	42	9	21	53	35	42	26	30	21	36	39	28	31	31
9 Pod3c14	15	21	10	22	9	24	20	35	100	46	49	-16	38	22	27	11	3	41	39	34	19	45	8	-2
10 Pod3c16	3	21	20	6	-3	7	46	42	46	100	39	-16	33	21	29	21	17	32	20	23	27	34	5	3
11 Pod3c18	10	19	33	26	6	21	36	42	49	39	100	-9	18	38	16	12	5	43	35	36	38	19	-3	31
12 Pod3c20	26	33	-2	10	25	29	29	9	-16	-16	-9	100	-13	30	1	32	5	-18	-7	10	15	-14	9	-8

```
13 Pod3c21  18 41  6 30 34 31  5 21 38 33 18 -13 100   8 56  4  5 48 48 22 39 35 -8  1
14 Pod3c22  33 42 27 28 51 17 53 53 22 21 38 30  8 100 36 40 22 42 21 31 41 10 23 19
15 Pod3c25  35 53 23 32 43 23 25 35 27 29 16  1 56 36 100 34 16 37 31 25 39 31 16  8
16 Pod3c26  28 41 35 24 28  7 41 42 11 21 12 32  4 40 34 100 26  9  8 23 26  9 27 16
17 Pod3c27  16  9 17 -1 33 -11 24 26  3 17  5  5  5 22 16 26 100  8 22  4 17 19 -5 35
18 Pod3c30  32 51 34 25 30 40 28 30 41 32 43 -18 48 42 37  9  8 100 51 42 53 40 -2 18
19 Pod3c13  29 29 12 26 28 32 25 21 39 20 35  -7 48 21 31  8 22 51 100 19 34 22 -13  1
20 Pod3c31  29 51 21 17 31 50 22 36 34 23 36 10 22 31 25 23  4 42 19 100 36 36 18 12
21 Pod3c10  43 49 44 35 45 33 36 39 19 27 38 15 39 41 39 26 17 53 34 36 100 32  5 14
22 Pod3c17   7 27 12  2  4 24 15 28 45 34 19 -14 35 10 31  9 19 40 22 36 32 100  3 20
23 AcaDc1   10 20 21  7 25  2  9 31  8  5 -3  9 -8 23 16 27 -5 -2 -13 18  5  3 100  7
24 AcaDc2    8 13 20  4 29 -8 21 31 -2  3 31 -8  1 19  8 16 35 18  1 12 14 20  7 100
```

This demonstrates how each participant Q sort correlates (a substantial similarity) fully with itself (1.00) and how it correlates with others. Zero represents minimal correlation or a random effect. For example, there is a low correlation (overlap) of 0.07 between Q sorts 23 and 24, the researcher AcaDc2 and the course developer AcaDc1.

Figure 41: Un-rotated concerns factor matrix

Factors	1	2	3	4	5	6	7	8
SORTS								
1 Pod3c1	0.5706	0.3114	-0.3670	0.2026	-0.1392	0.1941	-0.0695	-0.3480
2 Pod3c2	0.7001	0.1369	-0.2437	-0.1158	0.2212	-0.0880	0.2182	0.2219
3 Pod3c3	0.5141	0.2064	0.1832	0.1364	-0.1915	0.3387	-0.2784	-0.3944
4 Pod3c4	0.4481	0.0292	-0.1321	-0.1433	-0.1566	-0.2936	-0.4833	0.3003
5 Pod3c5	0.6063	0.4082	-0.2380	0.4209	0.0530	0.0912	-0.0748	0.0384
6 Pod3c6	0.5135	-0.0386	-0.5430	-0.2484	-0.1996	0.2106	0.2341	-0.1223
7 Pod3c11	0.5879	0.1933	0.3351	-0.2943	-0.1851	-0.3315	0.1521	-0.0430
8 Pod3c12	0.6798	0.1225	0.3668	-0.0904	0.0630	0.0717	-0.1141	-0.0374
9 Pod3c14	0.5046	-0.5135	0.1100	-0.2332	0.0921	0.0440	-0.0516	-0.0947
10 Pod3c16	0.4668	-0.3770	0.4240	-0.2346	0.1771	-0.1741	0.0484	-0.3277
11 Pod3c18	0.5415	-0.3018	0.3382	-0.1948	-0.4530	0.1064	-0.1083	0.1496
12 Pod3c20	0.1666	0.6469	-0.2691	-0.3138	-0.0872	-0.2523	0.3422	0.0207
13 Pod3c21	0.5240	-0.4561	-0.3400	0.2241	0.2730	-0.2215	-0.1187	0.0892
14 Pod3c22	0.6515	0.3270	0.1735	-0.1142	-0.1127	-0.1068	-0.0518	0.1684
15 Pod3c25	0.6328	-0.0456	-0.1603	0.1582	0.4373	-0.2122	-0.1807	0.0428
16 Pod3c26	0.4890	0.4478	0.2333	-0.1252	0.2368	-0.1880	-0.0094	-0.1251
17 Pod3c27	0.2920	0.1751	0.3786	0.5620	0.0253	-0.2381	0.3231	-0.1631
18 Pod3c30	0.6949	-0.3648	-0.1149	0.0996	-0.1562	0.1293	-0.0007	0.1023
19 Pod3c13	0.5292	-0.3500	-0.2023	0.2084	-0.2315	-0.2792	-0.0205	-0.0728
20 Pod3c31	0.5929	-0.0631	-0.1288	-0.2553	0.0410	0.4031	0.2873	0.1618
21 Pod3c10	0.7137	0.0177	-0.1071	0.1049	-0.1518	0.0015	-0.0457	-0.0400
22 Pod3c17	0.4475	-0.4295	0.1172	0.0629	0.3118	0.1889	0.3986	-0.0119
23 AcaDc1	0.2113	0.3648	0.1472	-0.2303	0.4922	0.3938	-0.3052	0.0843
24 AcaDc2	0.2790	0.1319	0.4590	0.4404	-0.1354	0.2364	0.1621	0.4684
Eigenvalues	6.8837	2.4381	1.9195	1.4734	1.2587	1.2226	1.1113	0.9255
% expl.Var.	29	10	8	6	5	5	5	4

Principal Component Analysis was used within PQMethod to derive eight factors by default. Each factor represents a perfectly orthogonal dimension or vector: the first factor maximises the amount of overall variability that it accounts for, which is removed when deriving the next factor, repeated for all subsequent factors.

Each factor is representing a 'Group Q Sort' which extracts a commonality: there is a way to organise the statements to achieve these correlations. As such, each factor is a composite Q Sort, against which each participant is correlated to a greater or lesser degree. For example, Q Sort 1 has a high correlation of 0.57 with factor 1, whilst the Q Sort 24 from the course developer has about equal correlations of 0.46 and 0.47 on factors 3 and 8.

The Eigenvalues are the sum of the squares of the factors for each column. R factor analysis tends to give more credence to factors having an Eigenvalue of more than one, which happens to apply above, to six of the eight default factors extracted by PQMethod. SPSS[11] can be used to perform factor analysis, which defaults to an Eigenvalue cut-off of 1.00 to determine the number of factors to accept. Q factor analysis arguably applies less credibility to the Eigenvalues, but looks more heuristically to the amount of variability explained by each factor. For example, factor 4 explains 6% of the overall variability and between them, factors 1 to 4 explain 53% of the overall variability. Including all eight factors would account for 72%. The remainder might represent individual views, or 'random error' from participants having no clear viewpoint on the matter in hand.

On the above basis, the researched decided to concentrate on only the first four factors for the purpose of interpretation of different viewpoints regarding attitudes towards IPE.

Figure 42: Rotating angles used between concerns factors

```
 FTR#1  FTR#2  ANGLE     Generated By PQROT [19:06, 6/27/2007]
   1      3     -9.
   1      3     -3.
   3      4     -5.
```

PQMethod includes a graphical tool called PQROT to plot pairs of factors and demonstrate how the participants' Q sorts are loading upon them. Judgemental (hand) rotation allows the researcher to more closely align participants' correlations to the axes, to improve the significance and interpretation of the final outcome.

---

[11] Statistic Package for the Social Sciences: Ibid.

From the above, it can be seen that the system made an effort to improve the significance of the first and second factor, when about to discard the lesser factors (when electing to use Varimax rotation for 4 factors).

Figure 43: Concerns Factor matrix with X indicating a defining sort

```
              Loadings
QSORT            1         2         3         4

 1 Pod3c1     0.6789X  -0.1794    0.2856    0.1535
 2 Pod3c2     0.6209X   0.1502    0.4153   -0.0338
 3 Pod3c3     0.2689    0.1401    0.3661    0.3648
 4 Pod3c4     0.3678X   0.1676    0.2659   -0.0743
 5 Pod3c5     0.6693X  -0.2330    0.2968    0.4216
 6 Pod3c6     0.6602X   0.0860    0.1920   -0.3762
 7 Pod3c11    0.1151    0.3756    0.6424X   0.1223
 8 Pod3c12    0.2150    0.4248    0.5463    0.3078
 9 Pod3c14    0.2588    0.7114X   0.0293   -0.1048
10 Pod3c16    0.0186    0.7431X   0.1893    0.0805
11 Pod3c18    0.1335    0.6743X   0.2338    0.0972
12 Pod3c20    0.1783   -0.4111    0.6028X  -0.2301
13 Pod3c21    0.6778X   0.3433   -0.2652    0.0280
14 Pod3c22    0.3033    0.1860    0.6330X   0.2172
15 Pod3c25    0.5978X   0.2076    0.1473    0.1764
16 Pod3c26    0.1387    0.0564    0.6605X   0.2261
17 Pod3c27    0.0917    0.0283    0.0846    0.7475X
18 Pod3c30    0.6161X   0.4977   -0.0014    0.1084
19 Pod3c13    0.5815X   0.3393   -0.1457    0.1112
20 Pod3c31    0.4461    0.3329    0.3265   -0.1446
21 Pod3c10    0.6036X   0.2405    0.2689    0.1940
22 Pod3c17    0.2829    0.5453X  -0.0825    0.1348
23 AcaDc1    -0.0243   -0.0245    0.5009X   0.0166
24 AcaDc2     0.0019    0.1241    0.1296    0.6838X

% expl.Var.      18        13        13         8
```

Varimax rotation was the used, limiting PQMethod to four factors. The report indicates the Q sorts which are defining for each factor, where it can be seen that each participant is defining for one of the four factors, with the exception of Q sorts 3, 8 and 20, with an overall account of 52% of the total variability.

The final stage of analysis produces an extensive list of how each statement ranks onto each of the four factors, in various guises, which are used with the study 3 report of findings. There were also another couple of items reported, which warrant comment:-

Figure 44: Correlations between concerns factor scores

```
Factor     1       2       3       4

   1    1.0000  0.4287  0.4406  0.1943
```

```
2     0.4287  1.0000  0.2618  0.1718

3     0.4406  0.2618  1.0000  0.2579

4     0.1943  0.1718  0.2579  1.0000
```

This is a quick verification that there is not too much correlation between the factors. Clearly each factor will correlate fully with itself (1.00), but it should not then correlate with the others (smaller is better). If so, there is the opportunity to remove the flagging X for Q sorts that are defining for more than one factor, to improve factor definition.

In this analysis there is greater correlation (overlap) between factors one, two and three, but not with factor four. This is supportive of the earlier judgement to interpret four factors.

Q Pack statement rankings (60) for 4 attitudinal factors

The following table is derived from the normalised factor scores (Z scores) reported by PQ Method for each of the four attitudinal factors, after automated Varimax rotation. To assist in analysis and to highlight areas of commonality and divergence, colour coding has been applied using the judgment of the researcher for particular ranges of Z score.

For each attitude statement (a1 to a60), PQ Method provides each factor with a corresponding Z score (for example 0.9 in the case of statement a1 for factor A1 below) and a ranking (position 12, which is one of agreement hence it is colour coded light green). The researcher has used judgemental zoning to colour-code each factor's Z score and its ranking of each statement. For the 'visual thinker' this enables easier assimilation of commonality and contrasts between the viewpoints represented by each factor. Where a statement receives either only positive or only negative Z scores for the four factors (indicating a degree of consensus by all participants), then the statement number itself is also colour coded in the leftmost column.

KEY	Researcher's judgemental zoning	Range of Z scores			Approximate Rankings		
	Strongly Agree	2.2	-	1.3	1	-	5
	Agree	1.3	-	0.7	5	-	20
		0.7	-	-0.7	20	-	40
	Disagree	-1.3	-	-0.7	55	-	40
	Strongly Disagree	-2.2	-	-1.3	60	-	55

**Bold entries show defining statements for the factors with a confidence P < 0.05,
or with less confidence P < 0.10 when marked with *.**

(P=0.05 represents a 1 in 20 chance of random error; P=0.10 represents a 1 in 10 chance of random error)

No.	Overview interpretation Statement	Appreciative Factor A1		Sceptical Factor A2		Political Factor A3		Long Term Factor A4	
a1	Working with another profession… you find out so much more	0.9	12	-0.39	39	0.5	20	0.26	25
a2	Others need to know what staff and students think of IPE	0.71	19	0.99	11	-0.07	32	-0.45	42
a3	When not part of a team, difficulty with some IPE concepts	-0.76	42	0.08	29	-0.93	52	0.22	27
a4	Big divides in how professionals relate to each other	-1.1	51	1.57	4	-0.92	51	1.21	9
a5	Inter-professional team working is the right approach	0.74	18	1.72	3	1.08	11	1.52	5
a6	IPE's just not relevant in a lot of what some professions do	**-1.97**	**60**	**0.03**	**31**	-1.21	54	-0.77	45
a7	IPE focuses on core things the professions have in common	-0.35	37	1.15	9	1.36	6	-0.85	47

a8	Starting IPE without knowing their professional identity	-1.08	50	0.2	26	0.35	23	-1.64	56
a9	Students first need to be clear about their own profession	0.34	29	1.18	8	1.49	4	-0.26	39
a10	Better use IPE time doing clinics, study, revision etc	**-0.12**	**34**	**0.46**	**22**	-1.79	57	-2.12	60
a11	IPE should encompass learning about each other's professions	0.81	16	0.92	12	0.5	20	0.45	19
a12	Some teaching staff don't feel that IPE is important	*-1.84	59	0.62	16	1.22	9	1.6	3
a13	Regarding others as having a 'chip on their shoulders'	-1.25	55	0.76	15	-0.79	48	0.49	18
a14	Some student professions particpate more readily in IPE	-0.77	43	*1.85	2	*0.8	13	-1.05	52
a15	Some students don't see themselves having to use IPE skills	**-0.73**	**41**	0.62	17	0.64	18	0.22	27
a16	IPE relies upon some existing knowledge about your own prof'n	0.61	25	1.29	7	1.21	10	0.18	29
a17	IPE student needs to have some previous clinical experience	**-0.53**	**39**	**0.09**	**28**	*1.93	2	*-1.76	57
a18	IPE allows different professions to problem-solve together	*0.41	27	*-0.75	44	1.65	3	1.57	4
a19	IPE allows interaction time between different professions	0.91	11	-0.18	35	1.36	7	0.18	28
a20	IPE tends to polarise people, into those for and again	-0.85	45	0.88	13	-0.8	49	1.21	9
a21	IPE swamps students with info they are not ready to receive	-1.68	57	-1.62	58	-0.51	42	-1.37	54
a22	IPE students should learn about clinical auditing	-1.23	54	-0.44	42	-0.92	51	-1.8	58
a23	IPE students appreciate working on something real	0.02	31	*1.31	6	-0.21	35	-0.22	37
a24	IPE should be integrated into the curriculum, not an add-on	*-1.22	53	-0.4	40	-0.07	33	0.77	16
a25	IPE results from a political agenda	*-1.18	52	0.53	18	*1.93	2	0.26	25
a26	IPE: theory of practice in Y1 & reality of practice in Y3	-0.36	38	**-1.18**	**51**	*-1.93	58	-0.18	35
a27	IPE produces a workforce that is fit for purpose for the future	0.98	10	0.15	27	0.79	14	*-0.97	51
a28	IPE: what a team looks like, who is who and how it works	*1.07	8	**0.24**	**25**	-0.5	41	-0.81	46
a29	IPE: knowing how professions contribute in a particular way	1.59	3	1.15	10	0.35	24	0.85	13
a30	IPE is intended to help students after they graduate	**0.85**	**14**	-0.97	48	-0.35	36	0.06	30
a31	IPE: mutual respect & other peoples' perspectives	0.67	22	**-0.14**	**34**	0.65	16	0.81	14

a32	IPE: just one tool amongst many useful learning tools	-0.04	33	**-1.44**	**56**	-0.64	44	-0.49	43
a33	IPE: communicate with their clients and other professions	0.79	17	0.52	19	0.22	25	1.13	11
a34	IPE: uniprofessional teaching is more relevant in some areas	***-0.96**	**47**	1.51	5	0.37	22	1.28	7
a35	IPE groups reflect as a team to appreciate their different perspectives on practice	0.61	24	***-1.37**	**55**	0.93	12	-0.1	34
a36	IPE: understanding of own worth and position within a team	0.52	26	-1.21	52	-1.22	55	-0.06	33
a37	IPE: a greater understanding of how a healthcare team works	1.64	2	-0.03	32	1.36	6	0.34	23
a38	IPE really helps later on in the course and in practice	-0.91	46	***-2.18**	**60**	-0.79	48	***1.8**	**1**
a39	IPE: appreciating different professional perspectives	1.3	5	-0.53	43	0.06	31	1.05	12
a40	IPE: realise role and to seek opportunities as IP work	0.88	13	-0.98	49	-0.37	38	0.42	21
a41	IPE encourages greater collaboration with other professions	**1.03**	**9**	**-1.05**	**50**	0.21	26	-0.22	37
a42	IPE encourages better team working in general	***1.18**	**6**	-1.49	57	-0.79	48	-0.97	51
a43	IPE enables students to work across professional bound	***1.15**	**7**	-0.41	41	0.07	30	-0.02	32
a44	IPE: a greater empathy for some other professions	0.63	23	**-0.21**	**36**	0.64	18	1.41	6
a45	IPE: understanding contexts in which they will be work	-0.15	35	**-0.83**	**45**	0.07	30	0.77	16
a46	IPE: opportunistic social learning between the professions	0.37	28	0.04	30	***1.35**	**8**	-0.26	39
a47	IPE: practice agreeing and compromising with others	**0.82**	**15**	**-0.88**	**46**	0.07	28	-0.02	31
a48	IPE: turn all professions into generic health care workers	-1.07	49	-1.22	54	-0.63	43	-1.29	53
a49	IPE: better 'joined-up' working for improved patient care	1.41	4	-0.29	37	0.78	15	0.42	21
a50	IPE: the way students will continue to learn once graduated	-0.02	32	-1.64	59	0.08	27	-0.93	49
a51	If IPE not related back to practice, students don't value it	0.68	21	***2.26**	**1**	***-1.93**	**59**	0.65	17
a52	If the individuals work on their own, IPE ise more difficult	0.23	30	0.49	20	-1.08	53	-0.45	42
a53	Health policy forcing all HE institutions to undertake IPE	-0.32	36	0.34	23	-0.21	35	-0.57	44
a54	IPE increases values and respect of other professions	1.67	1	0.25	24	0.5	21	1.64	2

a55	IPE helps appreciate others' stereotypical images	0.69	20	0.8	14	*-2.21	60	1.16	10
a56	Early IPE: all students prejudiced against other professions	-1.61	56	*0.49	21	*-0.5	41	-1.92	59
a57	Early IPE: all convinced of own profn's value & uniqueness	-0.61	40	-0.1	33	-0.78	45	-0.93	49
a58	Critical thinking should be included in IPE	-0.81	44	-0.36	38	-0.5	39	0.38	22
a59	Resistance to IPE anticipated from chosen profession & age	-0.99	48	-1.22	53	-1.49	56	-0.3	40
a60	IPE modules: formally assessed & count towards final award	-1.72	58	-0.96	47	-0.36	37	-1.52	55

The following table represents the above information as the Q-sort values for statement for the four factors. This is a more traditional representation, reflected in the colour coding in the table above:-

Statement	Factor A1	Factor A2	Factor A3	Factor A4
a1	3	-1	2	1
a2	2	3	0	-1
a3	-1	1	-3	1
a4	-2	5	-2	4
a5	2	5	3	5
a6	-5	0	-3	-1
a7	0	4	4	-2
a8	-2	1	1	4
a9	1	4	5	-1
a10	0	2	-4	-5
a11	2	3	2	2
a12	-5	2	4	5
a13	-3	3	-2	2
a14	-1	6	3	-3
a15	-1	2	2	1
a16	1	4	3	1
a17	-1	1	6	-4
a18	1	-1	5	5
a19	3	0	4	1
a20	-1	3	-2	4
a21	-4	-4	-1	-3
a22	-3	-1	-2	-4
a23	0	4	0	0
a24	-3	-1	0	2
a25	-3	2	6	1
a26	0	-2	-4	0
a27	3	1	3	-2
a28	4	1	-1	-2
a29	5	3	1	3
a30	3	-2	0	1
a31	2	0	2	3
a32	0	-4	-1	-1
a33	2	2	1	3
a34	-2	5	2	4
a35	1	-3	3	0
a36	1	-3	-3	0
a37	6	0	4	1
a38	-2	-5	-2	6
a39	5	-1	0	3
a40	3	-2	0	2
a41	4	-2	1	0
a42	4	-4	-2	-2
a43	4	-1	1	0
a44	1	0	2	4
a45	0	-1	1	2

a46	1	1	4	-1
a47	3	-2	1	0
a48	-2	-3	-1	-3
a49	5	0	3	2
a50	0	-5	1	-2
a51	2	6	-5	2
a52	1	2	-3	-1
a53	0	1	0	-1
a54	6	1	2	6
a55	2	3	-5	3
a56	-4	2	-1	-5
a57	-1	0	-1	-2
a58	-1	0	-1	2
a59	-2	-3	-4	-1
a60	-4	-2	0	-3

Q Pack statement rankings (58) for 4 concerns factors

The following table is derived from the normalised factor scores (Z scores) reported by PQ Method for each of the four concerns factors, after automated Varimax rotation.

For each concerns statement (c1 to c58), PQ Method provides each factor with a corresponding Z score (e.g. -1.45 in the case of statement c5 for factor C2 below) and a ranking (position 55, which is one of strong disagreement hence it is colour coded red). The researcher has used judgemental zoning to colour-code each factor's Z score and its ranking of each statement. For the 'visual thinker' this enables easier assimilation of commonality and contrasts between the viewpoints represented by each factor. Where a statement receives either only positive or only negative Z scores for the four factors (indicating a degree of consensus by all participants), then the statement number itself is also colour coded.

KEY	Researcher's judgemental zoning	Range of Z scores				Approximate Rankings		
	Strongly Agree	2.2	-	1.3		1	-	5
	Agree	1.3	-	0.7		5	-	20
		0.7	-	-0.7		20	-	40
	Disagree	-1.3	-	-0.7		55	-	40
	Strongly Disagree	-2.2	-	-1.3		60	-	55

Bold entries show defining statements for the factors with a confidence P < 0.05, or with less confidence P < 0.10 when marked with *.

(P=0.05 represents a 1 in 20 chance of random error; P=0.10 a 1 in 10 chance of random error)

No.	Overview interpretation / Statement	Minority Factor C1		Together Factor C2		Set-up Factor C3		IPE lead Factor C4	
c1	IPE needs reps from every prof group in its dev't & delivery	1.39	6	**-0.28**	**34**	1.31	5	0.77	14
c2	All IPE courses feel experimental in the first couple of years	-0.24	35	-0.93	46	***1.12**	**8**	-0.22	34
c3	Level of ignorance, myths & mis-information over professions	**1.87**	**1**	**1.25**	**8**	0.28	23	-0.27	36
c4	An institution does not have to wait for a curriculum review	-0.79	45	-1.01	49	-0.28	36	-0.59	42
c5	IPE needs an identifiable champion who makes things happen	-0.49	38	**-1.45**	**55**	-0.71	46	***2.18**	**1**
c6	Final year IPE students should regularly reflect on practice	0.25	21	1	12	0.13	28	0.34	19
c7	IPE team working is by preparation for a joint assignment	-0.23	34	0	29	**-1.51**	**54**	-0.53	41
c8	A workbook provides students with 'something real'	-0.97	48	-0.66	39	-1.35	52	-0.33	37

c9	Generic skills can act as a platform for delivering IPE	1.05	13	0.61	20	0.04	30	-0.71	43
c10	Year 1 IPE students doing a reflective account is difficult	-0.81	46	*-0.03	30	*1.49	4	-1.51	55
c11	Interprofessional learning is a means to an end	0.33	20	*-0.67	40	0.25	24	1.01	12
c12	IPE can reinforce stereotypes between professions	*1.19	9	-2.15	58	-0.54	43	-1.26	53
c13	IPE students think their profession does not work in teams	0.15	28	1.32	6	0.92	11	1.08	11
c14	IPE facilitation is quite an alien experience for some staff	0.22	23	0.12	25	0.44	20	*1.75	4
c15	IPE group students tend to go away to work on their own	-1.13	51	-0.79	42	-0.43	41	0.27	21
c16	IPE difficult with groups comprising students at different stages	0.16	26	0.67	18	1.08	9	-0.34	38
c17	IPE is limited by patterns of student attendance	0.35	19	-1.11	51	0.71	17	0.09	28
c18	IPE is shared learning - when they are taught together	*1.28	7	*2.05	1	-1.42	53	-1.64	56
c19	IPE is too health focused	-1.64	54	-1.76	57	-2.21	57	-1.75	57
c20	IPE suited to differences between social & medical models of patient care	-0.12	33	0.46	22	*-0.95	49	*1.88	3
c21	IPE requires facilitation of small groups of mixed professions	1.13	10	1.64	3	0.7	18	1.14	9
c22	IPE requires separate study time and numerous rooms	0.5	18	1.25	9	0.18	25	0.22	23
c23	IPE requires the staff team to work interprofessionally	0.21	24	1.41	4	0	33	1.2	8
c24	IPE implemented as a clinical audit cycle or service re-design	-0.43	37	0.03	28	-1.15	50	-0.77	45
c25	IPE: clinical systems that facilitate/prevent IP working	1.07	12	*-0.84	45	0.5	19	0.89	13
c26	IPE should not include too much serious reflection	-1.07	50	-1.29	54	*0.17	27	-1.08	50
c27	IPE staff development is an ongoing process	0.07	30	0.78	15	-0.38	37	-0.46	40
c28	IPE staff do not need any specific training	-1.73	56	-1.46	56	-1.62	55	-2.37	58
c29	IPE staff training inter-professional & inter-departmental	1.39	5	1.08	10	0.85	13	0.16	24
c30	IPE teaching methods may initially seem very strange	-1.35	52	-0.82	44	0.73	16	-0.15	32
c31	IPE tutors need experience of inter-profesional practice	1.09	11	1.4	5	1.64	3	*0.02	29

c32	IPE can have just a couple of professions doing IPE together	-1.48	53	-1.26	53	*0.01	31	-1.2	52
c33	Difficult to develop intentional IPE in a clinical setting	-0.55	40	-0.58	38	*-2.44	58	0.34	19
c34	Not necessary to be specific over which model of reflection	-0.51	39	-0.58	37	-0.09	35	0.22	23
c35	Management issues prevent IPE beyond a couple of days/year	0.08	29	-1.01	48	-0.39	40	0.39	17
c36	Current clinical staff need IPE training for real change to happen	-0.58	41	0.94	14	0.37	21	0.09	28
c37	Organisations supporting IPE need to experience benefits	-0.6	42	0.12	26	-0.72	47	0.77	15
c38	IPE reflections in a reflective journal that is assessed	-1.77	57	-1.15	52	-2.12	56	-1.14	51
c39	Reflection is key to IPE, to learn from IP opportunities	0.24	22	0.64	19	-0.61	45	-0.46	40
c40	Reflection on difficult situations can be unsettling	-1.01	49	-0.14	32	-0.58	44	-0.09	30
c41	IPE staff need to ensure parity across all the professions	1.23	8	1.05	11	0.31	22	-0.27	36
c42	IPE gets in the way of uni-professional outcomes	-0.74	44	-0.45	36	-0.46	42	-1.32	54
c43	Students more comfortable with IPE at end of their studies	*-1.67	55	*1.77	2	-0.79	48	-0.15	32
c44	Students working on their own anticipate little need for IPE	*-1.94	58	0.16	24	0.9	12	1.26	7
c45	Erroneous pre-conceived notions about own & other professions	1.74	3	1.28	7	1.04	10	0.33	20
c46	Reflect in IPE, to take account of other prof perspectives	0.52	17	0.96	13	*-1.34	51	-0.22	34
c47	Students adopt IP values and attitudes of senior clinicians	-0.83	47	0.54	21	0.77	15	-0.89	49
c48	Students reflect on IP values & attitudes of authority figures	-0.32	36	-0.08	31	-0.02	34	-0.77	44
c49	Students should evaluate all aspects of the IPE course	*0.99	14	-0.68	41	0.18	26	-0.83	48
c50	Attitudes to IPE of some IPE staff are not conducive	0.06	31	-0.79	43	-0.39	38	*1.63	5
c51	Challenge getting students to learn from opportunistic clinical IPE	0.2	25	0.38	23	-0.39	39	0.46	16
c52	Experience of doing IPE is often more important than the outcome	0	32	-0.14	33	0	32	*1.94	2
c53	Ideal IPE staff understands working with other professions	1.43	4	0.75	16	1.64	2	1.08	11
c54	IPE portfolio is distinct from professional development portfolio	-0.69	43	-1.05	50	0.08	29	0.09	28

c55	IPE group working influenced by non-professional things	0.76	16	**0.07**	**27**	1.26	6	**-0.82**	**47**
c56	Timetabling a barrier when bringing student professions together	0.77	15	0.71	17	***1.84**	**1**	0.09	28
c57	Students from similar professions 'swamp' the minority	***1.85**	**2**	-0.32	35	***0.82**	**14**	-0.82	47
c58	Year 1 IPE should keep to fairly generic things	***0.16**	**27**	***-0.99**	**47**	1.14	7	1.26	7

The following table is a more traditional representation, reflected in the colour above:-

Statement	Factor C1	Factor C2	Factor C3	Factor C4
c1	4	0	5	3
c2	0	-2	4	0
c3	6	4	1	0
c4	-2	-2	0	-1
c5	-1	-4	-2	6
c6	2	3	1	2
c7	0	1	-4	-1
c8	-2	-1	-3	-1
c9	3	2	0	-1
c10	-2	0	5	-4
c11	2	-1	1	3
c12	4	-5	-1	-3
c13	1	4	3	3
c14	1	1	2	5
c15	-3	-1	-1	2
c16	1	2	4	-1
c17	2	-3	2	1
c18	4	6	-3	-4
c19	-4	-5	-5	-5
c20	0	2	-2	5
c21	3	5	2	4
c22	2	4	1	1
c23	1	5	0	4
c24	-1	1	-3	-2
c25	3	-2	2	3
c26	-3	-4	1	-3
c27	0	3	-1	-1
c28	-4	-4	-4	-5
c29	5	3	3	1
c30	-3	-2	2	0
c31	3	5	5	1
c32	-3	-3	0	-3
c33	-1	-1	-5	2
c34	-1	-1	0	1
c35	1	-2	-1	2
c36	-1	3	2	1
c37	-1	1	-2	3
c38	-5	-3	-4	-3
c39	2	2	-2	-1
c40	-2	0	-2	0
c41	4	3	2	0
c42	-2	0	-1	-4
c43	-4	6	-2	0
c44	-5	1	3	4
c45	5	4	3	2
c46	2	3	-3	0
c47	-2	2	3	-2
c48	0	0	0	-2
c49	3	-1	1	-2
c50	0	-1	-1	5
c51	1	1	-1	2
c52	0	0	0	6
c53	5	2	6	3
c54	-1	-3	1	1
c55	2	1	4	-2

c56	3	2	6	1
c57	6	0	3	-2
c58	1	-2	4	4

11 APPENDIX E: STUDY 3 PROPOSAL

Aims and Objectives

This is a proposal for a fourth study, which may aid student awareness of IPE issues.

This study aims to reveal how differing health and social care professions have differing underlying values and philosophies; in broad terms that they think in different ways about their clients and about what is most important. The objective is to get beyond simple stereotype job descriptions and professional responsibilities, for the participants to consider what lies behind their respective values and decision making. The study may reveal whether there is a 'clumping together' synergy in the perceptions of different professions, having sufficient responses to ascertain whether this differs according to the participating profession. This has implications for multi-professional groups and their ability to co-operate when producing unified care plans for clients with complex needs.

This is designed as a quick-fire activity, taking about five minutes for a single participant. It can also be a combined effort by a small multi-professional group, when discussions and disagreements are to be expected! When encouraged to consider the underlying reasons for the different views, own- and other-professions awareness is encouraged. This awareness may assist with IPE and future multi-disciplinary clinical activities.

Proposed Method

There is recognition that within every health and social care profession, there are aspects of both medical and social models of care, depending upon the client and situation. This is illustrated by the professions Labels for participant sorting having the same background merging from yellow through to orange as the Scene-setting grid with its problem-solving continuum. The continuum is a hypothesis, that there are contrasting aspects between the social and medical models of care, that the participant may consider when deciding upon where to place a particular profession's label. Thus we have a Q Methodology study, reliant upon participant's subjectivity to make sense of inherently difficult comparisons, when they are rank-sorting within the continuum. This is Q Methodology since the participants are ranking the professions within the conditions of instruction; it is not the case that the models of care are assigning a score to each profession (such as an Intelligence Quotient to a person).

Factor analysis may be performed qualitatively using Q Methodology. However, there is no fixed grid layout, limiting how many professions may be allocated at either extreme (assigned a continuum score of +/- 5). Thus PQMethod is not a suitable tool for analysis in this instance. However, at the heart of Q Methodology there is a simple ranking of all

responses from one extreme to the other, to enable pair-wise correlation between Q sorts, leading to factor analysis to reveal viewpoints having similar groupings of professions, within the models of care. This can be achieved in discrete steps using an analytical package such as SPSS. To better facilitate the researcher's interpretation of the revealed viewpoints, participants also need to record their reasons for placing professions at the extremes of the continuum.

The professions labels (with their implied meanings) allow a quick-fire implementation of the study. Thus a significant number of responses could be obtained from a diverse range of professions. It might even be implemented as a web-based exercise, allowing participation from a number of different institutions with differing mixes of professions. This potential for a large number of responses would permit additional quantitative analysis, to produce average scores and ranges from different sub-groups of participants. To aid this, some additional demographic details such as the participant's profession and age range (deduced mature student) would also be required.

Anticipated Outcomes

The outcomes from qualitative Q methodology analysis of relatively few responses (100 students) from a single profession such as podiatry might answer questions such as:-

1) Is there a consensus or a number of viewpoints held about other health-care professions? Using the participants' comments, how can these views be described?
2) What do the students consider is their own profession's way of thinking? Does this have implications for preparing them to meet other professions within IPE?

The outcomes from a more quantitative evaluation (500 responses from a range of ten health and social care professions) will answer questions such as:-

A. Is there a significant difference between how a profession sees itself on the medical – social model of care continuum, and the view of them held by the other professions?
B. Is there a significant difference in how entry level students and graduating students see themselves or other professions (a maturing or IPE effect)?

This exercise might be piloted with IPE students, without any data collection or analysis. It might be expected to have the following benefits:-

i. An increase in own-profession and other-professions awareness; that there is more to IPE than job titles, job description and where other professions work. This exercise may more usefully break-down barriers between the professions and increase the perceived relevance of IPE.

ii.   In comparing the solo response grid to that decided by their IPE group together, this may be fertile ground for a reflective account of the discussions that took place.

Scene-setting grid

HOW DO THEY THINK?

MEDICAL MODEL

Objective
evidence base

Specific, independant
treatments

Rational thinkers
- subjectivity is
a margin of error!

Positivistic paradigm
- seeks simplicity

Quantitative reseach
- large samples

HARD-APPLIED SCIENCE

YOUR PROFESSION:

SOCIAL MODEL

Subjective
life experience

Holistic, whole-person
care

Relational thinkers
- objectivity is
simply too naive!

Relativistic paradigm
-acknowledges complexity

Qualitative reseach
- small groups

SOFT-APPLIED SCIENCE

YOUR AGE RANGE:

A flexible, problem-solving continuum

-5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5

GJD 09/09

Labels for participant sorting

A: Adult Nurse
B: Community Pharmacist
C: Diagnostic Radiologist
D: General Practitioner
E: Geriatric Nurse
F: Herbalist
G: Mental Health Nurse
H: Occupational Therapist
I: Optometrist
J: Orthopaedic Surgeon
K: Paramedic
L: Paediatric Nurse
M: Physiotherapist
N: Podiatrist
O: Podiatric Surgeon
P: Police Officer
Q: Psychologist
R: Social Worker
S: Teacher
T: Therapeutic Radiologist

< 20
20 - 24
25 - 30
31 - 34
35 - 40
41 - 44
45 - 50
51 - 54
55 - 60
60 +

Response grid (alternative to digital photo)

Scores given to each profession on the continuum grid (-5 through to +5)

A - Adult Nurse:		B - Community Pharmacist:	
C – Diagnostic Radiologist		D – General Practitioner:	
E – Geriatric Nurse		F – Herbalist	
G – Mental Health Nurse		H – Occupational Therapist	
I - Optometrist		J – Orthopaedic Surgeon	
K - Paramedic		L – Paediatric nurse	
M - Physiotherapist		N – Podiatrist	
O – Podiatric Surgeon		P – Police Officer	
Q – Psychologist		R – Social Worker	
S - Teacher		T – Therapeutic Radiologist	

PROFESSION LETTER   **YOUR COMMENT OR EXPLANATION**

THOSE PROFESSIONS WHICH YOU CONSIDER MOST MEDICAL MODEL (-5):

PROFESSION LETTER   **YOUR COMMENT OR EXPLANATION**

THOSE PROFESSIONS WHICH YOU CONSIDER MOST SOCIAL MODEL (+5):

Participant's Profession:		Academic year (1 / 2 / 3 / 4)

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