Title:
Learning and Supervision in Internship

Sub Title:

A sociocultural framework for understanding learning and supervision in medical internship

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By

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This thesis is dedicated to my son Thomas whose personal determination and ability to commit to and complete educational goals is inspirational.

ABSTRACT

The context of this thesis is learning in internship in New Zealand (NZ). Internship is a period of apprenticeship in medicine which bridges the transition from medical school to practise as a registered doctor. It is a formal apprenticeship leading to the professional practise of medicine, and is central to the identity construction of the junior doctor. However, because the workplace is changing the traditional model of apprenticeship is described in the literature as failing. As a consequence, internship has been subject to cycles of review and reform since the turn of the century, first in the United Kingdom (UK) and more recently in Australia and NZ. Despite the reforms current literature and professional commentary indicate that the problems are not all solved by what are essentially structural reforms. A review of the literature on clinical learning and supervision identifies a gap in the research that is contributing to the wider problem. While it is recognised that supervision is a key component of internship there is no conceptual model or framework to guide supervisory practice or to inform the training of supervisors. This is the problem addressed in this thesis.

This thesis proposes a solution using socio-cultural learning theory to understand learning in internship in order to offer an explanation of learning that can inform the supervisory practice; and then for the development of a model of learning and a supervision framework to guide and inform the practice of interns, supervisors and managers in health provider organisations.

A review of the literature since 1990 (Chapter 2) shows that there has been very little research on postgraduate supervision but there has been considerable work investigating the learning environment (or the immediate context of learning), drawing on experiential learning theory, describing the attributes of supervisors, devising models for giving feedback, and more recently seeking to understand and explain learning at work and the development of expertise. However, the transference of research findings into a conceptual and structural model of supervision has not occurred. In addition, recent research (2002-2010) has demonstrated that social learning approaches exploring clinical/workplace learning can be useful in bridging this gap. While there is an emerging body of work exploring the immediate (ward or clinic) learning climate there remains an absence of research on supervision and little consideration of the wider organisational and professional context in which internship is conducted.

Before proposing a solution, literature describing the learning demands placed on interns and the expectations placed on supervisors is used to develop criteria for a specification to guide the development of a model of supervision that will meet the needs of the sector. The specification recognises the importance of an underlying educational framework that: addresses how learning occurs, how competence is developed, the supervisee and supervisor relationship, relationships with the team, the structure and context of supervision in internship at both the micro-level (learner environment) and the macro-level (organisational and national). The specification also recognizes that within the NZ context a model of practice-based teaching and supervision must be flexible enough to be translated into varied health contexts, including Maori health environments. Certainly in a Maori world view, learning (ako) and health practice is seen as part of the community and knowledge is a treasure (taonga) owned by the community not by individuals. Practice must support the articles of the Treaty of Waitangi and therefore seek to encourage participation, partnership and self determination. (This is a legislative requirement in NZ.)

The thesis is reported in three parts looking at the micro-level (learner - supervisor), and macro-level (organizational) levels of the problem, and then bringing these together to inform a framework for supervision.

In Part I a series of studies explore interns' perceptions of learning in clinical areas and support the proposition that a social learning perspective can be applied to internship. The initial exploratory qualitative study shows that interns recognise and value a participatory learning environment with supervision strategies that promote participation and engagement and which are linked to knowledge sharing and identity formation. From these outcomes a model is presented that sets out the critical components that ensure clinical settings are positive learning environments which encourage social interaction. The model also provides an evaluation tool to assess placements as learning environments. Finally, strategies are offered that both supervisors and learners can use to promote and support learning in clinical workplaces.

Part II uses document analysis to describe the organisational and professional context of learning in internship in order to lay out clearly the wider environment in which internship is enacted, and to uncover the rich formal, and often tacit, informal learning opportunities available. Critical analysis of Wenger's (1998) model of communities of practice (CoPs) shows that this conceptual model of learning can provide a framework to organize and

consider the learning environment of internship in a way that is more compatible with a team-based approach to the delivery of healthcare than previous perspectives. Importantly, the CoP framework also appears to be compatible with a Maori world view and this offers a platform for future research by, or with, Maori practitioners to develop a blended model of supervision for Maori health contexts. The CoP framework and its potential as a conceptual model in the context on internship was shared and discussed within workshops at conferences and learning events with over 100 practitioners who identify and described three sites where CoPs naturally occur these are: the clinical team who provide patient care, the interprofessional ward or unit and the medical team.

In Part III, descriptions of these three sites as CoPs, the data on support structures, formal and informal learning opportunities within health provider organizations and the outcomes from Part I are combined to develop a framework of supervision and to describe the roles and responsibilities of a supervisor. The result of combining these two streams of work is:

1. A model of learning by participation and engagement in clinical practice to guide supervisory practice and assist interns as they develop the skills needed to be active lifelong learners throughout their medical careers.
2. An alternative framework from which interns, supervisors and organisations can view, and therefore plan and coordinate internship.

The thesis is upheld that social learning theory is useful as a framework for understanding learning in internship and for developing a framework to guide supervision.

The potential to utilise socio-cultural models either as supplementary, or an alternative to individualistic models, and to utilise team and organisational learning is a strategy that fits with discourses about healthcare teams, patient safety, inter-professional learning and the emergent properties and facets of work within current post-reform health services. This thesis offers an alternative way to conceptualise and define the role of the supervisor and the supervisee and transform supervisory practice in a way that aligns it to modern healthcare systems of delivery and accountability with, and to, other health professionals and other stakeholders.

This study concludes with recommendations for a framework and overarching structure that is neither implemented nor tested, and this is clearly a necessary direction for future research. It

is hoped that publication of this framework will lead to further testing and refinement, including its applicability to Maori, and the exploration by Maori medical educators of the recommendation for a blended model of supervision. Internship as a period of identity formation is introduced within the framework, but is less well explained than was possible within this study and warrants further investigation. More work is also needed to explore the impact on learning of the hierarchical structures in health and the possibility that not all healthcare environments are friendly and supportive.

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LIST OF ABBREVIATIONS

BEME	Best evidence medical education
CDHB	Canterbury District Health Board
CoP	Community of Practice
CPMEC	Confederation of Postgraduate Medical Education Councils (Australia)
DHB	District Health Board
GMC	General Medical Council
GCCT	Graduate Certificate in Clinical Teaching
IPE	Interprofessional Education
MCNZ	Medical Council of New Zealand
MTB	Medical Training Board (NZ)
MMC-	Modernizing medical careers
n.d.	no date given
NZ	New Zealand
PGY1/2	Postgraduate Years 1 and 2
PRHO-	Pre-registration House Officer
SHO	Senior House Officer
UK	United Kingdom
USA	United States of America
WHO	World Health Organisation

CHAPTER 1:
INTRODUCTION

DESCRIPTION OF INTERNSHIP, THE PROBLEM AND THE SOCIO-POLITICAL ENVIRONMENT

Learning and supervision in internship in NZ is critically examined in this thesis. Internship is the period of learning in the continuum of medical education that is situated in the workplace and bridges the undergraduate period of learning and registration to practice as a medical practitioner, and is therefore a formal apprenticeship (traditional) into the professional practice of medicine. The term apprenticeship is problematic and used in the traditional medical context and recent education/medical eductation literature in different ways so throughout the work the term will be qualified by bracketing the phrases traditional or new. The intern year characteristically involves rotation between specialties, including attachments to wards under the supervision of an experienced consultant. As an apprenticeship period it is dependent for its success on two key factors, the provision of a favourable clinical learning environment and effective supervision (Cottrell, Kilminster, Jolly, & Grant, 2002, Bleakley, 2002).

This chapter describes the problem addressed by this thesis by showing that internship is a period attracting a lot of attention within NZ and internationally due to changing workplace conditions, reforms in health care delivery and debates around quality, efficiency and effectiveness, and governance, and that the current models for structuring learning and providing supervision are considered inadequate for the changing health environment. Yet relatively little is known about post graduate learning in the clinical environment to inform evidence-based change because postgraduate learning in general has not received as much attention in medical education literature as the undergraduate years (Schuwirth & van der Vleuten, 2004). It has also been noted that most clinical supervisors have not received any formal training and supervise as they were supervised (Cottrell, Kilminster, Jolly, & Grant,

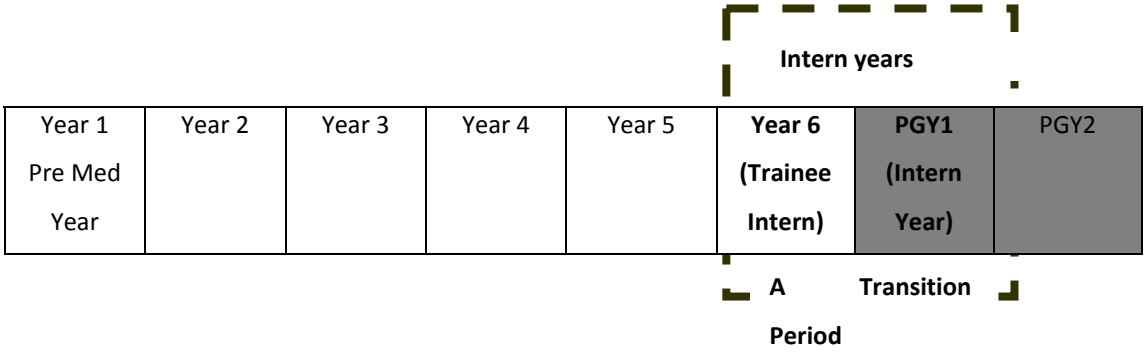
2002). A review of the literature on supervision in medicine by Kilminster and Jolly (2000) concluded that research on supervision is limited, with very few empirical studies (2002). This position was supported by Kennedy and colleagues three years later, who, after reviewing the literature, also concluded that there is little empirical or theoretical basis for the supervision models used by medical specialists (Kennedy, Regehr, Lingard, 2005). This thesis addresses this shortfall through the development of a framework for the provision of intern supervision and the development of a model to guide and direct supervisory practice from the theoretical basis of social learning theory.

This introductory chapter begins by defining and describing medical internship and supervision in NZ, recognising that medicine and supervision are both professional practices. The chapter then identifies the issues that have emerged nationally and internationally by tracing the comment, policy documents and subsequent evaluations associated with government reviews, and structural reforms published over the last decade in order to identify the elements of what is a multilayered and complex problem that is addressed by this thesis. These are the issues that will need to be recognised and addressed alongside the development of an alternative framework to guide and direct supervisory practice. This thesis develops and articulates an alternative framework as a solution to the problem.

1.1 DESCRIPTION OF INTERNSHIP IN NEW ZEALAND

Internship takes place in the final two years of medical training required to become a registered medical practitioner. Unique to NZ, the final year of the six year MBChB is a trainee internship (TI) undertaken in a hospital under the jurisdiction of a university medical school during which trainees make clinical decisions without the direct patient care or medico-legal responsibilities of a registered practitioner (Figure 1). This is followed by an intern year where the new graduate works under supervision within hospitals accredited by Medical Council of New Zealand (MCNZ) and therefore within the organisational environment of the healthcare provider.

Figure 1: Medical Education and Workplace Training Model in New Zealand (Adapted from a diagram provided by Anna Deer, personal correspondence, 2007)



Full general registration as a medical practitioner in New Zealand is obtained at the end of the intern year (PGY1).

Key:

= University undergraduate medical education

= District health board employment and training

PGY = Post graduate year

These two years of internship are a period of transition from student to practitioner as they straddle graduation as a medical practitioner but precede registration, which is the legal right to practice medicine. It is a particularly interesting period that is unique to NZ, after five years medical students undertake a sixth year as a trainee intern. This sixth year is one where medical students are exposed to practice but with high levels of supervision and few clinical responsibilities (eg they cannot prescribe or order tests and procedures). At the end of this year they gain their medical degrees (Bachelor of Medicine and Bachelor of Surgery) provided all academic and clinical requirements are met. With this comes the right to probationary registration with the Medical Council of New Zealand (MCNZ) and a one year period of supervision and clinical assessment as an employee within an accredited hospital. Registration is the outcome for those who complete this period successfully. Currently year six, the trainee intern year is the responsibility of the two NZ medical schools and the intern

year is funded from Vote: Health and delivered by hospitals accredited by the MCNZ. Both of these years are delivered within an 'apprenticeship' (traditional) model of training, a term the MCNZ uses but they do not define it. The closest definition in the Medical Council's Handbook on Education and Supervision for Interns states "medical education for interns is based on the apprenticeship model of learning on the job as part of a team" (2006, p 3). Later the handbook refers to the intern as "being apprenticed on a team receiving frequent real time feedback with a level of support and responsibility that is stimulating but safe" (MCNZ, 2006, p 6). The use of the term team here is generally taken to mean a medical team. The glossary does not define apprenticeship. This is indicative of a general assumption in medicine that apprenticeship is a known concept, interpreted consistently by all and that there is only one conceptual framework for apprenticeship. The structure of this period and the requirements for both type and duration of clinical experience is however well described (MCNZ, 2000).

Internship is a period of transition from student to practitioner when the intern is expected to gain the competencies of the medical profession, which includes a sense of professional identity and responsibility for patient safety and the delivery of quality care. Interns are on probation (holding provisional registration) with oversight by a consultant supervisor on the ward for each three month placement and an intern supervisor provides guidance over the full year (both are experienced vocationally qualified consultants) on behalf of the MCNZ. The prevocational phase is a temporary one for the majority of junior doctors; figures on how many do not progress are not available, as they are an internationally mobile workforce (Medical Training Board, 2008a).

Being accepted onto a registrar training programme (run by one of the colleges e.g. the Royal College of Surgeons) is the next learning stage for those who have completed an internship. This is required for vocational registration, (and the right to practise independently), this is not compulsory but it is necessary for specialist registration in any field in NZ including general practice. The alternative is to practise as a registered medical officer in a hospital or as a general practice locum under supervision and the protection of the medical community (effectively practising as a peripheral member of the medical community). So, internship sits within a continuum of medical education and is not an end point in itself.

While the studies in this thesis may well inform the trainee intern year in NZ the focus in this thesis is on the post graduate year one (PGY1) intern period, a time when the junior doctor is employed, has patient care responsibilities and provisional registration. It is the period of

training under the jurisdiction of the MCNZ and is coordinated within accredited hospitals. A number of organisations and regulatory bodies monitor the quality of accredited hospitals as providers of postgraduate education, specifically the Australasian royal colleges and the MCNZ.

1.2 SUPERVISION IN INTERNSHIP

Internship as a sustained period of supervised practice in the workplace is a well established, traditional and highly valued component of medical education. Supervision, when it is associated with this traditional view, is described as a specialist medical consultant "who provides immediate supervision of the intern during the allocated run (attachment) and who reports to the intern supervisor on the intern's performance" (MCNZ, 2006 p. 5). These two supervision roles (consultant and intern) can be, and at times are, conducted by the same person during one placement. When shared, duties are often divided differently in different locations, so within this thesis the general concept of supervision is used and the assumption is made that the supervision role may be shared and /or split in a way appropriate to local context.

In NZ and internationally both descriptions of learning activities and supervisor' practice stress the need to set learning objectives with the intern, to develop training plans, ensure regular intern meetings and to provide ongoing feedback, guided reflection and assessment (MCNZ, 2006; General Medical Council, 2002). The NZ model of apprenticeship (traditional) and supervision has drawn heavily on British approaches (as has the Australian model). These approaches have drawn on the largely transmission-based pedagogy of medical schools where the academic curriculum is based on the science of medicine, reduced to topics and sub tasks, and the learner has been able to succeed as a relatively passive participant. The most commonly applied theories of learning in medical education focus on the individual rather than the social context of learning (Chambers & Wall, 2000; Kaufman, 2003; Swanwick & Chana, 2003). Kilminster and Jolly's (2000) definition of the functions of a supervisor reflect this, "To provide the monitoring, guidance and feedback on matters of personal, professional and educational development in the context of the doctor's care of patients. This would include the ability to anticipate a doctor's strengths and weaknesses in a particular clinical situation in order to maximize patient safety" (p. 833).

There is an emerging recognition of the social nature of clinical learning that begins to reframe what supervision may (or may not) entail in clinical settings. Dornan, (2005) describes clinical learning as a form of social learning, a spirit of support, trust, and good role modelling between the teacher and student where the apprentice eventually gets taken in by the community and benefits from the knowledge held within the group. This position on clinical learning hints at a very different role for the supervisor than the one described by Kilminster and Jolly (2000) and represents a different perspective on how medicine is practised, one that is more team focused and based in a professional community of practice.

It is recognized within this thesis that intern supervision is a professional practice, a professional practice that takes place within the context of medical practice. Therefore, this thesis involves an investigation of practice and draws not only on social learning theory but also on theorising about practice and practice research. The term ‘practice’ is recognized as problematic and professional practice’ even more so. The following section defines and describes usage of these terms within the thesis.

1.3 MEDICINE AND SUPERVISION AS PROFESSIONAL PRACTICES

Higgs, McAllister & Whiteford (2009) define ‘practice’ as “the enactment of the role of a profession or occupational group in serving to contribute to society” and a profession as “as self-regulated occupational group that has a body of knowledge and recognised role in serving’society” (p. 101). An associated concept, ‘professional socialization”, refers to the enculturation process (through entry education, reflection, professional development and engagement in professional work interactions) by which individuals develop both the expected capabilities of the profession and a sense of professional identity and responsibility” (Higgs, McAllister & Whiteford 2009, p. 102).

Practice is also recognised as a living tradition (Golby and Parrott 1999). Those who join a practice submit to the authority of that practice by acquiring the knowledge, and then submitting to the standards by which that practice is judged, and the traditions of conduct. “The tradition of conduct is built from contemporary practitioners whose predecessors bequeathed them their practice.” (Fish, 2009 p.136). So individual practice is part of a social practice, which is governed by tradition, a tradition that is guided, but also constrained by,

traditional ways of doing. Fish (2009) introduces the importance of context to her definition of practice as made up of "a more or less settled body of discourse, activities, social connections and power, which take place within a context appropriate to the practice and which needs to be seen from the point of view of both researchers and participants" (p. 136). Putting these perspectives together, professional practice "is about doing, knowing, being and becoming which is people centred, purposeful, based on informed action, individual, located in a specific context" (Ewing and Smith 2001, p. 16). Fish (2009) also comments that to work within a tradition is easy, to introduce a new style or a new way of seeing practice is not!

It is argued here that practice is not simply doing or acting but doing in a distinctive way and within a presupposed set of relationships. Medicine as a practice is represented in distinctive language, ideas, and discourses which are characteristic of not just medicine in general, but of the practice of medicine in specific sites and specific subspecialties. Practices are social and occur in complex patterns of relations that include patients, family, medical colleagues in the same area of practice, the wider medical community, other health professional groups, non-health professionals (such as ward clerks, managers, government agencies, and health research groups) and so on. Within this view of practice, internship is far more than learning the clinical skills of 'doing' or the activities of medicine; it is also about the discourses, language, social connections, and the power in each specific context in which interns are placed. A context that for interns' changes every three months as they change placements (the clinical areas in which they work). The engagement in practice, with patient and family, the healthcare team and the supervisor will also impact on personal and relationship knowledge but the focus in this thesis is on internship as learning *how to* practice, and establishing an identity as a doctor within the healthcare team. Intern supervision is also a practice with its own traditions artifacts, languages, social connections and relationships. Higgs, Titchen & Neville (2001) have outlined three forms of knowledge and reasoning that clinicians bring to clinical practice. These are propositional or scientific knowledge, professional craft knowledge or knowing how to practice, and thirdly, personal and relationship knowledge. An underlying premise in this thesis is that clinical teaching and supervision are activities that develop the intern's craft or practical knowledge base, and socialize the individual to the social practices, forms of clinical thinking and clinical decision making that have been developed by experienced clinicians over time, and within the specific context in which the practitioner finds themselves as a new member of the professional team.

1.4 ROLE MODELLING OF PROFESSIONAL PRACTICE

Good role modelling of professional practice within the team is a hall mark of a good learning environment (Dornan, 2005). Looking to others as an example of how to behave, perform and conduct oneself is a powerful learning technique; learning from role models occurs from observation and reflection at conscious and unconscious levels and then translating insights into principles and action that affect behaviour. One study (Wright, Kern, Kolodner, Howard, & Brancati, 1986) revealed that less than half of teaching physicians were perceived as excellent role models. While this is over 20 years ago there is no evidence that this situation has changed. If modelling is a powerful way of learning then the prevalence of negative modelling must be concerning (displayed as, for example, insensitivity, disrespect of patients, lack of camaraderie). The study's main findings identified that spending more time teaching and conducting teaching rounds, stressing the importance of the doctor/patient relationship, and teaching the psychosocial aspects of medicine (along with serving as a chief resident), were associated with excellent role models chosen by house staff. Spending more than 25% of one's time teaching was by far the most significant factor. The nurturing and development of practice knowledge through dialogue and interaction with knowing and experienced others acknowledges relationships as a critical part of the intern's learning experience. The framework developed within this thesis must encourage the development of clinical decision making and critical thinking that embraces the type of communication described by Shotter (1996) which encourages the supervisor to:

> *…, point things out to people (look at this!); give them commands; remind them ('think what happened last time); change their perspective (look at it like this); and so on…(Shotter, 1996, p. 388).*

1.5 SUPERVISION IS ABOUT RELATIONSHIPS, STRUCTURE (TASKS AND FUNCTIONS) AND CONTEXT

If internship is about acquiring propositional knowledge, professional knowledge and relationship knowledge over a year and in a range of contexts then the question that arises is what is the role of the supervisor in supporting this development and the contextual

transitions? In order to investigate this question Holloway's description of supervision is adopted; that is that supervision is about relationships, structure (tasks and functions) and context (Holloway, 1995). The context of intern supervision is multilayered and complex. It includes not only the context of medical practice, but also interprofessional practice, patient-centred and family-centred care of service delivery, and a vast range of clinical contexts (from medical wards to emergency departments, to operating theatres, and outpatient clinics).

This thesis focuses on each of these by first exploring those aspects of the supervisory relationship that support learning in medical internship and from these findings by developing and trialling a model to guide supervisor practice. But as stated, supervision is more than just the supervisory relationship, or a set of tasks and structures, it is itself a practice and a practice that is situated in the organisational and societal context of healthcare delivery and the professional context of medical education. Therefore the second part of this thesis focuses on context in order to develop a conceptual framework that can provide an overarching structure for supervision and a framework that recognises and describes the diverse roles and responsibilities of intern supervisors in this complex environment.

1.6 CURRENT SOCIO-POLITICAL CONTEXT AND EMERGENT ISSUES INTERNATIONALLY

In the United Kingdon (UK) the similar period to internship in NZ is known as the 'foundation years' and follows graduation with a five year degree, but the concept and competencies required are similar. In Australia a five year degree is followed by a postgraduate year prior to registration. In the United States of America (USA) residency is the term used for the same period of workplace learning. In summary, in the western world medical education involves a period of prolonged clinical experience with professional supervision and assessment following graduation and prior to full registration as a medical practitioner. There are enough similarities between all the programmes in the western world that researchers commonly draw on international data when discussing apprenticeship (traditional) training programmes. Reviews, evaluations and comment by international practitioners, researchers and educational managers on internship since the year 1900 (when major health and education reforms first occurred internationally) provide an overview of the socio-political context for the thesis.

This section provides a summary of this literature and illustrates that the 'traditional apprenticeship model' is seen to be failing because work patterns of interns have changed, junior doctors are now required to work in team-based and collaborative ways across disciplines and this compromises the one-on-one consultant intern relationship and the nature of the work experience. All over the world the same themes emerge with concerns that hospitals are becoming increasingly service focused and that there is a consequential decrease in the learning opportunities available to interns (Australian Medical Association, 2001). Currently the internship period in NZ is under review, but there is a strong commitment to retaining a period of internship, or apprenticeship, prior to registration (Medical Training Board, 2008a, 2008b).

Comment on the structures for the delivery of internship in UK, Australia and NZ are the focus of this section as these programmes share common education, training and registration regulations and registration authorities recognise each other's qualifications. (The Australian Medical Council accredits the NZ medical schools, and the MCNZ confers registration after one year as a postgraduate intern). It follows that solutions found or proposed in the UK or Australia could be utilised in the NZ context, and the problems encountered, and the errors made are worth identifying in order that they may be avoided. Problems in the NZ context are identified not just to provide the rationale for this thesis, or even to attempt to solve them, but to develop new ways forward, rendering them less significant in their affect on learning.

Internship is an apprenticeship (be it less well defined in medicine than it could be) and the apprenticeship (traditional) model of learning is one that situates learning in practice and recognizes that the balance between learning and work shifts as the competence of the practitioner increases. As noted earlier definitions of apprenticeship are scarce in medicine, but Rene Stalmeiger and colleagues described it as a process that starts by interns observing clinical practitioners, and then gradually giving them more tasks as their competence grows (Stalmeiger, Dolmans, Wolfhagen, Muijtens, & Scherpbier, 2008). Towards the end of the 20th century changes in clinical practice were described as putting pressure on this traditional 'apprenticeship model' (e.g. Dacre, 1998). The apprenticeship model Dacre is referring to is not defined in the article, but is assumed to be a one to one supervisory relationship between an intern and a consultant supervisor with the intern working as part of his or her medical team, learning at the bedside. Dacre points out that by 1998 increased specialisation in medicine, shorter hospital stays, higher acuity patients, patient safety issues, and increases in the intern consultant ratio had compromised the apprenticeship (traditional) model as service

delivery took increasing priority over education, reducing the time for contact between the consultant supervisor and intern (Dacre, 1998).

Not surprisingly, from the year 2000 major reforms were set in motions to address these issues. These have been aimed at transforming medical postgraduate training throughout the western world (Ludmerer & Johns, 2005; Sectish, Zalneraitis, Carraccio, Berham, 2004; Bannon, 2006; Harden, 2002). In the UK, USA, Canada, Denmark and the Netherlands regulatory bodies have promoted a shift toward learner-centred, competency-based education, outcomes-based learning (Sectish, Zalneraitis, Carraccio, Berham, 2004; Bannon, 2006; Department of Health, Scottish Executive, Welsh Assemble Government & Department of Health, Social Servises and Public Safety 2004; Societal Needs Working Group, 1996). The concurrent introduction of the European Working Time Directive (EWTD) and duty hour restrictions added to the need to rethink tradition educational approaches (Landrigan, Barger, Cade, Ayas & Czeisler, 2006; Tsouroufli & Payne, 2008).

Another factor that has emerged more recently to impact on education is the worldwide shortage in the medical workforce. The WHO (2006a) report 'Working Together for Health' revealed an estimated worldwide shortage of almost 4.3 million doctors, nurses, midwives and health support workers (WHO, 2006a). Subsequently, the 59th World Health Assembly resolution called for a rapid scaling up of health workforce production through various strategies, including the use of 'innovative approaches to teaching in industrialised and developing countries (WHO 2006b). Many studies and policy documents highlight the direct relationship between collaborative practice and improved health outcomes (Hammick, Freeth, Koppel, Reeves & Barr, 2007; WHO, 2006a, 2006b, 2009; Health Professions Network Nursing and Midwifery Office within the Department of Human Resources for Health, 2010). These include improved patient safety and reduced clinical errors, the WHO Patient Safety Curriculum Guide for Medical Schools emphasises the need for medical students to learn to work safely in health systems, to communicate effectively and work in teams (WHO, 2009).

1.6.1 INTERNATIONAL REFORMS OF INTERNSHIP

Concerns about medical education emerged initially in the USA and the UK where a number of key government reports sought solutions through curricula change in undergraduate programmes. As early as 1984 the Association of American Medical Colleges published a report; "Physicians for the 21st Century" which recommended a stronger focus on meeting

patient needs and curriculum integration (Jolly, 1998; Association of American Medical Colleges, 1984). The General Medical Council (GMC) in the United Kingdom (UK) published "Tomorrows Doctors" (GMC, 2003) which made similar suggestions and recommendations. Suggestions for changes to classroom-based learning included problem-based learning (PBL) but no suggestions were made on how to integrate workplace learning and it offered no alternative to the apprenticeship (traditional) model. This is possibly because the focus was on the university medical curriculum rather than clinical experience components or even because the undefined 'apprenticeship' model is an assumed, accepted and an almost sacred component of medical education.

Despite structural reforms the problems identified with internship in the 1990's have continued to emerge in the international literature in the 21st Century. The issues identified through a number of questionnaire survey studies were; lack of protected time for education, lack of formal education programmes, insufficient feedback, stressful work environment (Finucane & O'Dowd, 2005 (Ireland); Lambert, Glodacre & Evans, 2003, (UK); Smith, 2001 (UK); Buddeberg-Fischer et al., 2006 (Switzerland); Hacobs, Bolhuis, Bulte & Holdrinet. 2004 (Denmark); Australian Medical Association, 2001 (Australia)). Junior doctors are said to spend too much time on routine administration and organizational tasks (Calman & Donaldson; 1991, Gillard et al 1993; Roche et al 1997; Rolfe et al 1998; Bogg et al 2001). In the UK it was noted by the Chief Medical Officer that basic specialist medical training (internship) was a disorganized period within otherwise structured postgraduate training, and that there was a lack of curriculum and assessments in the pre-registration house officer (first year of internship) and Senior House Officer (SHO),(second and third years) grades (Donaldson, 2002). The demands of service delivery are reported as undermining the opportunities to practice, with increasing responsibility for patient care and little time to reflect on that experience with a supervisor.

1.6.2 THE UK RESPONSE AND EXPERIENCE

Most recently, the practice component has been addressed in the UK through a major reform of medical education – 'Modernising Medical Careers" (MMC), which was designed to standardize the application process and improve the system; it included the introduction of the Foundation Programme (a two year period of internship). This is outlined in a document prepared by the General Medical Council (GMC) entitled "The New Doctor" first published in 1997, and updated in 2004 and 2007. Major changes in the reforms that followed centred

on the structure for delivery and placed the intern year under the oversight of medical schools (rather than hospitals) which approve placements, local training programmes and arrangements for clinical supervision.

Since 2005, UK medical graduates apply for a place in the two-year foundation programme which consists of medical and surgical placement and other compulsory learning activities with detailed and extensive competency-based testing. It is after this period as a pre-registration house officer (PRHO) that they apply for specialist training; a process that has become highly competitive for obtaining specialty registrar posts. The GMC sets objectives and competencies for pre-registration interns in an attempt to address skills that underpin good medical practice and assessment, using a portfolio approach with multiple assessments required from multiple sources. The most recent version recommends a shift in medical education away from apprenticeship (traditional) learning, to working and learning in teams in order to reflect the way health care is delivered; but there is no advice to clinical or educational supervisors on how best to do this (GMC, 2007). 'Recommendations on General Clinical Training" (GMC, 2007) outlines the GMC's expectations for implementation of foundation programmes regionally. It states two main goals for new medical graduates; to practice applying undergraduate knowledge and skill, and to make the transition, under clinical and educational supervision, from provisional to full registration. This document provides guidance for providers and comprises two sections. It states the outcomes the first year (intern) doctor must demonstrate to achieve full registration, and the standards for training that those responsible for delivering the programme must meet. The standards include a section on supervision (section 73), which states that "those responsible for training must make sure that the PRHOs (interns) have appropriate clinical and educational supervision at all times" (GMC, 2007). Criteria are general and state that supervision must be:

a) appropriate to experience
b) include appraisal and constructive feedback
c) ensure trainees must never be expected to carry out unsupervised tasks they do not have enough experience to do
d) ensure trainees have direct access to a senior colleague.

"Modernising Medical Careers", "Tomorrows Doctors" and the foundation programme are not without criticism and in response an evaluation of the implementation of the foundation programme was commissioned by the National Health Service Scotland and the University of Newcastle (Zwanemberg et al, 2006). The evaluation surveyed trainees and supervisors and

concluded that the introduction of the foundation programme "has gone reasonably well", and has "inherent strengths designed to address perceived deficiencies in the PRHO and first SHO experience" (Zwanemberg et al; 2006. p.17). A deficiency of the report is that it details all the responses to the Likert scale questionnaires, the responses varied on almost all items and there were variations between supervisor and trainee responses. Yet surprisingly, the report ends with no recommendations or summaries on the provision of training, it only comments on future changes to the questionnaire and its ongoing use by the GMC.

By April 2007 wide-spread concerns prompted an external enquiry into the MMC established by the Secretary of State for Health culminating in a report – "Aspiring for Excellence" (Tooke, 2007). This has become widely referred to as "The Tooke Report". At the launch of the report Tooke's final power point expresses the tone of the report.

> *From this damaging episode for British Medicine must come a recommitment to optimal standards of postgraduate medical education and training. This will require a new partnership between Department of Health and the profession, and health and education. An aspiration to excellence must prevail in the interests of patients (Tooke, 2007).*

Much of the criticism and recommendations focus on the organisation, administration and governance of the foundation years, and mechanisms for progression to the next level of training (registrar training), neither of which are relevant to this thesis or the NZ context. What is relevant here is that the Tooke report considered that the foundation curriculum is commendable for its stage of development. The emphasis on workplace learning and self-directed learning was acknowledged as positive, although there were concerns that assessment was not standardised and is regarded as a tick box exercise. The report noted that one of the dilemmas for the future is the reduced work hours (due to changes in employment conditions for doctors). The foundation school directors submitted evidence during consultation that 12 months experience no longer guarantees that a doctor at registration has the competence that they had two years prior (presumably due to fewer work hours and fewer exposure to cases). At the same time as the Tooke inquiry, the issues of junior doctors work hours were being addressed in the UK and Europe leading to changes in working patterns that were impacting on these early years of work experience and workplace training. The shift from a traditional on-call pattern to shift work was leading to concerns that a reduction in the quantity of time available to gain experience was affecting the quality of learning. Authors such as Carr (2003)

were expressing concerns that doctors in training are doing fewer hours but intensity (as in the demands of patient care) had increased and that this was leading to less time and opportunity for reflection, less experiential learning and less time for interaction with colleagues. Carr (2007) comments that; " previously, shared learning within the medical team was a common way of learning, reviewing cases seen with one's registrar while on call and the presenting these to the consultant ward round was a learning opportunity" (p. 622). He claims these learning opportunities are being eroded by workload intensity. Other UK authors have commented on the impact of changes to workload on opportunities for experience-based learning, but results are conflicting and are often 'point of view' rather than research-based discussions (Scallon, 2002).

Overall, the Tooke report identified eight key issues; many of which are not relevant to this thesis; howeve, one issue is particularly worthy of note. The report commented that there is currently no consensus on the educational principles guiding postgraduate medical training, and consultation on the interim report revealed that " the service contribution of trainees needs to be recast as an integral part of training, supported by highly professional education and feedback which trusts/hospitals are motivated to provide" (Tooke, 2007 p. 18). It appears that NZ will not find tried and tested solutions to the provision of supervision in the intern years by looking to UK models for medical education at this point.

Jan Grant (2007) published an article in Australia commenting on the UK experience with the introduction of the foundation programme just prior to the release of the "The Tooke report". She was a member of the UK Postgraduate Medical Education and Training Board and had extensive involvement with establishment and ongoing monitoring of the Foundation Programme in the UK. She described the overall aim of the new system as deriving from an emphasis in medicine on team work, and the workforce imperative to train a workforce capable of working in clinical teams. The professional skills named as essential for working in a healthcare profession were: communication, ability to work as part of a team, ability to work in multi-professional practice, ability to work in partnership with patients, high standards of clinical governance and patient safety, time management and decision making skills. One of the agendas in the UK reforms was to reduce the period of medical apprenticeship by one year. This was strongly opposed by the medical community and Grant appears to now agree, making the observation that learning to be a doctor requires experiencing clinical practice and acquiring the knowledge and skill to be an independent practitioner, all of which takes time and cannot be greatly abbreviated (Grant 2007). She also points out that postgraduate medical

training takes place in the context of the health service and the interdependency of training and service must be considered at all points. She warns that the ability of the highly regulated service to accommodate intensified training, extensive workplace-based assessments, planned experience, appraisal and the time for off the job learning requires realistic analysis, planning and funding. Protection of adequate clinical experience is paramount, so is a variety of experience to allow exposure to a range of medical career options, and the importance of supervision and constructive feedback has been highlighted by the UK foundation programme experience. She hints that this has not occurred to a satisfactory level in the UK.

At the same time other UK commentators were going further and suggesting that the foundation programme had lost its way (Madden & Madden, 2007). Two years prior, in a letter to the British Medical Journal in September 2005 (the end of the first year of the foundation programme) Richard Hays (2005) warned that for the Foundation Programme to continue successfully there was a requirement for genuine academic support (e.g. supervisor training, planning and supporting learning, work-based assessment, release time for supervisors and interns etc.) throughout the entire health system. Other criticism focuses on the design of the foundation programme. For example, Fish and Coles (2005) accuse the developers of the UK foundation curriculum of basing it on a skewed educational logic as they find no understanding or appreciation of the nature of practice in the curriculum. “Without an understanding and an appreciation of the real nature of the practice in question and its underlying values, a curriculum for that practice can never be soundly based” (Fish & Coles, 2005, p. 104).

1.6.3 DEVELOPMENTS IN AUSTRALIA

The UK (and European) issues are mirrored in the southern hemisphere. Australian literature is calling for change and is describing similar problems with the traditional apprenticeship model as those identified in the northern hemisphere (McGrath, Graham & Crotty et al, 2006; Paltridge, 2006; Dowton, Stokes, Rawstron et al, 2005; Olson, Hill & Newby, 2005; Crotty, 2005). Lack of motivation due to fatigue, and the extended hours worked byconsultants who supervise interns have been blamed for the failure to provide necessary supervision and feedback. Changes to the work conditions of interns have not helped, as this has reduced contact with supervisors and also the range of experiences available; an Australian Medical Association (2001) survey indicated that reduced hours of work had a negative effect on training.

In Australia responsibility for intern training rests with the Post Graduate Medical Education Council in each state. The National Training and Assessment Guidelines for Junior Doctors (CPMEC, 2003) includes a one page section on supervision that highlights:

- the need for direct supervision at all times
- supervision to allow graded opportunities for independent decision making
- contact that is sufficient to perform a valid assessment of performance by direct observation
- position descriptions for supervisors.

In November 2005, the Confederation of Postgraduate Medical Education Councils (CPMEC) convened a writing group which launched the Australian PGY1/2 (Intern) curriculum document in October 2006. The Australian Curriculum Framework for Junior Doctors (2006) is an educational template that identifies the core competencies and capabilities necessary to provide quality health care. It bridges undergraduate curricula and professional training requirements, and is intended to assist education providers, clinical teachers and employers to provide a structured and planned programme of education for junior doctors. The working group states that the curriculum document is intended to support practice-based, opportunistic and continuous learning and to enable individual doctors to assess their education and training needs. It is expected that interns are actively supervised in the workplace over two to three years with an increase in responsibility and a corresponding reduction in supervision. There is mention of recognition of prior learning, clear outcomes, the need for regular feedback, opportunities for reflection and the need to develop assessment tools (Graham et al 2007). While it provides a framework of competency-based standards and an opportunity for national consistency, and stresses the importance of clinical experience and ongoing effective supervision, it does not address issues of how to provide supervision within current hospital structures.

Noting the same gap, Gleason and colleagues (2007) bring a junior doctor's perspective to the discussion stressing the importance of the provision of expert supervision calling for supervisors to be paid, and having the role included in consultant's job descriptions. They argue that the intern years should not replicate or replace university learning, but reinforce and revisit it, taking advantage of the clinical learning environment; and that effective learning occurs through the integration of general medical knowledge, skills and attitudes into everyday clinical practise supported by an adequately resourced education programme with supervision and time for learning. They state:

> *Responsibility for training should be a partnership between employing hospitals, training governance bodies and doctors, so that a disproportional amount of work does not fall on the individual prevocational doctor (p. 115).*

1.7 CURRENT PROPOSALS FOR REFORM IN NEW ZEALAND

In NZ, a growing dissatisfaction with the clinical pre-registration year is reflected in the literature (Old, Naden & Child, 2006; Ardagh, 2006; Thwaites & Sheehan, 2006; Ministry of Health, 2006). The NZ report of the Ministers' Workforce Taskforce (Ministry of Health NZ, 2007) recognises the importance of a continuum of education in medicine and the need to address concerns about learning and skill development in the intern years. Service and training tensions are recognised in the report:

> *The difficulties for training in clinical settings created by the inherent tension between service delivery and training needs, the changing service delivery patterns in public hospitals and the implications of industrial agreements over the last 20 years, are putting pressure on the current apprenticeship model (p. 4).*

1.7.1 THE MEDICAL TRAINING BOARD

The Medical Training Board (MTB) was established in 2007 by the Minister of Health and the Minister for Tertiary Education in response to a recommendation from the Workforce Taskforce which reported to the Ministers in May 2007 ("Reshaping Medical Education and Training to meet the Challenges of the 21st Century", 2007). The task force identified key workforce issues, one of which was that the quality and relevance of medical education and training could be improved by greater continuity between undergraduate medical education and subsequent clinical training (or internship), and through increased responsiveness of the whole system to the needs of the health sector. They noted the difficulties for training in clinical settings created by the service verses training tensions, the changing patterns of service delivery and the implications of industrial agreements (reducing hours worked) over

the last 20 years, claiming these are putting pressure on the current apprenticeship (traditional) model, (again apprenticeship was not defined). Calls for increased interprofessional collaboration in healthcare are also becoming more insistent, and the educational and financial drives to diversify the workforce, to develop new roles and extend existing roles are gaining more ground in New Zealand (Boyd & Horne, 2008, McKimm, Sheehan, Poole, Barrow & Dockerty, 2010).

The MTB was charged with providing strategic oversight of the education and training of medical practitioners. This board consulted on a New Zealand framework for medical education for the intern years and released a draft curriculum for consultation in December 2008 (Medical Training Board, 2008b), which describes competencies and possible assessment methods, and draws heavily on the Australian curriculum document. It states on page one of the framework document, that the purpose of the paper is to encourage discussion and that the MCNZ has not endorsed the framework. Like the Australian document it describes competencies, suggests levels of competence for stages or "way points" in the continuum of medical education, and assessment methods. It makes little comment about supervision or how it should be provided beyond stating its importance, the need for supervisors to be trained and three recommended extensions to their current role (assessing, ensuring adequate clinical experiences and arranging a work programme for trainees (Medical Training Board, 2008a, p. 58). The framework document refers to the apprenticeship model (again without defining this) and states that:

> *Successive reports on medical education and training have confirmed that although it has its roots in the 18th century it is still the most appropriate training format for trainee doctors. The reports have recognized, however that service delivery today is vastly different than it was in the 18th century and even as it was 10 years ago (page iv).* (The reports to which they refer are not cited)

The MTB was replaced in 2009 by Health Workforce New Zealand to provide a single, coordinated response to improve training, recruitment and retention of New Zealand's health workforce. So far there has been no movement on the recommendations of the MTB. Nor have they made any formal statement on the growing international agenda of collaborative care and interprofessional learning.

1.7.2 MAORI HEALTH AND EQUITY

Equity is a key foundation of NZ health policy (King, 2000, Ministry of Health, 2002), yet ethnic disparities in health remain (Ministry of Health, 2002), and in NZ contraven the Treaty of Waitangi (Reid, Robson, Jones, 2000) and indigenous rights (Human Rights Act, 1993). Health education and training have an important role to play in addressing these shortfalls (Jones, Piama, Huria, Poole, McKimm, Pinnock & Reid, 2010). All health professional training needs to ensure that those registered to practice have, and maintain, the competencies to improve Maori health and reduce inequities (Bacal, Jansen, Smith, 2006). Recent educational developments have seen Hauora Maori (Maori Health) established as a discrete thread in the undergraduate medical curriculum in both Auckland and Otago universities. Much progress has been made, but particular issues still arise in clinical settings where supervisors are responsible for assessing Maori health competencies, especially where supervisors feel unprepared to assess cultural competency (Jones, Piama, Huria, Poole, McKimm, Pinnock & Reid, 2010). If assessment of cultural competency is an issue for the undergraduate programme, given that the same consultants supervise interns, then the issue is likely to carry over to internship where it is a competency to be demonstrated prior to registration. The MCNZ certainly have an expectation that this will be assessed (MCNZ, 2006). It is important that the work achieved in undergraduate programmes is not lost in the pressure of practice environments during internship where senior medical practitioners' discourse and even practice may be less than vigilant in assessing or even valuing cultural competence. As part of an overarching strategy for Maori health, the Ministry of Health (2006) has identified Maori workforce development as a key goal and there are a number of initiatives in place to support Maori students and health professionals. These need to be embraced, and any conceptual and structural framework for internship training needs to be consistent with Maori workforce initiatives.

1.7.3 THE COLLABORATIVE CARE AND INTERPROFESSIONAL AGENDA

Since the late 1970s, interprofessional collaboration has had high level policy impetus from international bodies and national governments, emphasising the need for health workers to work together for effective health care. Although not all healthcare teams comprise mixed professional groups, the international drive towards integrated health and public services and, in NZ, planning for integrated family health centres means that effective healthcare includes interprofessional teams as the cornerstone of the health workforce (Boyd & Horne, 2008).

In 1988, the World Health Organisation (WHO) suggested that if health professionals learn together, and learn to collaborate as students, they are more likely to work together effectively in clinical or work-based teams (WHO, 1998). The emphasis on interprofessional education (IPE) leading to effective team working was reiterated in a number of policy documents and frameworks for action and also supported by a growing literature on IPE and interprofessional care (Hammick, Freeth, Koppel, Reeves & Barr, 2007). The most recent, and perhaps the most authoritative and comprehensive consideration of the role and importance of IPE comes in a recent WHO report. In its wide-ranging study stimulated by the need to address the global workforce challenge, the WHO considered a range of literature (including a systematic review) and research projects, and carried out a wide consultation culminating in the Framework for Action on Interprofessional Education and Collaborative Practice launched in 2010 (Health Professions Network Nursing and Midwifery Office within the Department of Human Resources for Health, 2010). This report emphasises the imperative for increased collaborative healthcare practice to strengthen health systems and health outcomes, and links the development of collaborative-practice-ready health care professionals to the development and implementation of effective IPE programmes. In response to policy changes, many professional and statutory bodies include an emphasis on team working, collaboration and communication in their professional standards (General Medical Council (UK), 2007*;* Australian Medical Council, 2009; Royal College of Physicians and Surgeons of Canada, 2005**).**

1.8 THE FACETS OF THE PROBLEM

The previous sections have shown that the landscape of medical education has, and is still, changing and because of this, internship has been spotlighted as an area of medical education that needs to change. A number of government-led reviews, reform and professional commentary, and research have been published and the problem is not a single problem it is multifaceted. The issues identified are summarised below.

1. Healthcare organisations are under pressure, the organisation of work (roster and shift work) means that learning opportunities, especially time to work and meet with a supervisor as part of a master/apprentice relationship is being eroded by shorter patient stays, high acuity patients and workload intensity which is compounded

further with reductions in the working hours of junior doctors. This is seen as undermining the supervisory relationship.

2. There is no consistent or agreed educational framework, and therefore no consensus on the educational principles guiding clinical education and supervision. Where this has been attempted in the UK, guiding principles have been drawn primarily from academic undergraduate programmes with little understanding of, or reference to, either theory or non-theory notions of practice based learning.

3. There is a slow, but determined, agenda to reform the way healthcare is delivered. This is a shift from care delivered from professional silos to interprofessional, collaborative, team-based care. This shifts the emphasis from individual performance to an imperative to train a workforce capable of working in interprofessional clinical teams. Skills for teamwork and collaborative practice are influencing health curriculum and practice standards worldwide. In NZ, the provision of a Maori health workforce and medical staff able to address health disparities in the Maori population, is also a factor in calls for reform.

1.9 THE WAY FORWARD

As indicated, both internationally and in NZ, the way the clinical component of medical training is delivered is being re-examined and strengthened. Service demands and changes to work patterns require new approaches and the emerging workplace curricula are signalling a change in focus, proposing a new set of competencies for the pre-registration years that address interprofessional team work, and changing models of healthcare delivery with patient and community partnerships recognised. Clinical experience is highly valued, and there is a common theme that "learners learn more effectively when they are responsible for their actions, and it has always been the early hospital years that allowed graduates to develop the confidence to become competent practitioners" (Hays, 2005 p. 465).

As healthcare delivery is changing the traditional supervision strategies that draw on individualistic learning paradigms (Regehr, 2004; Bleakley, 2006) are becoming less useful and less feasible to deliver. Until recently, little consideration has been given to the social

context of teaching and learning in healthcare teams, or to knowledge that is social, collaborative and team-based. Alan Bleakley (2006) states:

> *Learning theory has generated a large literature across a variety of disciplines. In medical education, however what is sampled from learning theory is biased to individualistic, psychological models aligned to androgogy (p. 151).*

However there has been a growing, if limited, interest recently in utilising social theories of learning, to offer exploratory and explanatory frameworks for investigating and describing learning in clinical teams. (Cook, Gerrish, Clark, 2001; Molyneaux, 2001; Ducanis & Golin, 1979; Mickan, Rodger, 2000; Bleakley, Hobbs, Boyden, Walsh, 2004; Sheehan, Robertson, Ormond, 2007) and for exploring learning and supervision in clinical practice (Maudsley & Strivens, 2000; Kilminster, Jolly, Van der Vleuten, 2002; Jaye & Egan, 2006; Bate & Robert 2003, Dornan, 2005; Teunissen, 2008) but none of these authors have extended this work to supervision.

It is proposed that conceptualisations of learning and apprenticeship (new) systems that take into account the dynamic and complex nature of team based work environments provide the best fit framework for a model of clinical supervision for the intern years of medical training. Most recently, concurrent work by Pim Teunissen intersects with the ideas expressed and tested in this thesis. In his PhD, the concluding chapter is titled “A framework of workplace learning in medical education.”(2008). Here, he points out that medical education researchers have traditionally built their work on cognitive discourses, but notes a shift to, and interest in, more socio-cultural discourse. His comments support the approach taken in this thesis, as he proposes that socio-cultural perspectives offer a framework for medical educators to utilise, in particular, the concept of peripheral participation in communities of practice. Maori educators, (eg MacFarlane, 2004) have noted similarities between socio-cultural learning theory and Maori pedagogy suggesting that it may be compatible with a Maori world view. For these reasons, a socio-cultural perspective is favoured in this thesis as a balance to the individual perceptive that has been dominant in the medical literature. The thesis seeks to balance the traditional bias; not because it is asserted that supervisory practice can be viewed solely in terms of the social connection, relationships, systems, and discourses, but because this perceptive is needed alongside the understanding of the traditionally researched behavioural and cognitive perspectives. If traditional perspectives are recognised and included

rather than disregarded and overridden, social perspectives can provide an alternative and complementary framework that the supervisor can blend into practice, increasing the range of tools and resources at their disposal.

This thesis responds to the problem described in this chapter, (a problem for intern supervisors and organisations accredited to deliver intern programmes) by proposing that a socio-cultural description of learning in clinical workplaces can provide a theoretical framework that is useful to explain the learning processes in clinical workplaces, in clinical teams and to develop a structure for supervision. This is tested through the development of a framework and a model of supervision. Kilminster, Jolly & Van der Vleuten (2002) state that any such a model will need toprovide:

1. an explanation for the learning processes involved in clinical, work-based learning
2. an explanation of how professionals develop expertise
3. a structure for supervision (eg that emphases how often, in what circumstances, the activities involved) (p. 388).

The solution proposed takes these parameters into account and adopts the premise that supervision is about relationships, structure (tasks and functions) and context (Holloway, 1995). It acknowledges that it is the changing context of intern supervision that is at the heart of the problem and that this context is influenced by changes in the structure of the medical workforce, trends towards team-based interprofessional practice, patient centred and family centred models care of service delivery. It also acknowledges the learning environment of internship with placements occurring in a vast range of clinical contexts.

This thesis proposes a solution using socio-cultural learning theory to understand learning in internship in order to offer an explanation of learning that can inform supervisory practice; and the development of a model of learning and a supervision framework to guide and inform the practice of interns, supervisors and managers in health provider organisations.

1.10 STRUCTURE OF THE THESIS

The thesis is presented in three parts. Part I focuses on the relationships and tasks of supervision through a series of studies that seek to enrich the traditional perspective on workplace learning and supervision in medicine. This is achieved by gaining new

understandings and perspectives on clinical learning, with a focus on the supervisory relationships that could be translated into educational principles, processes and resources for intern supervisors. It begins with an exploration of learning as participation and engagement in clinical practice, and in so doing it focuses on the activity and the experience of learning and supervision, first from the learners' perspective, and then from the supervisors' perspective. A series of studies exploring interns' perception of learning in clinical areas show that a social learning perspective can be applied to internship. An initial exploratory, qualitative study shows that interns recognise and value a participatory learning environment, and supervision strategies that promote participation and engagement and which are linked to knowledge sharing and identity formation. From these outcomes a model is developed that sets out the critical components that ensure clinical settings are positive learning environments that encourage social interaction. Two further studies with learners, test the generalisability and usability of the model in practice environments, and a tool for evaluation and quality monitoring of clinical learning is produced as a resource for supervisors. This set of studies focuses on a key aspect of supervision (relationships), and in attempting to be useful for supervisors has paid attention to the scientific traditions of an imperative of simplicity and generalisability (Regehr, 2010). These studies provide a set of tools, and simple, tested strategies for supervision, but what they cannot do (given the contextual complexity and diversity of context), is offer definitive answers, or 'one size fits all' strategies for all contexts.

The second part of the thesis (Part II) focuses on the structure and context of supervision, aligning to what Regehr describes as "the generation of rich understandings of the complex environments in which our collective problems are uniquely embedded" (2010, p. 31). The second chapter in Part II draws on Lave and Wenger's concept of communities of practice (cops) as the theoretical framework for this work and commences with a critical review of this concept and its applicability to the environment of internship. The CoP concept is then used to identify three sites where CoP occurs through dialogue with practitioners.

In Part III the two parts of the thesis that started out as separate and independent lines of enquiry come together and influence each other. Having established in Part II (Chapters 10 and 11) that situated learning theory (Lave and Wenger 1991) and Wenger's (1998) concept of a CoP is applicable as a framework for describing the context of internship, Chapter 12 draws on the rich description of the organisational learning context provided in Chapter 9, and the outcomes of the studies of learning and supervision in internship in Part 1, to develop a

framework of supervisory practice and to describe the roles and responsibilities of supervisors and interns within this framework.

First, it is deemed important to identify key themes in the medical education research not just around supervision, but also about learning in clinical workplaces in order to establish a sense of context, and to understand clinical learning and supervision, and its traditions. Therefore, the following chapter summarises and evaluates previous research on learning in internship to next provide; an overview of what is known to be important for a favourable clinical learning environment, what problems can occur on placement, and gaps in the current research. Chapter 3 explores the clinical environment as a learning environment and identifies the demands placed on an intern. These chapters inform the development of a specification for a robust conceptual model of supervision for interns in NZ. Chapter 4 provides an overview of the theoretical framework for the thesis, the methodology, and an overview of the methods utilised.

CHAPTER 2:
LITERATURE ON CLINICAL LEARNING AND SUPERVISION IN MEDICINE

Chapter 1 shows that although internationally internship has been subject to cycles of review and reform since the turn of the century, the problems are not all resolved. There is a widely held view amongst clinicians, medical researchers and medical educators that there is little evidence available to support or reject educational change and innovations but others argue that this is only true in some areas (Harden, Grant, Buckley, Hart, 2000). Hargreaves (1996) has suggested that evidence such as exists is frequently ignored and that another gap exists, this time between educational researchers and the users of educational research. At times it is the restricted nature of the search (for example, using Medline only) that excludes useful studies; at other times it is the use of rigorous exclusion criteria based on empirical sciences and criteria used in best evidence medical reviews (eg Cochrane reviews) that exclude descriptive and qualitative studies that may help educators address educational questions (Harden et al 2000).

In seeking to avoid this error, this chapter presents a thematic review of the medical education literature that focuses on supervision and learning in clinical settings. It is not intended to provide a comprehensive list of the available literature, but to identify research pertinent to learning in the intern years and to synthesize key findings. The aim was not only to identify and summarise the empirical evidence available, but also to understand what had attracted the interest of medical educators as practitioners as well as researchers over a 20 year period in order to understand the key educational frameworks and theories they drew on as well as the context of internship from the perspective of the issues that they found worthy of exploring and addressing in their practice. With this in mind, the initial literature search was undertaken to identify studies exploring learning and supervision in clinical environments and addressing component parts of the process (e.g. attributes of supervisors, feedback). Papers written in the context of undergraduate clinical medical education or registrar training were also included when the context was well described and assessed as applicable to internship.

Preliminary questions used were:

1. What is known about learning in clinical environments?
2. What are the models of supervision used in medicine?
3. What are the attributes of ‘good’ supervisors?
4. What do supervisors actually do?

2.1 LITERATURE SEARCH METHODS

The initial searches were conducted within the Medline, PubMed, Cinahl and data bases using the Ovid platform and MESH terms: medical education, intern, internship, preceptorship, beginning practitioners, clinical teaching, clinical supervision, supervision, workplace learning, learning environments, team learning, community of practice and clinical teams. A second literature search included the Web of Science data base and used the following key words: medical education, inter-professional learning, team learning, peer learning internship, trainee, supervisor, clinical learning, learning environments, attributes of a supervisor and workplace learning. A manual search of articles collected by the author over the last six years for teaching purposes was used to generate search descriptors.

Journals accessed included not only medical education journals (e.g. Academic Medicine, Medical Education, and Medical Teacher, Teaching and Learning in Medicine), but also literature and comment in professional journals (eg British Medical Journal, New Zealand Medical Journal, Medical Journal of Australia). Professional medical journals were included because this is where practicing clinician supervisors who are not educationalists often publish, (e.g. British Medical Journal, Australian Medical Journal, New Zealand Medical Journal, Journal of the American Medical Association). Only peer reviewed journal articles, in English (or translated) were included.

2.1.1 INCLUSION, EXCLUSION CRITERIA

Rigorous exclusion criteria relating to quality of research, target group, sample size were not applied,opinion-based as well as evidence-based articles were included as the goal was to cast the net as widely as possible in order to answer the four preliminary questions and scope the existing literature. When opinion-based literature was included the quality criteria developed by Harden et al (2000) were used. While Harden found this simple framework problematic

and replaced it by a multidimensional framework for the assessment of best evidence medical education (BEME), it proved useful for selecting articles within the context of this review. Articles were included when they were based on educational principles, professional experience, case studies, cohorts and related methods, and not only on randomized controlled trials. Articles were included with caution when evidence was based on professional judgement – the beliefs and values of experienced teachers were included when there was a consensus of opinions based on reflections by experienced clinical educators. Hence, a broad and sensitive literature search strategy was adopted where the maximum number of relevant published studies was identified. Articles on academic curricula, structure of the profession, selection and entry criteria, summative assessment of undergraduate programmes, didactic teaching and evaluation practices. Distance and simulation learning were excluded as the focus was clinical learning in workplace environments. Primary care studies of rural placement were excluded as interns in NZ are not placed in these environments.

Other articles have been identified by regular searches in Academic Medicine, Medical Education, and Medical Teacher, Teaching and Learning in Medicine, using Ovid updates and MESH terms: intern, internship, beginning practitioners, clinical teaching, clinical supervision, supervision, workplace learning, learning environments, team learning, community of practice. Gogle internet searches identified Postgraduate Medical College, government and professional web sites (e.g. MCNZ, NZ Ministry of Health, Confederation of Australian Postgraduate Medical Council) and publications, definitions and descriptions of apprenticeship and clinical training with their associated links to other sites.

2.1.2 LITERATURE REVIEW METHODS

Papers were sorted into themes. These themes have been retained as the structure of the review and are presented from general (reviews) to more specific content (feedback and safety).

1. Reviews, summaries and comment on medical education research
2. Learning environment
3. Attributes of effective medical supervisors and teachers
4. Learning from experience
5. Feedback
6. Patient safety and the transition from novices to competent practitioner

2.2 REVIEWS AND GENERAL COMMENTS ON CLINICAL LEARNING AND SUPERVISION IN THE LITERATURE

An extensive review of the literature by Kilminster & Jolly (2000) demonstrated that there is a limited amount of published literature addressing supervision and, in particular, few empirical studies. Taking a wider focus, the literature on clinical education in medicine offers diverse perspectives on practitioner development that are often linked to a particular author's view of workplace competence as well as their educational perspective. The predominant technical-functional and individualistic models stress the needs for skill development, to identify core competencies and skills, set objectives or outcomes and the role of competency based assessment and credentialling (Regehr, 2004; Newble, 1992). Authors who acknowledge the work of Knowles (1980, 1984) advocate the use of educational strategies such as objectives, training plans and learning contracts as tools to guide and assess learning during clinical placement. Problem-based learning, competency, personal and professional development and assessment are common themes.

Many current undergraduate models of medical education which are based on problem-based learning models of curriculum design and medical education have contributed much to the wider education community in this field (Davis, & Harden, 1999; Wood, 2003; Spencer & Jordan, 1999; Colliver, 2000; Dean, Barrat, Hendry & Lyon, 2003). Richards, as early as 1986, was advocating that learning in the context of medical practice should be structured in ways that seek to coach learners to problem-solve in clinical solutions (Richards, 1986).

The competency-based movement has influenced medicine and recent dissatisfaction with the clinical based component of medical education in NZ has drawn comment on the competence of graduates, and therefore on the effectiveness of the clinical component of undergraduate medical education in NZ (Old, Naden & Child, 2006; Ardagh, 2006; Thwaites & Sheehan, 2006). Both internationally and locally, legislation (e.g. The Health Professional Competency Act (HPCA) in NZ, 2003) requiring the supervision of health professionals, especially new graduates, has driven interest in supervision and clinical learning environments, attracting more comment than research. Concerns also relate to the potential dangers of reducing practice to protocols and a series of competency-based performances that are standards-based and rule-governed. There is a concern that this undermines the more complex thinking and

interactive patient/client relationships and teamwork that underpins patient-centred care and that promotes the type of enquiry that can enhance and develop practice. The learning necessary to be a professional is more than an intellectual endeavour as professionals must learn not only to think in certain ways and to perform practical skills but also to act in ways consistent with the values and conventions of the profession.

The so-called 'progressive models' stress the importance of simultaneous personal and professional development and skills associated with clinical reasoning and reflective practice (Mackenzie 2002). Learning in a clinical environment is cited as important for the development of such professional competence and professionalism, because it immerses the participant in an authentic workplace setting where the two aspects of professional performance necessarily coalesce. There are important context-specific, situational requirements that competent performers respond to in everyday clinical practice. It is not possible to predict or reproduce the uniqueness of real cases or the context of the clinical environment in academic environments. It follows that learning for competent practice requires engagement with the clinical arena and the motivation to actively participate. Interns learn because they need to manage the case in order to solve the patient's problem (Daley, 1999; Teunissen, Scheele, Scherpbier, et al, 2007).

Medical education research studies and trends highlighted in the following sections are those most frequently published and as such represent areas o medical education that researchers have identified as worthy of investing their energies in, and where there is a cluster of supporting evidence to guide teaching and supervisory practice.

2.3 THE LEARNING ENVIRONMENT

Studies exploring and describing the clinical area as a learning environment were dominant in the 1990s. The first attempts to examine and structure the content of clinical clerkships involved the introduction of patient logbooks in the 1900s. These logbooks proved their value in comparing and identifying inter-site and inter-student differences in patient encounters and have shed light on the range of signs, symptoms and diseases seen during rotations in a range of specific contexts (Dolmans, Schmidt, Van der Beek, Beintema & Gerver, 1999; McGraw & Lord, 1997; McLeod & Snell, 1991; Raghoebar-Krieger & Bender, 1997; Patricoski, Shannon, & Doyle, 1998; Ferrell, 1991; Gruppen, Wisdom, Anderson, & Woolliscroft, 1993;

Hobbs, Mongam & Miller, 1987). While these studies were conducted in undergraduate environments and were largely descriptive, the clinical environments in which they are conducted are the same environments that interns work and learn in today so the outcomes are likely to be generalisable to internship.

Butterfield and Libertin (1993) demonstrated that students' knowledge increases significantly during internships, and Schwartz and Donnelly (1994) confirmed that students who started with approximately the same knowledge levels on the pre-test ended with very different knowledge levels on the post-test. This suggests that the learning environment has consequences for learning outcomes. Nevertheless, finding a direct relationship between the volume of patient encounters and the learning outcomes of the student is more difficult. Studies that have attempted to find correlations between the number or variety of patients seen during clerkships and performance in end-of-clerkship examinations have been unable to do so (Van Leeuwen, Dusman, Mol, Pollemans, Drop, Grol & Van der Vleuten, 1997; McManus, Richards, Winder & Sproston, 1998). The observed lack of correlations was attributed to the nature of the examinations given: the written knowledge-based examinations may have failed to assess skills and knowledge gained from clinical experience. In Michigan, Gruppen, Wisdom, Anderson, & Woolliscroft (1993) assessed students' clinical knowledge at the end of a clerkship with what was probably a more valid test. The investigators used a diagnostic recognition test of common clinical problems and related the scores to the clinical experiences of the students. Although the increase in learning outcomes was significant, again no correlation with clinical experience was found. Despite these results students consider that exposure to real patients is important. For example, Dolmans and colleagues evaluated medical students' perceptions in a European study of the effectiveness of clerkships and found that the degree of perceived effectiveness depended on the number and variety of patients, and the quality of supervision (Dolmans, Wolfhagen, Essed, Scherpbier & Van der Vleuten. 2002). A positive effect of supervision is also supported by Griffith, Wilson, Haist & Ramsbottom-Lucier, 1997 & 1998) who found that teaching quality (an aspect of supervision) and supportive senior staff improved student performance during internships (USA) and Dornan (2006) who found that effective learning in clinical practice relied strongly on good clinical supervision (UK).

It seems intuitively that clinical competence is dependent on high-quality supervised training in combination with effective repetitive experiences through the exposure to a high volume of cases. However, clinical years are not uniform for new graduates: rotations are carried out at

different hospital sites, with different supervisors and with variations in patient mix. This variation in clinical education between hospital sites and between students highlights concerns about consistency, usually followed by calls for reform (Nutter, & Whitcomb, 2001). Yet it also resembles the reality of the workplace where there is variation, and staff move between specialties and organisations.

Schultz and Kirby (2004) under took a large survey of both final year medical students and supervisors across five sites in the UK asking about site characteristics and supervisor behaviours. They found that having an adequate number and variety of patients was an important characteristic of effective learning environments. It is interesting to note that the role of the clinical supervisor was considered even more important when the number of patients and variation in diseases were low. This is supported by Châtenay, Maguire, Skakun, Chang, Cook & Warnock (1996) who failed to find any differences between students (in the USA) with little clinical experience, and students with much clinical experience on end-of clerkship examinations. They found that examination performance was influenced by a combination of more clinical experience in emergency admissions and feedback given by the supervisor.

A multi-method case study (questionnaire and interview) with undergraduates in the Netherlands (Boor et al, 2008) undertaken to illuminate medical students' perceptions of the clinical learning environment, concluded that differences between clinical learning environments appeared to be related to differing approaches to participation. Departments were found to impede student development by denying them access to critical information, or not including them in the departmental team and thus particpation was a central theme. The study provides clues as to what constitutes a favourable environment for undergraduate learners and the authors recommend this study be reproduced with postgraduate learners. While this study was undertaken in the Netherlands there is enough description of context to suggest the findings can be generalised to the NZ context. This study also provides support for the socio-cultural conceptual approach undertaken within this thesis.

In summary, the variation in students' clinical experiences during clerkships is a frequently identified problem, but the site characteristics responsible for this variation are largely unknown. Researchers who have attempted to find direct relationships between patient encounters and student competence have been unsuccessful. While evidence in the literature points towards the importance of clinical supervision on student learning, the relationships

between clinical supervision, clinical encounters and student competence remain unclear. The lack of a consistent model for supervision, and as a consequence, consistent practices in medicine, may have contributed to the lack of conclusions around the interaction between the factors in the learning environment. There is however evidence that the quality of supervision is a key factor in clinical learning, and recent work points to the potential role of participation and involvement in the climate of learning, but there is a lack of concrete, practical or structural information for supervisors to draw on. There has, however, been a number of research studies undertaken to identify the attributes of an effective supervisor.

2.4 ATTRIBUTES OF EFFECTIVE MEDICAL SUPERVISORS AND TEACHERS

A frequent approach to researching supervision in medicine is to gather data (usually via questionnaire or survey) in order to describe what constitutes effective performance in an individual supervisor who is providing expert advice. Participants are asked about the attributes they desire in a clinical supervisor (for example, Onuoha, 1994; Neville & French 1991; Harrel in Jacobs & Lojigan, 1994). The subjects identify and provide instances of the qualities they seek in a supervisor and these have included modelling competent practice, demonstrating the role, planning learning experience, explaining their own expectations of the supervisee, giving feedback, allowing the supervisee a measure of independence, and encouraging self-evaluation through questioning.

More recently, Kilminster, Cottrell, Grant and Jolly (2007) published a guide that reviews what is known about clinical supervision practice through a literature review and a questionnaire survey. They describe 15 attributes of effective supervisors: these include, being able to observe and reflect on practice, give constructive feedback, problem-solve, motivate, foster autonomy, create a supportive environment. This review identified the need for a definition and explicit guidelines, and noted that there is significant variation in the provision of supervision within clinical workplaces.

From a number of studies that surveyed learners in clinical environments, it appears that effective supervisors and teachers are positive role models. They are dynamic enthusiastic teachers who are supportive of learners and colleagues, they are familiar with adult learning principles, open minded, humanitarian and they inspire trust and respect (Mann, Holmes,

Hayes, Burge, Foley & Burge, 2001; Stone, Ellers, Holmes, Orgren, Qualters & Thompson 2002; Lyon, 2004, Fernald, Staudenmaier, Tressler, Main, O'Brien-Gonzakes & Barley, 2001). They are warm to students but maintain a distance appropriate to their seniority, and they model relationships with patients (Tiberius, Sinai & Flak, 2002; Yonke & Lemon, 1993; Lempp & Seale, 2004; Fernald et al 2001; Elnicki, Kolarik & Bardella, 2003. They are confident in both clinical and teaching skills (Ramani, Orlander, Strunin & Barber, 2003; Bursari, Scherpbier, van der Vleuten & Essed, 2000) and they have time for learners and give them a sense that they are members of the team (Lyon, 2004; Price, Mitflin, Mudge & Jackson, 1994). Prideaux, Alexander & Bower et al (2000) suggest that the clinical educator must be able to undertake, demonstrate and explain good practice. While a number of these studies are limited by the use of survey instruments that are not validated, or by small sample size and specific context, they do produce consistent results. A stronger study published in 2008 (Boor, Teunissen, Scherpbier, van der Vleuten, van de Lande & Schelle, 2008) used an open questionnaire to compare views of residence (USA equivalent of interns in NZ) as to the characteristics of an ideal clinical teacher over time (in 1994 and 2003). There were 133 respondents, all obstetric and gynaecology residents. Residents preferred the "person" role (descriptors were committed, supportive, trustworthy, organiser, dialogue, personality) in both years but what is interesting for this thesis is that the supervisor role was perceived as significantly more important in 2003. While generalisability is again an issue, supervisor characteristics are of interest and relevance; these were described as approachable, stimulating, and coaches. All role (the other two roles are physician and teacher) descriptors strongly highlighted the importance of interaction in the supervisory relationship.

Also the teaching methods of effective clinical teachers were alluded to; they create a warm climate, and they question actively and involve learners; they seek to be practical, relevant, and adaptable to learners needs; and, they align teaching scripts to illness scripts to develop good diagnosticians (Irby, 1992; Irby, 1994; Schmidt, Norman & Boshuizen, 1990; Branch, Kern & Haidet, 2001). Effective clinical teachers follow a course of "co-discovery" with the learner and Reilly (2007) in what is an opinion piece draws on educational theory and previous medical education research to offer two acronyms to guide effective clinical teaching: **TALK**; **T**hink out loud, **A**ctivate the learner, **L**isten Smart, **K**eep it simple. **WALK**; **W**ear gloves [role model hands on care], **A**dapt enthusiastically, **L**ink learning to caring, **K**indle kindness. Walking "the walk" is about good role modelling and about clinical tasks and professionalism, modelling team work including modelling counterculture behaviours such as doing what are seen as nurse's duties. It is role modelling professionalism, patient-

centred care, dealing with the unexpected with calm and confidence giving encouragement and hope to the learner even when giving critical feedback. Combined with TALK it is about involving the learner, encouraging participation, listening to and valuing the novices input and most importantly it appears to keep the patient at the focus of teaching and learning.

Schultz et al (2004) surveyed both final year medical students and preceptors (supervisors) in the USA about supervisor behaviours and identified both the valued and not valued supervisor characteristics. They found the important valued characteristics for a site to be:

- an adequate number and variety of patients in care
- enthusiastic supervisors who give feedback and are willing to discuss their reasoning processes
- adequate delegate of responsibility.

Not valued was:

- reviewing case information in front of the patient (this is less and less favoured as learners advance).

The literature is not all positive: there are also references to teaching by humiliation, sexism, racism, delegation of inappropriate jobs and disrespectful behaviours displayed by supervisors (Lempp & Seale 2004; Seabrook, 2004; Radcliffe & Lester, 2003; Stark, 2003).

However, it is commonly held that experience itself is not enough for learning to occur. Wimmers, Scmidt and Splinter (2006) demonstrated that monitoring the effectiveness of clerkship by merely asking students to keep a tally of the problems and diseases they encountered without paying attention to the quality of supervision, did not contribute to student learning or clinical competence. Griffin and colleagues (2006) investigated the direct impact of quality of teaching on students' clinical competence and found a relationship between quality of teaching and performance commenting that "even the supportive guidance of other household staff leads to better performance" (p. 456). Students' perceptions were that there was no single indicator of learning rather that it was a combination of factors that included supervision and patient mix. The authors concluded that the clinical supervisor can have a stimulating effect on student learning and the students learning environment resulting in more patient encounters.

Kennedy and colleagues (Kennedy, Lingard, Baker, Kitchen & Regehr, 2007) used grounded theory to provide a theoretical model of supervision for clinical oversight (i.e. for ensuring

safe, quality patient care). Observation field work and interviews were conducted across two sites, 12 teams were observed and 65 interviews were conducted. Considerable care was given to the design of the study, and while issues of observer bias and transferability remain, this emerged as one of the strongest studies looking at the supervisor/supervisee relationship. It provides a typology of oversight activities consisting of:

- routine oversight (activities planned in advance)
- responsive oversight (in response to trainee or patient issues)
- direct patient care (supervisor moves in to provide patient care)
- back stage oversight (activities where they trainee is not aware that patient checks are being made).

This line of research answers questions about how clinical oversight works and this is certainly a part of supervision, but it is far from the whole picture of supervision for learning.

In summary, previous literature provides a consistent picture of what an effective supervisor is like and Kennedy et al (2007) provide some useful insights into actual behaviours of supervisors as they provide oversight and manage the patient safety aspect of the role. Kilmester et al (2007) describe all the attributes desired in a supervisor but as these authors note a definition and explicit guidelines for the provision of supervision within clinical workplaces are lacking.

Doing the job and therefore learning from experience is another emergent theme in the literature. It is one that has drawn on the literature outside medical education and is one area of the literature that does offer some practical strategies for supervisors.

2.5 LEARNING FROM EXPERIENCE

The clinical supervisors, and the number and range of cases are not likely to be the only variable in the clinical environments. Schon (1983, 1987), Kolb (1984) and Boud (1994) have described processes by which professionals learn from practice (experiential learning and reflection), and these have been cited by medical educators (for example Schwenck, 1987; Cox, 1988 & 1993; Fox, 1989) particularly in the late 1980s. These authors have contributed to the clinical teaching supervision literature by applying general education theory to clinical teaching, implementing it and reporting on their experience.

It is the reflection on experience and the problem-solving that occurs alongside experience that creates what Ken Cox (1988) describes as 'working knowledge'. So, in different ways these approaches to development of the clinician aim to extend and elaborate on what is learned through experience. In particular, medical practitioners exercise a complex mix of skills and understanding in the conduct of their practice. These separate skills and understandings, while often being developed in isolation from one another, need to coalesce for effective practice. It is the provision of clinical experiences that takes these separate skills and draws them together in enacting medical practice. Cox (1988) describes learning 'doctoring' as involving:

> *…the exploration of clinical working knowledge, practical skills and responsible behaviour to learn how clinical experience builds judgment, expertise and eventually wisdom in the specific context of the patient (p. 768).*

Cox (1998) argues that clinical competence is gained in the reality of supervised practice, because the experienced clinician can guide reflection and exploration of learning from real cases, and the problems those cases present. A case-based approach to learning can also provide opportunities to test clinical reasoning skills and build the required working knowledge which is an amalgam of propositional and procedural knowledge directed towards the goals of clinical practice. Working knowledge can be seen as the store of exemplars and experiences that the clinician draws on to solve the next clinical problem. These can only be developed through a repertoire of experiences that assist in the initial learning, then the reinforcement and refinement of those procedures, until they seem to be an almost unconscious response (after Anderson 1982). However, rather than being tacit they emerge from practice. Mann (1994) suggests the more varied the contexts (i.e. clinical experiences, range of patients) the deeper and more effective the repertoire of procedures and understanding is enjoyed by the practitioner. This provides the kind of experiences that develop the robust procedures that experts use with apparent ease in situations where novices flounder (Glaser, 1989). In all, these approaches to learning through authentic work activities share a common heritage of learning through participation in practice, which necessarily involves engaging with other social partners.

Moreover, this kind of learning through practice is not restricted to the initial preparation of medical practitioners. Researchers in continuing medical education describe ongoing learning

in medicine. Richards (1986) discusses learning from physician colleagues and observed that self-directed, workplace learning involved more interactions with colleagues than formal learning. Jennet et al. (1988) tested the effectiveness of a range of teaching methods in continuing medical education and identified a significant difference in the learning of those involved in small group discussions with peers. A number of studies have provided support for the positive effect of modelling by a respected peer (Jennet et al, 1988; Stross, 1979; Stross 1983; Wright & Carrese, 2003). Mulroy, Rogers, Janakiramanan & Rodriques (1998) reviewed the literature about what junior doctors want in start-of-term orientation and identified key factors as: input from the previous incumbent (preferably face to face), 'street knowledge' e.g. consultants preferences, 'tips' on how to prepare for meetings, ward practices and involvement of the whole team (including non-medical) in their orientation.

So the literature of the 80s and 90s shows that interactions with peers and more experienced counterparts in conjunction with doing the job are well established as an educational practice in medicine. This points to the importance of close interaction between the learner and the more expert or experienced others. Wilkinson and Harris's (2002) research indicated that there may be a relationship between borderline trainee interns and their experiences in taking on a professional role and getting involved with the health care team with whom they worked and learn from. It is postulated that personal factors such as rigidity, motivation and shyness influenced these interns' engagement with co-workers. However, these factors are recognised, as being just one side of what is a reciprocal relationship with the readiness and interest of individuals being one side of the coin, the other side being the workplace environment and the degree to which it invites the individual to participate.

Since 2006 there has been an interest in workplace learning at Maastrict University in the Netherlands. Tim Dornan and colleagues (Dornan, Boshuizen, King, Scherbier, 2007) developed an experienced base model linking the process and outcomes of medical students' workplace learning within a problem-based curriculum. They used grounded theory analysis of group discussions before and after strengthening workplace learning. A particular strength of this study is the coherence of the data obtained and while this study was conducted with medical students learning within a problem-based curriculum in the UK were asked to describe experiences in settings similar to that of NZ interns. The authors concluded that the core process of workplace learning is participation in practice which evolves from passive observation to performance. Supervisors assist by being both supportive and challenging and these two components are mutually reinforcing. They conclude with the concerns that the

patient safety agenda and increasing numbers of medical students may impact on clinical learning. Interns are employees of hospitals and therefore the patient safety agenda does not have the same impact although as discussed earlier the working hours and patient acuity issues threaten postgraduate learning in the same way. The context of Dornan et als' study (2007) is undergraduate learning and there is scope for similar work in postgraduate education where the issues and pressures are different, and the presence and guidance provided by an undergraduate curriculum are removed, leading to a more open and less structured learning environment. A study by Pim Teunissen and colleagues conducted in the Netherlands (Teunissen, Scheele, Scherpbier et al, 2007) makes it clear that participation in work related activities is the foundation of interns' learning and describes clinical learning as a process of: interpretation, construction of meaning, refinement and expansion of personal knowledge through workplace experience, while also accessing the codified knowledge of journals and medical texts. A follow up study (Teunissen, Boor, Scherpbier et al, 2007) asked the supervisors to comment on their interns' learning. Again the importance of participation emerged. Learning to be a medical specialist means working and acting like one and confidence was identified as a key factor. When supervisors and learners interact and discuss cases, confidence is an outcome for both; the supervisor feels more confidence in the novice and increasing self-confidence is an outcome for the novice. Kennedy et als' (2007) work on oversight discussed above, also supports this finding with the type of oversight provided being influenced by the confidence supervisors had through their engagement with the learner.

Rene Stalmeijer and colleagues (2008) found support from students for the use of a cognitive model of apprenticeship as a structure to guide clinical teaching. In their recent article (Stalmeijer et al, 2008) indicates that that the strategies proposed by Collins, Brown and Newman (1998) are recognised by learners in clinical workplaces, and are valued but inconsistently applied. These strategies are, however, individualistic in approach and are still very reliant on the presence of an expert master practitioner over time. More significantly, for this thesis, the students reported that a learning climate was an aspect that was always present, be it positive or negative, and that feeling respected was a key factor in their learning.

Reflection is relatively new concept in medicine, and Driessen, van Tartwijk and Dornan (2008) describe a process for encouraging it in clinical settings. Their article provides a definition and explanation of reflection and its value for learners along with practical strategies and examples of how to teach effective learning and foster reflective skills in

learners in clinical environments. Reflection is linked to the role of self-assessment and ongoing goal-setting and future planning of learning. This article is a useful partner to the article by Teunissen and Dornan (2008) which was written for the learner and describes how junior doctors can develop learning strategies for use throughout their working life. These two articles fill some of the gaps in literature for supervisors and learners in that they both provide useful teaching and learning strategies for learning from experience

These recent studies from researchers associated with Maastricht University support further exploration of clinical learning and supervision within a socio-cultural framework. They all investigate learning in the workplace (often at undergraduate level) and themes of participation, and the critical role of supervisor support are common. The effectiveness of learning has been linked to the effectiveness of supervision, and the studies described above have provided valuable insights about learning processes in clinical workplaces, and strategies for some components of the supervision process. However, no studies were identified that provided a framework or structure for postgraduate supervision.

A key process for effective interaction between supervisors and interns, and a key attribute for a supervisor is providing feedback, and this has attracted a lot of attention from medical education researchers.

2.6 FEEDBACK

This section focuses on the literature on informal and formal verbal feedback that is given to junior clinicians by supervisors who have been observing their performance in clinical practice. It is described as one of the most challenging areas of supervision and teaching for supervising clinicians and for learners, and it is an area that has attracted a lot of attention in the literature and promoted the development of a model for the delivery of constructive feedback. It provides a useful window through which to view authors' perspectives on supervision and learning and to note a shift toward student-centred learning.

Veloski, Boex, Grasberger, Evans and Wolfson (2007) published a review of the literature on feedback to physicians and concluded that feedback has a positive effect on their clinical performance, especially when given by a credible source over a period of time. There is also

evidence that feedback increases confidence and helps reduce distress (Vickery & Lake, 2005), and that learners are reported as valuing feedback (Dobbie & Tysinger, 2005).

Despite this general recognition of the importance of feedback, students and trainees frequently report that they do not receive enough feedback (Dobbie, & Tysinger, 2005; Branch & Paranjape, 2002). The perception that there is too little feedback may be partly explained by learners failing to recognise or remember the feedback they have received. Feedback in the workplace takes a different form and format from undergraduate feedback. However, there is evidence confirming that learners really do receive very little feedback in clinical settings (Dolmans et al, 2007; Dobbie, & Tysinger, 2005; Branch & Paranjape, 2002; Rolfe & McPherson, 1995). The amounts of feedback learners are given, and maximising the process as far as possible, is stated as an important goal for clinical supervision and teaching.

Feedback is an area where a number of models from education have been utilised. The Johari Window originally developed by Joseph Luft and Harry Ingram in 1955 (Luft, 1969) illustrated the importance of an interactive approach to feedback that includes both personal disclosure, and supervisor comments and feedback. The competency model of feedback depicts learners moving from ‘unconscious incompetence’ to ‘conscious incompetence’ (Proctor, 2001). Applying this model, feedback can be seen as helping learners recognise their failings, become conscious of their incompetence and, therefore, ready to learn. The next step is for the learner to become ‘consciously competent’ and develop skills though positive ongoing feedback. The ongoing practice with feedback develops ‘unconsciously competent’ clinicians, unaware of the detailed processes involved in their activities and no longer needing regular feedback. More recently in the School of Medicine at Southampton University, staff developers have devised a tool to help teachers determine the content of feedback. The tool encourages clinical educators to identify specific areas for feedback related to learning goals and the point of observation, and to take an interactive approach (Hill, 2007).

There are three main approaches to the feedback process discussed in the literature.

1. ‘Pendleton’s model’ has been widely used in clinical education (Pendleton, Schofield, Tate, & Havelock, 1984). This approach is sometimes caricatured as ‘the sandwich’ because it is associated with a pattern of always starting and finishing feedback on a positive comment. Corrective or negative comments are relayed in the middle of the sandwich.

2. During the 1990s the ‘chronological account’ was favoured (Hill, 2007). In the chronological account, observers keep detailed notes and then replay the observation to the learners, as it occurred over time, bringing in both negative and positive comments along the way. This approach proves to be very timely and requires careful note-taking, but it can also lead attention to a range of trivial detail rather than focusing on key take-home messages and themes.

3. Interactive feedback. Current evidence suggests that this is the current favoured approach (Dobbie, & Tysinger. 2005, 2007). Interactive feedback makes use of ideas from both Pendleton and the chronological approach incorporates self assessment and shared problem solving.

Hill (2007) suggests that an interactive approach avoids a number of common pitfalls. Starting with the student’s own assessment ensures that the teacher understands the level of self-awareness in the learner and an overly self-critical student can be encouraged to see his or her own strengths and helped to build self-confidence. Where the student appears unaware of their failings, the teacher can focus on areas for improvement. In the interactive approach the supervisor is facilitating the student's own reflection and ‘self feedback’. As the learner becomes increasing proficient, the role of the teacher becomes more that of a critical and supportive colleague and peer. The aim is to encourage an empowerment approach in which learners take increasing responsibility for managing their learning, and adopt a self-regulated approach to feedback (Nicol & MacFarlane-Dick, 2006). This collaborative approach has the potential to encourage participation and an ongoing relationship between supervisor and learner.

This literature is dominated by single case studies reporting an educational intervention with no empirical evidence that any one intervention is better than another. What this does show is a trend in the literature away from a delivery model (with supervisors directing the process), to a more collaborative and interactive perspective. Feedback is described as a process that is focused on helping the supervisee learn, that has their best interests at heart, and not as an assessment process. The development of trust and reciprocal feedback processes is described as enhancing the trust and the understanding between the novice and more expert practitioner, and as a key part of the supervisory relationship. Feedback is potentially one of the most interactive moments, when having a shared understanding and engaging in an interactive dialogue appears be important. The importance of personal responsibility is an emerging

theme, as is the ability of the two parties to work together to produce the solutions to any performance deficit**.**

Giving effective feedback has been described as 'the life-blood of learning' (Dolmans, Wolfhagen, Gerver, De Grave & Scherpbier, 2007), and as an essential skill for all teachers and supervisors (Richardson, 2004). Feedback helps learners recognise their strengths and weaknesses, encourages self-reflection and increases self-awareness and helps plan future learning. The processes recommended for feedback in the more recent studies (from 2000) have moved from teacher-directed models with the learner as a passive receiver, to more collaborative and self-assessing, reflective methods, which recognise a participatory and collaborative model of learning that supports the development of this thesis. One example is Sargeant, Mann, van der Vleuten & Metsemakers' (2008) model for directed self-assessment which places practice and feedback within a social context, and describes learning as "looking outward, especially to the responses of others and using feedback to inform our assessment of ourselves" (p. 47). The relationship between supervisor and learner is explored by Watling and Lingard who review the literature on perceptions of feedback and how these perceptions influence learning. They undertook a focused exploration of literature in higher education and industrial psychology as well as in medical settings, and concluded that regardless of the tool used "it is the relationship between the teacher and learner that is the centre of any process where feedback intended to enhance performance is offered" (epub, 2010).

There this no evidence that any consistent approach to feedback is used within intern training in NZ but emerging research linking reflection, self-assessment and the learning environment, provides options that can be drawn on.

2.7 PATIENT SAFETY AND THE TRANSITION FOR NOVICE TO COMPETENT PRACTITIONER

One of the more recent forces directing clinical skills teaching and learning is that of patient safety. Patient safety is high on professional and political agendas in the UK (National Patient Safety Agency, 2003; Vincent & Coulter, 2002), Australia (Australian Council for Safety and Quality in Healthcare, 2005), Canada (Canadian Patient Safety Institute, n.d.) and the United States (Kohn, Corrigan & Donaldson (eds), 2000). The international recognition of the fundamental importance of patient safety is also expressed by the World Health Organisation

(World Health Organisation, 2005). In NZ policy related to Safety and Quality has not impacted significantly on intern training presumably because there have been no accreditation requirements and no political pressure to address patient safety as a mandatory topic beyond medical school. This has been an example of the introduction of change being driven very much by the political, professional and public agenda, and with rhetoric drawn from the aviation industry, and from work on error and decision making outside medicine with little real reliable or valid evidence to link curriculum change to patient outcomes (Guise, 2008).

Part of ensuring patient safety is the necessity for practitioners to have excellent communication skills and competence in communicating risk (Alaszewski & Horlick-Jones, 2003; Paling, 2003). These interpersonal skills complement the newly highlighted goals of patient-centredness and the inclusion of the patient's views in all aspects of their care (http://www.pickerinstute.org; http://www.pickereurope.org).

This emphasis on holistic practice has implications for clinical skills, teaching and supervision. The aim is to better prepare learners for the reality of clinical practice and enable them to think critically, bring together knowledge gained from various sources, prioritise actions, communicate with colleagues and patients, and safely and successfully perform the action. This is not necessarily a feasible expectation of the new medical graduate. The transformation from student to registered practitioner is a gradual process that does not magically occur after graduation (Grant 2007). It requires the assimilation of vast amounts of knowledge as well as the development of clinical skills within the context of the workplace. The junior practitioner, however, is expected to make several independent decisions during the course of their day-to-day practice, including performing clinical procedures.

Benner (1984), a nursing theorist, drew on Dreyfus and Dreyfuss' (1986) work to demonstrate various degrees or levels of skills acquisition in clinical practice: novice, advanced beginner, competent, proficient, and expert. According to her, whilst the novice has little or no discretion and judgment, and adheres rigidly to target rules, the expert no longer relies on rules: he/she is intuitive and possesses an analytical approach to clinical skills and situations. Case variation across patients necessitates performing practical procedures on a number of patients in different clinical settings in order to attain competence, again raising concerns regarding patient safety and the need for effective supervision. Recent studies in medicine have shown that no two doctors graduate with the same abilities and each doctor also has different degrees of competence for the variety of skills they possess (Storalek, 2007; Hicks,

Gonzalez & Morton et al, 2000; Cation & Durning, 2003).These inequalities create anxieties both for the trainees and the trainers with perceived threats to patient safety.

New graduates are often overwhelmed and rely on others to accomplish responsibilities, so it takes months of experience to obtain an acceptable level of proficiency to work without supervision. Marel, Lyon, Field, Barnsley, Hibbert and Parise, (2000) studied the skills acquired during training by Australian residents during their early training years. They found that early postgraduate medical trainees acquire high levels of confidence and experience in most skill areas after two years of training. The first postgraduate year, they found was particularly significant for the development of clinical skills. It therefore follows that these skill 'sets' should be tested early during postgraduate years, as part of an assessment both for certification and progress through to specialisation. "Nobody becomes an expert without experience, but extensive experience does not invariably lead people to become experts" (Ericsson, 2004, p. S70).

Ericsson, Kramp, Ralf, Tesch-Romer and Clemens (1993) explored the role of deliberate practice in the acquisition of expert performance. An extensive literature review and study within music concluded that expert performance was the product of maximal efforts to improve through deliberate practice with feedback. It is suggested that in the absence of feedback, efficient learning is impossible and improvement only minimal, even in highly motivated practitioners. Mere repetition does not lead to improvement especially in accuracy of performance.

In more recent work focused on expert performance in medicine, Ericsson (2004) cites several reviews over the last decades that have shown that the development of expertise through experience alone is surprisingly limited. Instead, expert performance improves as a function of experience coupled with deliberate practice. The development of automaticity arrests development as practitioners need to acquire cognitive skills to support continued learning. Experts seek opportunities where the goals set exceed their current level of performance. He maintains that at the end of formal training the key to the development of expertise is continued access to conditions for deliberate practice, as well as feedback on daily medical practice. How does a novice become proficient, or at least minimally competent in the 'required' skills expected for their practice without compromising patient care? The answer is assumed to be effective supervision but discussion of how that may be conducted is not included (Ericsson, 2004).

2.8 SUMMARY

In summary the previous literature while limited in addressing postgraduate supervision in medicine does provide some key insights into: the features of a supportive learning environment, the critical role supervision plays in learning and the attributes of effective medical supervisors. The experiential learning cycle has been adapted for clinical teaching, reflection and problem-solving are identified as strategies that promote practice knowledge, and feedback emerges as the 'life blood' of learning, although it is inconsistently provided. Research on the development of expertise supports the premise that the supervisor plays a key role in learning, especially in providing exposure to expertise, guiding clinical practice and providing timely feedback.

This chapter has shown that much of the work to date in medicine has investigated the learning environment (or the immediate context of learning), drawn on experiential learning theory, described the attributes of supervisors, devised models for giving feedback, and more recently has sought to understand and explain learning at work and the development of expertise. However, the transference of research findings into a conceptual and structural model of supervision has not occurred. This review has identified a gap in the research that is a key part of the problem addressed by this thesis. In contrast the nursing literature provides examples of models that describe the roles and responsibilities of all parties and provide a structure from which to deliver and research supervision practice. (See for example Butterworth, Bishop, Carson, 1996; Ayer, Knight, Joyce, Nightingale, 1997; Butterworth, Bell, Jackson, Pajnkihar, 2007).

The literature reviewed in this chapter includes recent work by a group of researchers primarily associated with Maastricht University in the Netherlands, who advocated for researchers to take a wider perspective than the traditional individualistic outlook on learning (as the acquisition of skills and knowledge) and draw on both cognitive and socio-cultural views of learning in order to increase our understanding of workplace learning. This work suggests that socio-cultural models have application to learning at work in medicine and that taking a broader perspective on learning, including using conceptual models such as Wenger's view of learning as an integral part of professional life and seeing learning as engagement in practice and a continuous process of change and consolidation, is a useful direction to pursue (Teunissen, 2007). This supports the investigation of a socio-cultural framework as the conceptual framework within this thesis.

This chapter focused on literature about the learning environment and supervision, and has assisted in identifying gaps in the literature and suggestions for theoretical approaches that can be adopted in exploring a solution. What it still does not do is provide a clear description of the learning demands of intern years. What emerged during the reading and thematic organisation of this work were articles and citations to literature with a focus on the learner that highlight the demands placed on an intern as a learner and beginning practitioner. The following chapter begins by considering this perspective as a starting point to describing what a solution to the problem articulated in chapters one and two needs to address.

CHAPTER 3:
THE LEARNING DEMANDS PLACED ON INTERNS AND DEVELOPMENT OF A SPECIFICATION

Chapters 1 and 2 have defined and described the problems facing internship and established the need for new approaches to intern supervision, and confirmed that there is no conceptual model or framework to guide supervisory practice or to inform the training of supervisors. Having clearly defined the problem, this chapter moves towards the solution. The nature and focus of learning in internship is considered and a specification is developed to guide the development of a framework for internship and a model of supervision. This chapter consists of three parts, it begins by describing the type of knowledge and a skill acquired during internship, then it explores the parameters that will need to be part of the solution and concludes by using these to develop criteria (specifications) for a robust conceptual model of supervision for interns in NZ.

The search conducted for Chapter 2, the articles retrieved and their associated references were reconsidered to select a subgroup of articles that allowed the nature and the focus of learning in internship to be explored.

3.1 THE LEARNING DEMANDS PLACED ON INTERNS

Lines from a poem by Glenn Colqhoun (2002) a doctor working in Te Tai Tokerau, Northland demonstrate the frustrations and realities of clinical practice and therefore the challenges facing a learner and a supervisor.

> ***Today I do not want to be a doctor***
>
> *No one is getting any better.*
> *Those who were well are sick again*
> *And those who were sick are sicker*

The dying think they will live.
And the healthy think they are dying.

Someone has taken too many pills.
Someone has not taken enough.

……..

The asthmatics are smoking
The alcoholics are drinking
The diabetics are eating chocolate

The mad are making sense
Everybody's cholesterol is high.
Disease will not listen to me

Even when I shake my fist. *(p 74)*

The skills and wisdom to deal with these frustrations in practice are not those taught in the universities, they are skills gained in the harsh realities of practice (West & Borrill, 2002). The knowledge to deal with them is not held by one person but distributed, it is part of the collective wisdom of the team. The text book case does not exist; it is lost in the reality of practice as the poem indicates. Health professional practice is an imperfect science and part of learning to be a practitioner is learning to deal with your own ignorance (Kerwin, 1992). To move into the reality of practice is to move into a world where the right answer is not always known, instead the practitioner needs to watch a clinical situation unfold and make wise decisions and best decisions, or at times deal with not knowing the answer or how to treat the patient. Part of entering professional medical practice is to come to realise that the sure knowledge that enabled you to pass the exam does not always serve you well, and that much of the time the grounds on which your clinical decisions are made will be, at best, uncertain. The cultural shift requires a change in learning strategies.

In contrast to undergraduate years the clinical context is much more open and unstructured, thus demanding from students a more active, self-steering attitude (Jacobs, Bolhuis, Bulte, & Holdrine; reported in Deketelaere, Kelchtermans, Struyf & De Leyn, 2006). Kenneth Wong (2006) comments from the perspective of a registrar who has recently completed intern training in Australia:

> *Perhaps graduating medical students need to take more personal responsibility for their own education. CME is a life long process that*

> *requires individual initiative. Weaning pre-vocational doctors (interns) from their dependency on "formal education" is an important step towards independent medical practice (p. 54).*

The knowledge accumulated in the hours of undergraduate study may not provide all the answers in a healthcare system where the quality of teamwork can now be linked with improved patient outcomes (West & Borrill, 2002). Deketelaere et al (2004) also noted the need for a change in learner behaviour. A tension arises between interns with a 'wait and see' attitude, and those with a proactive attitude that allows them to take initiative, raise questions and create learning opportunities. It is possible to learn with a passive approach but supervisors favour the more extrovert interns and find it easier to provide these interns with learning opportunities. Research on learning from practical training has shown that variation between interns exceeds that between disciplines (Daelmans et al, 2006) and the growth of competence proceeds at different rates during postgraduate training, particularly growth in the roles of a professional (Davis, Skaarup & Rongstead, 2005) supporting the proposition that individual characteristics of learners are important. These authors conclude that more research is needed to guide educational interventions to prepare clinicians for broad aspects of competence, especially the non-technical aspects of practice.

Clinical practice is undertaken in complex and specific, yet varied environments, and is influenced by many factors, such as: the local protocols, accepted good practices, the expectations of others, conversations and discourses about practice options, perceived outcomes of actions, the current demands of the wider community, patients' histories and expectations, local health politics, the history of the profession, and the regulatory activities of professional bodies. There is a growing emphasis in health care on interprofessional team work (Molyneaux, 2001), and system-based patient safety (Millenson, 199l; Farmer et al, 2002). As noted in Chapter 1 teaching and promoting patient safety is emerging as a new and growing field of enquiry in medical education. Stephen Leeder (2007) argues that intern education is an important part of risk management. The social nature of risk management and team responsibility is recognised in this quote.

> *An excellent way to begin to address error is to ensure that interns are adequately supervised, and that medical errors are treated as problems in which all players are involved, and in which multi structural remedies are needed to avoid repetition (p. 7).*

Reilly (2007) describes practice as professionalism, patient centred-care, and dealing with the unexpected with calm and confidence. Practice requires an “open eyed and open minded approach” (Kemmis 2005, p 207). For the intern this means varying the course of actions and the clinical decisions made, and responding to the patient and the intricacies of their unique personal situation and clinical pathway. A novice in a team must also quickly gain flexible expertise including attention to the team’s “conversational rememberings” and the team’s history and character (Bleakley 2006).

Teaching and learning in the intern years also occurs within the complexities of patients’ lives, values, responses and world views, and in the clinicians’ reactions to these. As such ecahing and learning are influenced by the socio-cultural and socio-emotional context in which they occur. Interns construct their experiences of clinical work not just on the basis of their undergraduate training and their extensive knowledge, or their personal life experiences, but are also influenced by the context of the clinical workplace through the social norms of that work place and the community of medical practitioners who surround and support them. Internship holds many opportunities for informal and incidental learning which not only address technical medical issues, but also the socialisation of the individual into the medical profession. Interns need sufficient space and freedom to capitalise on the cognitive and socio-cultural learning opportunities that arise (Deketelaere, Kelchtermans, Struyf, de Leyn, 2006). These authors note that while the authentic character of the clinical workplace is essential it may also interfere with its role as a learning environment, and that while attempts have been made to disentangle learning experiences in clinical practice an encompassing theory is lacking, and the processes of interpretation and making meaning need to be a focus of research.

Supervision must respond to the practice development needs of interns as new or ‘novice practitioners’ and move them to ‘competent and then expert practitioner’ (Benner, 1984). The supervision process must engage the practitioner new to the unique context, or field of practice, with that field and the community of practitioners who shape it. This includes understanding the local rhythms and norms of work, dealing with the local politics and personalities and the inevitable local resource constraints and challenges, and at the same time, assisting the practitioner (who may be a novice practitioner or new to the specific context or culture of practice) to steer a safe pathway through the uncertainty of patient care.

The task of the supervisor in this context is to teach wisdom and judgment, or what Pendlebury calls ‘perceptive equilibrium’ (Pendlebury, 1995). This requires the supervisor to role model and coach good practice and safe patient care in order to ensure the best course of action, for this person, in this time and place, and in this set of circumstances. It requires the teacher and the learner to bring together: the peculiarities of this case, judgment about this case, experience of other similar cases, and combine this with the science of medicine and the values and norms of the profession. Then, they must make the best choices possible for this patient at this time. Schwandt (2005) argues that:

> *... it is through the process whereby practitioners discuss argue and learn about cases demanding judgment that the practice continually realises and redefines its internal aim and practitioners shape and reshape their habitus and disposition (p. 326).*

Within the NZ context a model of practice-based teaching and supervision must be flexible enough to be translated into varied health contexts, including Maori health environments. Certainly in a Maori world view, learning (ako) and health practice is seen as part of community, and knowledge is a treasure (taonga) owned by the community not by individuals. Practice must support the articles of the Treaty of Waitangi and therefore seek to encourage participation, partnership and self determination. It follows that supervision in Maori environments must seek to teach practice knowledge and to prepare the practitioner for involvement in the Maori community. Supervisors need to engage the novice in that community alongside the ongoing development of their individual practice, building the holistic knowledge of the immediate practice community and the wider Maori community.

The practices of the individuals and the team of health practitioners are assumed to be shaped by the everyday experience of the practitioner in their interactions with clients as well as through the interactions with other practitioners in the daily decision making and discourses that occur within the specific context or field of practice. The specific local practice is assumed to have been shaped not only by the education, knowledge and experience of the novice practitioner and the supervisor but also the habitus and field within which practice is conducted (Boudieu, 1998). What is learned during internship is primarily practice knowledge, how to be a doctor and practice within a healthcare team and across varied sites of practice.

The learning required in internship as described above is different from that expected in the undergraduate year, so it is not surprising that models taken from undergraduate traditions have not always suited this environment.

3.2 THE PARAMETERS FOR A THEORETICAL FRAMEWORK AND A MODEL FOR INTERN SUPERVISION IN NEW ZEALAND

Cohen, Manion, & Morrisons' (2000) definition of models is used as starting point to consider the conceptual and practical issues that the proposed model must address. They describe models as:

> *… explanatory devices or schemes having a broadly conceptual framework, though models are often characterised by the use of analogies to give a more graphic or visual representation of a particular phenomena (p. 13).*

Therefore, in order to provide a model that can explain intern learning in clinical settings and guide supervision the proposed model will need to sit within a broad theoretical framework through which supervision and learning can be viewed. The theory that frames the model will need to useable and useful in the specific context of internship. The model will then permit interaction between the theory, and the empirical and testable observations that can be made in the context of internship. The value of providing a model for practitioner supervisors is that they can understand the process of learning and supervision through a central organised framework, and as such it can be used in programmes preparing and developing intern supervisors (Higgs & Mc Allister, 2007).

Hall and Lindsay (1957) begin their influential text on personality theory by noting that it is impossible to define personality without coming to an agreement on what theoretical framework that personality will be viewed and that one framework may not address all aspects of a domain of interest. The same applies to clinical supervision. They describe theory as a set of conventions, a cluster of assumptions, created by the theorist and not that theories are not judged by their truth of falsity but by their utility. The following is a summary of the attributes of a useful theory summarised from their work:

- it is relevant to the specific context to which it is to be applied
- it has utility in that context.
- it defines dimensions and variables needing consideration
- it can incorporate and recognise previous empirical findings
- it permits interaction between theory and data collected
- it is verifiable (can generate testable hypothesis) and is comprehensive
- has simplicity (parsimony) and can draw attention to critical aspects of the domain of interest
- it permits the observer, who is being dazzled by the complexity of the issues to focus on them, and on what it is necessary to consider, highlighting the parameters that are of crucial importance
- it details with explicit instructions the kinds of data that should be collected, or issues that need to be addressed in connection with the problem.

(Hall & Lindsay, 1957)

It is argued that these attributes also need to be applied to any model aimed at informing the behaviour and activities of clinicians (both supervisors and learners), as they attempt to juggle the demands of service and training, so the model can permit interaction between the theoretical framework in which it is grounded and the workplace reality for supervisors and interns. These attributes are however strongly based in the positive research tradition which makes them both useful and not useful. Useful in that they will be seen as acceptable by medical practitioners as a model of supervision that acknowledges this tradition and provides an explanation for the learning processes, how professionals develop expertise, and provide a structure for supervision (Kilminster, Jolly & Van der Vleuten, 2002). They are not useful in the sense that they exclude criteria that may be important within interpretive and critical perspectives particularly the need to provide a framework to perform effective actions and to effect change and to address the needs of Maori doctors and Maori cultural supervisors. Despite these concerns these attributes are now considered as the basis of a set of criteria for specifying the attributes that will guide the development of a model of supervision for the intern years, and provide a set of criteria for evaluating these.

Initially, selecting a theoretical and conceptual framework for the proposed model will need to not only consider relevance but also utility within the broader context of medical education. The intern years sit within a continuum of medical education, bridging graduation from medical school and the commencement of registrar training. It is the time between students entering the

workplace with a medical degree, and these junior doctors eventually assuming senior roles where practice-based professional peer supervision is a key part of learning and professional accountability. One immediate outcome from this period of training is registration to practice in NZ. The other outcomes are preparation for the learning demands of registrar programmes and then a working lifetime to maintain competence as a registered medical specialist accountable to a professional body. While the focus of this thesis is the internship period it can not be examined outside the wider context and full continuum of medical education.

In order to be viable and acceptable within the sector the model of supervision must be placed within a framework that can recognise and value the existing structures provided by the MCNZ (as the accrediting body), the METB (policy organisation), the district health boards (as the employers) and the specialist colleges as the providers of the next step in medical education which is vocational (post-registration) specialist training. This is important as none of these stakeholders are likely to adopt sweeping changes to long established practices or organisational and professional structures.

The proposed model must acknowledge the magnitude of this transition from medical school to internship. Many medical schools (including those in NZ) soften the transition with pre-internship terms or years, never-the-less the change is a cultural leap. In contrast to the undergraduate years the clinical context is much more open and unstructured, thus demanding a more proactive self-steering attitude and a need to interact and engage with a team of professionals. The transition from class room to clinical learning is not obvious and can be discomforting for some.

> *The challenge for clinical learning is to provide adequate support and structure for interns while at the same time acknowledging the multiple, complex and unpredictable character of clinical reality and the learning opportunities it provides (Seabrook, 2004, p. 913).*

While there have been few empirical studies of supervision in the intern years there have been empirical studies looking at aspects of learning and supervision in clinical environments (Chapter 2). It is important to incorporate and build on previous work, while providing a framework that can direct observations and interpretation of data not previously included, through the provision of an alternative theoretical frame. In order to provide a structure for supervision it will need detaied practice-based strategies for interns and supervisors that focus

practitioners on the parameters that are of crucial importance and that warrant their time and attention in the time-poor but experience-rich work environment of internship.

As a research endeavour this thesis also seeks to meet the requirement of catalytic validity and thereby ensure that research leads to action and that the outcomes help participants understand their worlds in order to transform them, or at least deal with them. It follows from this that the criterion for 'fairness' proposed by Lincoln and Cuba (1986 cited in Cohen, Manion, & Morrisons', 2000) should be applied to the model developed and therefore ultimately:

- augment and improve the intern supervisors' and interns' experience of their clinical world
- improve the empowerment of the supervisors and the interns
- support (or at least not hinder) safe and effective healthcare delivery.

The second and third goals cover a longer time frame and fall outside the scope of this current work so are not included in the specification, but they will form the basis of future research and follow up on the effectiveness of the model.

Finally, the theoretical framework must be politically and economically sustainable capable of responding to both the current and foreseeable political drivers in medical education and healthcare.

3.3 SPECIFYING THE SOLUTION

Box 1 summarises the themes discussed above and presents them as a specification that provides a frame of reference, and check points for assessing progress and direction during the development of a conceptual framework and a model to inform learning and supervision practice.

The specification shows that there are multi-level issues to consider if a useful solution is to be proposed. The first is the selection of an alternative and complementary (if it is to build on previous work) theoretical framework. This framework must be appropriate for the environment of internship and be capable of explaining learning, the development of expertise and identity formation and in so doing guide the relationship that impacts on learning in internship.

Box 1 – Specification for a model of intern supervision

The model will:

1. Be based on a theoretical educational framework for work-based learning and apprenticeship (new) suitable to practice environments.

2. Draw and build on existing knowledge and concepts in medical education, so that new responses can be incorporated into practice rather than replacing or over-riding existing successful strategies.

3. Provide an alternative conceptual framework from which to view internship, in order to provide a way to see supervision differently, noticing new things.

4. Recognise internship as a transition period where the learning culture changes significantly from academic to practice-based.

5. Provide an explanation for the learning processes of a novice within a clinical setting including an explanation of how professionals develop expertise within a clinical team and the relationships that support this.

6. Provide a structure for supervision that includes the roles and responsibilities of all those involved, guidelines for learning and supervision activities (e.g. definitions of core terms and concepts, including the context and learning environment of internship, the type of knowledge and skills acquired, and practical supervision strategies).

7. Allow practitioner supervisors to perform effective actions in varied contexts.

8. Empower practitioners (supervisors and the interns) by augmenting and improving their experience of their clinical world.

9. Recognise context, and be feasible and sustainable within the current healthcare environment and workplace realities (e.g. recognise that interns must leave internship equipped to enter registrar training and to engage in clinical teams, in practice-based learning, and research, and self-assessment throughout their professional lives, meet the accreditation requirements of the MCNZ).

10. Be flexible enough to be adapted to the diverse sites and contexts for learning, including Maori health environments and new and emerging models of health care delivery.

In order to address the central problem of the thesis, that is the lack of a conceptual model or framework to guide supervisory practice, the solution must provide a structure for supervision that includes the roles and responsibilities of all those involved, and guidelines for learning and supervision activities (e.g. definitions of core terms and concepts, including the context

and learning environment of internship, the type of knowledge and skills acquired, and practical supervision strategies).

Finally, the organisational context of internship must be described, including the context and the existing organisational and professional structures utilised, if a solution is to be feasible and sustainable within the current healthcare environment and workplace realities. In NZ this context includes Maori health environments and new and emerging models of health care delivery.

In the final chapter, the specification will provide a set of criteria on which the proposed framework and model for practice can be audited. It also directs the design and the methodology of the thesis, a methodology that evolves as the direction moves from a focus on providing an explanation for the learning processes and the intern-supervisor relationship within a clinical setting (micro level), to representing and describing the complexity of internship well in order to generate a richer understanding of the multiple and complex roles of an intern supervisor within health care teams and organisation (macro level). The multi-level focus on learning and supervision and on the contextual and organisational environment has influenced both the structure and the evolving methodology of the thesis which is described in the Chapter 5. First, in Chapter 4, the theoretical framework adopted is described.

CHAPTER 4:
CONCEPTUAL AND THEORETICAL FRAMEWORK

The problem this thesis addresses was outlined in some detail in Chapter 1, and showed that the climate: for the delivery of healthcare has changed, the way work is organised and health care delivered have changed, the traditional model of apprenticeship is described as not feasible and academic scientific models do not seem to meet the needs of the workplace, clients, supervisors or the learners. It was also noted that there is little empirical or theoretical basis for the supervision models used by medical specialists and this was identified as a criteria in the specification in the previous chapter.

Recently a number of commentators in medical education have proposed that a socio-cultural approach in general, and more specifically Lave & Wenger's (1991) description of situated learning, may be useful for understanding and describing learning in clinical medicine. Maudsley & Strivens (2004) proposed that of all the educational learning theories available situated learning theory seems to describe the most effective model for the transformation of students from members of a lay public to expert members of a profession. (For other examples see the work of Teunissen in the Netherlands, 2008 and Dornan in the UK, 2005). In work undertaken at the same time as this thesis, Boor and colleagues (Boor, Scheele, van der Vleuten, Teunissen, den Breejen & Scherpbier, 2008) adopted a social learning perspective and demonstrated that in undergraduate programmes both departmental culture and student attributes determined the learning environment, and she also notes the reciprocal nature of the clinical workplace learning experience. Her study showed that clinical workplaces varied as learning environments and she describes them as restricting or expanding participation. Dornan and colleagues (Dornan, Boshuizen, King, Scherpbeir, 2007) also show that undergraduate students' experience is shaped by the environment provided by the department in which they are placed and the students' personal response (e.g. taking initiative). Student involvement has also been shown to be a factor in quality teaching (Hoellein, Feddocak, Wilson, Griffith, Rudy, & Caudill, 2007).

4.1 SOCIO-CULTURAL APPROACH

Socio-cultural theory is adopted here as an approach that offers an alternative and complementary perspective to the traditional approaches and can therefore be useful for understanding learning in internship and guiding supervisory practice. Therefore, the proposition that socio-cultural theories can be useful for understanding and describing practice-based learning and supervision is tested in this thesis. Socio-cultural theory is a comprehensive theory of human learning and functioning that takes social interactions into account and there are two predominant perspectives, psychological and anthropological.

Psychological approaches to social learning propose that attributes, values and attitudes of the individual are continually interacting with the individual's behaviour. Individual behaviour will interact with the environment, and the individual and the environment continually interact (Bandura, 1997). Psychological theories attribute to individuals several inherent capabilities that underlie learning and psychological functioning. These include:

- symbolic capability – the ability to memorise information and events
- forethought capability – the ability to formulate images of desirable future events and to use these as motivators
- vicarious capability – the ability to learn through observation of others' actions and the consequences of those actions
- self reflective capability – the ability to reflect evaluatively and analyse one's own actions
- self-regulatory capability – the ability to set standards for behaviour and goals and to direct energies to those goals.

Vygotskian developmental theories (which are anthropological) propose that learning is socially rather than individually constructed. Vygotsky (1934) argued that learning does not occur in isolation, but rather that it takes place through interaction with the social environment. Vygotsky (1934) developed a theory within which social, cultural and historic forces play a part in individual development. In summarising Vygotskian social learning perspective Daniels (2001) states:

- it emphasises mediated action in a context
- it insists on the importance of the 'genetic method' understood broadly to include historical, ontogenic and microgenetic levels of analysis
- seeks to ground analysis in everyday life events

- assumes the mind emerges in the joint mediated activity of people (mind is 'co-constructed and distributed')
- individuals are active agents in their own development but do not act in settings entirely of their own choosing
- it rejects effect, stimulus, response, and explanatory science in favour of a science that emphasises the emergent nature of mind in activity and that acknowledges the central role for interpretation in its explanatory framework
- it draws on methodologies from the humanities as well as from the social and biological sciences.

There is some debate about the interpretation of Vygotsky's work through translation. One interesting point relevant to this study is that word *obuchenie* is often translated as instruction but may also be translated as teaching-learning and refers to both sides of the same process (Daniels 2001); and the word *ako* in Maori also translates as both teaching and learning (Ryan, 2005). Mason Durie (2004) one of New Zealand's most well respected Maori scholars describes knowledge as follows:

> *The basis of knowledge creation is the dynamic relationships that arise from the interaction of people with the environment, generations with each other, and social and physical relationships* (*p. 1139).*

Maori educators (eg MacFarlane, 2004) have noted similarities between Vygotsky's work and Maori pedagogy suggesting that it may be compatible with a Maori world view. This acceptability is important in the NZ context of bicultural healthcare delivery.

4.1.1 THEORIES INFLUENCED BY VYGOTSKY

Much of socio-cultural learning theory has been influenced by Vygostky. In 1991 Lave & Wenger proposed that learning work at arises from participation in a wider social network, a community of practice (CoP). A CoP is a model of situated learning, based on collaboration among peers, where individuals work to a common purpose that is defined by knowledge rather than task (Wenger, 1998). Jean Lave and Etienne Wenger (1991) identified CoP as a concept for understanding how people learn in a social environment while studying apprenticeships as a learning model in 1991. They observed Yucatec midwives, tailors, quartermasters, butchers and recovering alcoholics and traced the progression of the

individual from newcomer to full member of the community (Lave and Wenger, 1991). They noted that very little observable teaching occurred and that the foremost process was learning. Many of the exchanges of practical information and problem-solving happened during informal gatherings where tradesmen exchanged stories and novices could consult with experts in a non-threatening environment. Through this process gaps in knowledge were identified, solutions proposed, which were tested by individuals and fed back to the group and these informal communications were the way knowledge was shared and created. As a model of situated learning based on peer collaboration it recognises the way individuals learn from and with each other in the course of their work. Others have stressed the role of participation and engagement in workplace learning.

4.1.2 PARTICIPATION AND ENGAGEMENT

Wells (1999) provides an example of the participation model in action by describing dancing as a cultural activity. The novice is joining an ongoing community when they first join in and dance. Guided by the music and movement of others the novices slowly pick up the steps. The structure of the activity as a whole forms the framework. In contrast Bakhtin (1990) seems to be concerned with how people develop each other, suggesting they need each other not to accomplish tasks but because the other, the outsider, provides the external dialogue. The importance of dialogue is echoed by Rogoff (1990) who describes a key outcome of individuals working and communicating together as the development of intersubjectivity or shared understanding (Rogoff, 1990). Intersubjectivity permits activities to occur without the need for constant negotiation, which can be reserved for dealing with new or novel tasks or problems. So intersubjectivity is a learnt outcome that arises through interaction with social partners. This shared understanding arises from opportunities for individuals to articulate what they mean, compare that meaning with others, refine and develop further their understanding through these interactions, and also collaboratively engage in workplace tasks in which they deploy knowledge together and are able to witness, monitor and evaluate their performance jointly. Inter-subjectivity is an outcome of learning that is held to be the product of inter-psychological process – those between the individuals and social sources of knowledge (Rogoff, 1990).

Matusove (1998) positions himself within a participation model, along with Rogoff (1990) and Lave and Wenger (1991), and offers an alternative to an internalisation or individualistic model. He recognises the internalistic worldview as a dialogic partner that stimulates and

shapes the development of the participation model. He argues that internalisation and participation models are different world views.

> *…the internalisation model of cultural development emphasising transformation of social functions into individual skills… The participation model considers individual cultural development as a validated process of transformation of individual participation in a socio-cultural activity. Transformation of participation involves assuming changed responsibility for the activity redefining membership in a community of practice, and changing the socio-cultural practice itself (p. 326).*

This presents internalisation (or individual) and participation as two models in productive tension (and as parallel to Sfard's (1998) notion of acquisition and participation). This is helpful as it supports the premise that supervisors can usefully draw on both world views to inform supervision practice and clinical learning seeing them as complimentary not competing.

Billett (2001, 2002) notes the significance of participation in workplace learning and suggests the process of the construction of vocational knowledge depends on interaction with the work environment. He maintains that expertise and domains of knowledge are not abstract or universal but influenced by the circumstances of their deployment. An example in medicine is the different requirements of medical practice in a small hospital in a country town, a provincial centre and a major teaching hospital in a metropolitan capital. Then there are differences in general practice across communities, with different profiles of age, wealth, and well-being. Billett (2001) argues that the requirements for performance are shaped by the requirements of the particular work practice. Billett (2001) highlights the role of combinations of routine and non-routine problem solving as a learning strategy in the workplace environment and the importance of having a supervisor who provides insights into work procedures and declares any 'hidden knowledge' that the individual may not be able to access and learn alone. Others have reached similar conclusions in medicine. For instance, Van der Hem-Stokross, Daelmans, van der Vleuten, Haarman, Scherpbier, (2003) include active involvement of students and a positive learning environment as recommended clerkship components and suggest that a more experienced, networked, co-worker can provide interactions with practitioners and with experience outside the immediate environment.

Adopting a socio-cultural perspective that emphasises participation and engagement as central to workplace learning has influenced the methodology, but so has the positioning of the thesis as practice-based and pragmatic research. A premise in this thesis is that supervision (and learning) in internship focuses on the development of practice knowledge as compared to propositional knowledge and, as such, is research in the field of professional practice with a focus on the professional practice of the supervisor as a teacher and the intern as a learner, developing practice knowledge, including professional skills in clinical decision making and professional judgment. Influencing and guiding the methodological approach to this thesis are models and frameworks for researching practice, in particular the work of Schwandt (2005), Kemmis (2005, 2009) and Green (2009). The thesis is concerned with shaping practice and as such is inherently a pragmatic endeavour set within the wider context of hospitals as institutions and the existing and historical cultures discourses, and the social and political structures of medical education. Each of these key elements practice, context and pragmatism permeate the research and a discussion of each element follows.

4.2 PRACTICE RESEARCH

As recognised earlier the term practice is problematic. Despite the frequent use of the term there are multiple definitions and multiple uses. In theory and research it is used in different ways and so means different things to different people. As an investigation of learning in practice and the practice of supervision this thesis is positioned within Schwandt's (2005) "practice knowledge tradition" characterised by "a praxis orientated approach to enquiry" (p. 328) as it explores the implications of learning as participation and engagement in the social context of work in terms of the practice of supervision within medicine (itself a professional practice). Shwandt (2005) has suggested that there are two models or frameworks for researching practice. Model one includes approaches to study based on scientific, positive traditions. This thesis sits predominately within his Model two framework which "more or less belongs in the practical knowledge traditions" (p. 320) and which emphases the "idea of practice as a purposeful, variable engagement with the world" (p. 321). Kemmis & McTaggart (2000) point out that to understand and practise depends on the viewpoint from which practice is researched and outlines five perspectives. These are practice as:

- behaviour or activity of an individual viewed from an external perspective
- a social system or social interaction from an external perspective
- intentional action seen from an insider perspective

- enactment of an unfolding tradition seen from an insider perspective
- a combination, that is practice as constituted and reconstituted by individual agency and social action (p. 28).

Kemmis (2009) argues that practice cannot be understood from any one standpoint alone and that no perspective should be privileged over another. There is no innocent or privileged position and Kemmis argues that "over time the distinction between insider and outsider, expert and lay are becoming less distinct" (p. 103). In relation to this thesis I am both an insider and an outsider, moving between perspectives. My perspective as an educator is seen as valuable in this thesis, particularly when exploring the impact of recommended intervention on both interns and intern supervisors. I work as a medical educator in a clinical environment (and am a qualified health professional) therefore I am also a marginal participant in the learning communities of interns and as a researcher that helps me to understand the world of interns and supervisors and the professional practice of clinical supervision. I also work as an educator in a university (from the 'outside') who works with experienced practitioner supervisors to make sense of the practice (from the 'inside'), this is a perspective also described by Fish (2009). The 'doing' of supervision is researched from the perspective of the outsider enquiring into the experience of interns as insiders commenting on the behaviours and practices of individual supervisors and then the outsider working collaboratively with supervisors as practitioners exploring subjectively their own practice. As a researcher I also take the outsider perspective when relating the discourses and language of a team as observed from an outsider perspective by observing the interactions of inter-professional teams. The document study of the organisation structures (Part II) that support the practice of supervision while using objective data is nevertheless conducted by myself as a member of the organisation bringing an insider's interpretation and an awareness of both where to look and what information is available (which may not be self-evident to a naive enquirer). It is recognised that an insider interpretation will inevitably "occlude or obscure features of practice" (Kemmis 2009, p. 30).

Although not published at the outset of this thesis, a later reading of Green's work (2009) highlights the fact that practice has been considered within each of the categories he describes for researching practice. These are action, experience and context. Action is the doing of practice, performing an action, and carrying it out. Professional practice is undeniably experiential, "one experiences practice, one lives through it, aware that it is happening; one remembers it afterwards; one looks forward to it, or not. It is an object of fear, fantasy and

always imagination" (Green 2009, p. 8). Green argues that practice is always contextualised, and that context "needs to be thought of as part of practice" (p. 9). Lave and Wenger's (1991) use the term 'learning architectures' (Kemmis (2005) prefers 'practice architectures') to speak of the way institutions are structured so that people can learn within an apprenticeship (new) model. Fish (2009) also claims that a sense of context is fundamental to understanding practice and its traditions within the field of medical education. These notions of context have influenced what has been an evolving methodology and are therefore further discussed.

4.3 CONTEXT - PRACTICE ARCHITECTURES

Practice in hospitals occurs or is enacted within a complex set of relationships, with each health professional practice group having its own distinctive professional practices and traditions (practice architectures). MacIntyre's (1983) distinction between medicine as a practice and hospitals as institutions is adopted here. Institutions are concerned with delivering the service and are structured in terms of power, status, and rewards but could not be sustained without the health professional practices they support. These institutions determine the context for practice and mediating preconditions that ultimately shape practice. In other words practice is situated in the social structure of institutions, where they are preserved, maintained, developed and often regulated (Kemmis, 2009). Different health professions involve different kinds of work, language, vocabularies, activities, forms of work, discourses, and approaches to, and models of, health and different ways of relating. Yet while there are professional differences the health professions also overlap and cross boundaries, especially when the organisation structures call for team work and interprofessional care. These intersection points have been identified as potential risks to patient safety and as important in the patient's safe journey through a hospital (World Health Organisation, 2005). Being able to work in an interprofessional team, prevent or untangle confusions and conflicts and maintain effective social relationships across and within health institutions has emerged as a critical competency for all health practitioners, and is a key learning goal for internship. Patient safety is a good example of the multiple and interacting levels of responsibility. Accountability for patient safety is individual (for decisions and actions) and team-based/group (decisions, actions, communication), organisational (policy and procedures) and professional (professional standards, maintenance of standards through registration also involves ethical codes) (Australian Commission on Safety and Quality in Healthcare, 2007).

Kemmis (2005) uses the term ‘mediating preconditions of practice’ to describe existing and historical cultures discourses, social and political structures and material and economic conditions within which practice resides. A new practitioner is to some extent shaped by these structures, the way things have been done before, are done in this specific context, the resources and facilities available, and the often formal ethics, rules and protocols related to practice which are prominent in medicine. Kemmis suggests “these structures or forms do not entirely constrain or limit what can be done or developed, they are simply a background against which the practice can be conducted and from which different forms of practice might be developed.” (Kemmis, 2005. p 33). He uses the example of a dentist moving into a new practice, she must learn how things are done in the practice and the social structures of the practice, with time she will influence the practice and change what others do.

This is consistent with Lave and Wenger’s (1991) concept of learning in practice as ‘legitimate peripheral practice’ where the newcomer watches, takes parts in the activities of the community of practitioners and increases their involvement in that community, learns to ‘walk the talk’ and assist in problem-solving by the experienced members, later contributing to the development of practice and in turn supporting newcomers. Changing intern supervision practice will not only mean changing how supervisors practice but ensuring that these changes either fall within the existing architectures or modifying these architectures. The practice architecture of medicine has a long and durable tradition and there are many regulations, compliance structures, rules, sanctions both through the royal colleges, medical councils and also the structures imposed by healthcare systems, funding, legislation and the way hospitals are organised. Much supervision activity is left to the discretion of supervisors as they interact with different learners and across a ranch of patients but much is also mandated by registration authorities and hospital management systems and educational funder specifications. Of course practice is not only constrained but also enabled by these social and political arrangements, the crucial question for this thesis is whether the supervision framework proposed is sustainable within the practice architectures that surround medical education and internship. Kemmis’s criteria for practice sustainability apply here:

- Discursive sustainability: the practice is socially and politically sustainable, it must not disrupt current social structures or limit self expression and self determination.
- Material and environmental sustainability: not materially infeasible or impractical.
- Economic sustainability: the practice is neither too costly nor transfers costs elsewhere.

- Personal sustainability: the practice does not place unreasonable demands on the personal resources of the learner, supervisor or other practitioners (Kemmis, 2005).

In the contexts of internship this means that the framework must be compatible with existing professional and organisational structures and have a Maori perspective so that social and political sustainability for Maori can be achieved (in particular, the right of self-determination which is an obligation under the Treaty of Waitangi).

Changing the practice architecture of medicine substantially is not realistic but changing doings, sayings and the way supervision is conducted is possible if the existing structures are complementary and can support a change at the level of individual and team practices (de Cossart & Fish. 2004).

4.4 PRAGMATISM

The thesis takes a pragmatic approach and in order to define a pragmatic approach I refer to Cherryholmes (1999) and Fish (2009).

> *… pragmatisim is a discourse that attempts to bridge where we are now with where we might end up (Cherryholmes, 1999, p. 3).*

Within medical education, Fish (2009) uses the term pragmatic to highlight a concern with "shaping practice but attending closely to what is practicable, realistic, expedient and convenient; articulating this and laying it out open as clearly as possible; and critiquing, analysing and interpreting this approach such that the understandings that emerge can reshape practice" (2009, p. 138). Any research that engages in interpretative and qualitative enquiry as opposed to positivistic research (the traditional, proper, reputable, form of enquiry for medicine) is in danger of being reported to an unsympathetic audience (Fish, 2009). This reality is an important consideration for the acceptability of this work, for audiences for this thesis includes medical educators and, more significantly, the intern supervisor audience which may be less versed in educational approaches to research. As a pragmatic endeavour the methodology utilised in this thesis draws on positive traditions (alongside practice-based and qualitative approaches) to accommodate the nature of research in medical education and address issues of generalisability in particular (Chapter 5).

CHAPTER 5:
METHODOLOGY

The specification for the proposed framework and model for supervisory practice prepared in Chapter 3 directs the design and the methodology of the thesis as it seeks to address the multi-faceted problem (which is a lack of any such framework) described in Chapters 1 and 2. The methodology evolves as the focus moves from studies that provide an explanation for the learning processes and the intern-supervisor relationship within a clinical setting (micro-level) to studies that describe the complexity of internship within healthcare teams and at the organisational level.

As described in Chapter 4 the methodology has been influenced by:

- the choice of a socio-cultural framework
- conceptualisation of internship as the development of practice knowledge and identity
- a focus on supervision as practice
- recognition that supervision (as a practice within the practice of medicine) involves relationships, structures, and context
- the research culture of medicine.

The thesis has a practitioner focus and seeks to adequately understood practice from the perspective of the other, therefore the methodology is predominately phenomenological, both descriptive and interpretative. Descriptive in order to identify and describe essences and to attend to "what is". Interpretative in order to investigate phenomena that seriously interest me, and in so doing investigate experience as experienced by practitioners (not conceptualised) and allow me to invite competent and experienced pratitioners to reflect on essential themes and engage in reflexive dialogue. Opportunities are created for practitioners to deliberately reflect, develop ideas and understandings and learn about how they see their environments (Higgs and Titchen, 2011).

There is a praxis orientation to enquiry. Carr (2009) describes praxis as a desire to do what is right, and as residing in the domain of practical philosophy – utilising phronesis "a model of

enquiry that has the limited aim of enabling competent and proficient practitioners to develop and advance the practical understanding implicit in their practice" (p. 61).

As this thesis researches supervision as a professional practice the relationship between the researchers and participants standpoints is an unavoidable threat with the twin dangers described by Kemmis (2009); where one set of discourses, activites, social connections of one practice (those of the research act) can distort the other (professional practice) and vice versa. Therefore at all times an effort was made to as Kemmis says, "melt horizons", which is when "two standpoints find and articulate their relationships to one another" (p.31) and to them accept only those understandings that both regard as valid and acceptable accounts of practice.

A variety of paradigms and approaches are used to enable a deep exploration of social aspects of learning and supervision requires qualitative research. As a pragmatic endeavour the research design sought to address concerns that may be raised by those more familiar with a positive tradition and to attend to issues of generalisability usability, feasibility and sustainability. So there is some quantitative investigation to generate description of variables, relationships and generalisabitity. When I to pay particular attention to an issue or test a concept an action research or a design based methodology is adopted.

The methodology is therefore mixed, drawing on qualitative and quantitative research traditions, and influenced by action research, design-based research, and models and frameworks for practice-based research (particularly the work of Stephen Kemmis as described in Chapter 4). The case for combining what may, at first consideration, be seen as dichotomies is supported by Kemmis (2009) who suggests the epistemological dichotomies of individualistic versus social and objective (outsider perspective), versus subjective (internal participant) are false and that they should be viewed as pairs not opposites, as dialectically related and both necessary to achieve a comprehensive perspective on practice. It is also emergent following a flexible design, evolving as each study raised new questions and contributed new understandings with methods selected to best fit the type of data required at each stage.

5.1 THE EMERGING NATURE OF THE METHODOLOGY

Clough and Nutbrown (2002) argue that methodology is not something decided arbitrarily at the start of a research project, but reflects a process that will be undertaken and an attitude the researcher brings to the project. They outline additional characteristics of methodology as:

- a process that starts on day one of the research and aims to justify research assumptions, identify the initial research tools and explain their selection
- something that permeates the whole research and covers activities from choosing a tape recorder to deciding to read Kemmis
- the researcher's diary, as it includes the processes of reflection, decisions and justifications made concerning the investigation.

Fish (2009) also sees methodology as evolving, she describes her research into the education of surgeons as only emerging when the research was completed and in ways that could not have been predicted or articulated at the start. She quotes David Hamilton " I suggest research is always a stumbling act of discovery where researchers only know what they are doing when they have done it; and only know what they are looking for after they have found it" (Fish, 2009 p. 288).

The following section traces the emergent methodology and provides an overview of the methods selected. Fuller descriptions of methods are included within articles and chapters in Part I and Part II.

5.2 PART I - PERSPECTIVES UTILISED

A phenomenological perspective and hence qualitative research methodologies were utilised initially in the studies in Part 1 in order to see supervision from the perspectives of learners and to enhance our understanding the social nature of learning and to explore the tacit understandings and practices that support and encourage participation in clinical workplaces. The predominant strategy used is qualitative interviewing (individuals and groups) and modelled on a conversational and joint enquiry style. Semi-structured questions were used to allow for flexibility so that the participants could relate not only their perceptions but also how they were formed and enacted providing descriptions of actual situated practice (Silverman 2000). Focus group interviews are the most suitable format to investigate the

participants' perceptions stories, as the group process can facilitate extended discussion and exploration of experience (Templeton 1994) as well as explain why particular behaviours occur (Kitzinger 1995).

The model proposed in the early work presents a new way of thinking about supervision in medicine with the goal of reshaping practice. The pragmatic nature of this endeavour influenced the methodology at this point. In order to address questions regarding the generalisability of the results and the model developed, a quantitative methodology was adopted that offered data for statistical analysis which supported and refined the model.

Once a model for supervision was developed a design-based approach to methodology was adopted (Wang & Hannafin, 2005). Design-based research goes beyond designing and testing interventions as they embody theories about teaching and learning, and reflect a relationship between design, theory and practice. Design-based researchers seek to improve educational practice by contributing to the theories it relies on, testing educational interventions and monitoring their effect in different areas of instruction. Design-based research tends to use mixed methods taken from both quantitative and qualitative research and methods vary according to the different phases of the research responding to needs and issues as they emerge and as the research focus evolves (Wang & Hannafin, 2005). Design-based researchers are not concerned about contaminating the research, instead they have a direct involvement as they manage the research processes in collaboration with their participants in real world settings by designing and refining interventions systematically (Wang & Hannafin, 2005). This designing process is described as either cyclic or spiral following 'analysis', 'design', and 'evaluation' (Van den Akker, Branch, Gustafson, Nieveen, & Plomp, 2000) in a way that is similar to action research. Design-based research does raises issue regarding role division between development and research. Van den Akker et al (2000) suggest that in the earlier stages of the project the researcher is more of a designer while a shift toward critical research will take place at the later stages, and this was the pattern here. Design-based research is inherently emergent and the emergent nature of the methodology is noted earlier. The final study in Part 1 represents a shift to Kemmis and McTaggart's (2000) fourth practice research tradition (investigating practice as socially structured, shaped by discourses, tradition, interpretative and situated in professional community). In order to explore the implementation of the model the methodology returned to qualitative research, using facilitated reflection with learners and supervisors. In doing so there was a shift towards the

fifth of Kemmis's categories 'practice as reflexive, to be studied dialectically' (2009, p20), that is, practice as reconstituted by human agency and social action.

As Part I is presented as a series of published articles, the methods selected and the reasons for those choices are not reproduced here, to avoid duplication, as they are described within each article for each stage of the research process.

5.3 PART II - METHODOLOGY AND METHODS

Part II, explores the context of intern learning and intern supervision using a quantitative approach to document analysis and critical analysis of theory. The context of medical education is mapped using the analysis of documents and websites prepared by medical education bodies and health providers. This enquiry allows the structures, and the values of these bodies to be articulated, and formal and informal learning opportunities to be identified in a way explained by Fish (2009). The CoP framework described by Wenger (1998) is critically reviewed for compatibility with the team-based nature of healthcare delivery including, for the NZ context, compatibility with a Maori world view.

The CoP framework and its potential as a conceptual model in the context of internship was shared and discussed at conferences and learning events with over 100 practitioners were they where asked to identify and describe sites where CoPs naturally occur. Three sites were consistently identified, as were the border communities that support these sites. Again, the methodology is detailed in each chapter.

5.4 FINAL ANALYSIS

The two parts of the thesis that started out as separate and independent lines of enquiry are synthesised in Part III. The data on support structures, formal and informal learning opportunities within health provider organisations and the professional bodies and the outcomes from the studies in Part 1 are subjected to a series of refining processes, and most significantly, reflection on and refinement of these within a community of practice framework. Wenger's indicators of a community of practice (1998) are used as sensitising concepts (Blumer, 1969) to provide a general sense of reference and direct the researcher

where to look (Taylor & Bogdan, 1998). In this way, dimensions of learning in clinical workplaces and of supervisory practices that support learning are identified and reconceptualised within a CoP framework to provide a model and structure of supervision for internship, with guidelines for supervisors and supervisees. This provides a conceptual framework in which to explain learning and to frame supervision and the role of the supervisor in a way that it is hoped can enrich supervisory practice by translating these new understandings to education principles, processes and resources.

5.5 SUMMARY

Methodology is mixed and shifts as the argument for the thesis develops (as can be expected in qualitative studies). The organisation of the thesis reflects the shifts in methodology and methods. As stated, the methods, development of tools, ethics considerations, consent, sampling and data analysis are included within the relevant article or chapters in Part I and Part II and are not repeated here in detail to avoid duplication.

PART I:
THE MICRO LEVEL - STUDIES WITH INTERNS AND SUPERVISORS

Situated learning, participation and engagement, and learning from others are concepts embodied in socio-cultural theories of apprenticeship (new), and internship is an apprenticeship (traditional) in medicine. The aim of this thread of the thesis is to address the problem of the lack of a conceptual model to inform internship, by increasing our understanding of the subtleties of learning within the context of clinical workplaces and internship using a theoretical framework drawn from social learning theory in order to inform a model for supervision. It focuses on the experience of learners initially, and then supervision and the relationship of the supervisor and intern. Part I includes three published studies and one study accepted for publication, all of which are conducted within a socio-cultural learning paradigm. These four studies were undertaken with colleagues and span a period prior to commencement of the thesis and during the thesis and together they support the thesis that a sociocultural perspective on learning is useful for understanding learning and supervision in internship. In doing so these studies contribute to the development of a model for intern supervision with educational principles, processes and resources for use by medical specialists in their role as supervisors of first year medical graduates.

OVERVIEW OF THE PUBLICATIONS WITHIN THIS SECTION

These studies are presented within this thesis as four consecutive publications. In this introduction the development of this work and the progression from one study to the next are described.

The first study was undertaken prior to enrolment in the thesis but is included here as it was the starting point and first building block of the thesis. This was a collaborative endeavour with Stephen Billet and Tim Wilkinson. Stephen Billet was a visiting educator at the

Christchurch College of Education at the time this study commenced and he brought the conceptual basis for this work to the partnership, therefore the importance of shared understanding in workplace learning was an assumption underpinning this study. A key outcome of individuals working and communicating together is the development of shared understanding or intersubjectivity (Rogoff, 1990). Intersubjectivity permits activities to occur without the need for constant negotiation, which can be reserved for dealing with novel tasks or problems. Shared understanding is a learnt outcome that arises through interaction with social partners. This shared understanding arises from opportunities for individuals to articulate what they mean, compare that meaning with others, and refine and develop further their understanding through these interactions. By collaboratively engaging in workplace tasks together, co-workers are able to witness, monitor and evaluate each others' performance jointly. This process is deemed to be important because the knowledge required for effective vocational practice, such as that of doctors, does not spring from within individuals. Instead, that knowledge is developed and refined overtime as doctoring is practiced (Cox, 1988). Medical knowledge, such as that acquired by interns, has its origins in practices that have evolved over time and have been learnt in the past by more expert practitioners. There is a need to engage with those individuals in order to learn that knowledge (Billett 2001). True, much learning can be done at a distance through imitation and observation. However, these learning processes need to be enriched by closer interactions with expert practitioners. This is particularly the case when the knowledge cannot be acquired through discovery alone. Here, a more informed partner is required to assist learning, that otherwise would not occur, through a process of close or proximal guidance (Billet, 2001). This suggests for effective supervision, feeling part of, and engaging with, the health care team is likely to be essential for the initial development and the further elaboration of an intern's knowledge.

Tim Wilkinson is a colleague and medical educator also working in Christchurch who published a study that showed that those final year` students regarded as 'borderline' were often seen to be uninvolved in clinical team activities (Wilkinson & Harris, 2002). That is, they were not engaging in inter-personal interactions as frequently as those whose performance was judged to be more effective. These observations were consistent with what Billett (2001) had identified in other kinds of workplaces about the importance of being involved in the workplace to learn effectively, and his observation that there are characteristics of workplace environments that can be identified that make them more invitating to learners. These include being able to access experts, being able to engage in

practice, working collaboratively with a more experienced peer, and being guided to engage in activities which extend the individuals' knowledge (Billett, 2001).

I invited Stephen and Tim to work collaboratively with me on the initial paper. Stephen's role was to bring the theoretical perspective and understanding to the project and he was, in effect, our supervisor. I was at this time coordinating a postgraduate paper on clinical teaching and supervision and my previous research experience was limited and focused on bicultural teaching and learning, and clinical problem solving in interprofessional and multidisciplinary teams. Tim's experience in conducting clinical studies in medical education and writing for publication meant I also had a second supervisor on the project as well as a co-researcher. What I brought to this initial project was experience with qualitative data collection and a strong background in teaching and supervision that assisted with data analysis and development of the model. Together we explored the process of participation and engagement during internship and then Tim and I expanded and refined the outcomes of this work in the three studies that follow.

The first, a study published in 2005, utilised in depth interviews and focus groups to examine learning in clinical environments. The results show that interns recognise and value a participatory learning environment, and supervision strategies that promote participation and engagement linked to knowledge sharing and identity formation. From these outcomes a model was developed that sets out the critical components that ensure clinical settings are positive learning environments that encourage social interaction. The limitations of this study are the scope of the study and the lack of application or testing of the proposed model. The data was collected within one hospital and one cohort group of learners, and while this allowed for rich qualitative data to be gathered, generalisability was a limitation. The second and third studies overlapped and were undertaken to test the generalisability and usability of the proposed model (second study) and usability of the model in practice by implementing the theoretical model in practice to see if it 'worked' (third study).

In the second study, (published in 2008) the elements of the model were distilled into a questionnaire distributed to interns across three sites in New Zealand and one in Australia, which served two purposes: it could be administered to more people; and secondly, it provided valid results which were adapted as a tool to evaluate clinical attachments. This study involved a shift to a quantitative methodology and, on reflection, it was influenced by an imperative of proof and generalisability that is dominant in medical education research

(Regehr, 2010). While we were able to recruit 60% of the possible pool of respondents the small size of the sample is a threat to the validity of the factor analysis. However, it is important to note that this was a confirmatory factor analysis and it was the correlation matrix and the emergence of the four factors that supported the model that was considered useful in reporting the results, not the individual correlations. What this study did do, was develop and validate a tool for evaluating clinical learning environments that supervisors who seek to encourage participation and engagement can use.

The third study (2007) applied the elements of the model to develop a quality tool for implementing and monitoring the model in specific and localised practice environments. Outcomes reported by learners and supervisors supported the model and showed it could be utilised as a tool for planning and designing a placement for interns. The third study also provided data for the development of practice guidelines for supervisors, which are explored and tested in the fourth study. This study did not contribute to the 'burden of proof', that is whether the model will 'work' in all situations, but it did increase our understanding of what supervisory strategies worked and did not work in a localised, contextually rich environment. The use of the model as a tool for implementation and monitoring is described in the third publication, data from this study was also used in the final publication in this section.

The direction of the fourth and final study included here, was very much influenced by the macro-study which led to a critical reading of social learning perspectives, in particular Wenger's early work (1998); and it also represents a shift to investigate supervisory practice and the supervisors' perspective (rather than the intern experience). Wenger's conceptual framework of CoP is used to explain and explore the data collected and the shift to a practice methodology is a direct outcome of the macro-study exploring the complex context of medical education. This shift in my own thinking has been enlightened by Regehr's recent (March, 2010) publication where he advocates that the future of medical education requires a shift from an imperative of proof and simplicity towards an imperative of understanding and representing complexity well, or at least as well as possible.

In the fourth study, supervising practitioners in two diverse practice environments were presented with the model as a conceptual tool, assisted to implement it, invited to provide feedback on the utility of the model in practice, and to identify supervisory practices that successfully engaged learners. The focus changed from learning to supervising and the results of this study are presented as guidelines derived from supervisors and learners who have

trialled the model in clinical settings. The results are synthesised as practice guidelines for supervisors in clinical settings to provide strategies linked to the model. This study demonstrates that supervisors (from medicine and nursing) can operationalise the participation model as a tool to aid in selecting and developing effective ways to supervises interns and support their learning. This study draws on practice research methodology and utilises the fifth of Kemmis's categories, "practice as reflective to be studied dialectically" (2009, p 20). We facilitated reflective practice (individual and group) to examine participants' actions in the context of practice and to uncover the knowledge which is influencing that practice. The aim was to critique and interpret the proposed model and in so doing, shape practice by attending closely to what is practical, realistic, expedient and convenient.

The four studies have all been published (or accepted for publication) in peer reviewed journals and are now included in the order in which they were prepared (rather than published). There is inevitably some duplication across the papers, particularly in the introductions and discussions of literature.

CHAPTER 6

Sheehan D, Wilkinson T.J., Billet S. Interns' Participation and Learning in Clinical Environments in a New Zealand Hospital. *Academic. Medicine*, 2005, 80 (3), 302-308.

Research Report

Interns' Participation and Learning in Clinical Environments in a New Zealand Hospital

Dale Sheehan, MEd, Tim J. Wilkinson, MB, ChB, MClinEd, and Stephen Billett, PhD

Abstract

Purpose

To explore factors that encourage interns to participate actively within clinical rotations. Encouraging their participation in workplace interactions and activities during their clinical rotations is central to effective development of clinical practice.

Method

In 2002–03, individual interviews and a focus group were conducted to gather data about interns' experiences in clinical rotations within a New Zealand hospital setting. A model for planning and organizing clinical learning was drafted and refined by iteration with other learners and more experienced peers.

Results

The findings resulted in a model for participation in clinical settings where two critical components were identified: the tasks of patient care and engagement with the clinical team. These two components are further divided into two aspects: initiation and maintenance. The outcome of all four factors working well is a reinforcing cycle of activities that promote and encourage effective participation and learning.

Conclusion

This model could provide a framework and best-practice guide that could be used for faculty development and thereby allow both supervisors and learners to gain confidence and satisfaction

CHAPTER 7

Sheehan D, Wilkinson T.J & Paltridge, D. (2008). A tool to evaluate effective learning environments within clinical attachments for interns. *Focus on Health Professional Education: A Multi-Disciplinary Journal, V* 10 (1):1-10.

A tool to evaluate effective learning environments within clinical attachments for interns

Abstract

Purpose To develop and validate an evaluation questionnaire for learning environments within clinical attachments for interns. The questionnaire was based on a previously developed model of learning through participation in clinical practice. A secondary purpose was to explore the generalisability of the learning model.

Methods The questionnaire was distributed in 2005 and 2006 to first year interns in three hospitals within New Zealand and one hospital within Australia. The questionnaire used 5 point Likert scales, asking respondents to rate statements describing aspects of teaching and learning on their current clinical attachment. Validity was determined by factor analysis and correlation with global ratings of attachments.

Results There were 84 respondents from a maximum sample pool of approximately 120. Four factors were identified: Development of professional skills, Supervisor relationship, Team environment, Orientation. Each factor had internal consistency of greater than 0.7 and correlated with global judgments on attachments. Each factor fitted within, and supported, the learning model.

Conclusion The results provide further support for the model of learning in clinical attachments. The questionnaire provided a simple and effective tool to evaluate engagement in learning within clinical attachments. For attachments that have less effective learning environments, the subscales from the factor analysis could be used to determine where problems lie. The subscale factors, combined with the learning model, could be useful for faculty development.

(218 words)

Introduction

The apprenticeship of junior doctors during their first years of practice in the workplace is recognised as an important learning experience. Quality supervision is a key for both junior doctors' learning and, for safe effective patient care. Quite what contributes to effective and positive learning at this time is less clear but our earlier research indicated that some of the characteristics of effective learning environments (Sheehan, Wilkinson, & Billett, 2005) and of effective learners (Wilkinson & Harris, 2002) relate to the extent to which novice practitioners are actively involved with the team. Specifically, the level of participation they are afforded by the workplace. The literature on effective learning within the workplace reinforces this conclusion, particularly that participation in the social context and activities of the workplace is a key ingredient to facilitate competency (Billett, 2001; Csikszentmihalyi, 1997; Ramsey, Franklin, & Ramsey, 2000; Rogoff, 1991).

In 2005 we investigated factors promoting involvement in workplace learning by junior doctors and developed a model setting out the components that ensure clinical settings are positive learning environments that encourage participation (Figure 1) (Sheehan *et al.*, 2005).

[Insert diagram here]

This model has two critical components: attributes linked to the task of providing patient care, and attributes related to engagement with the team. These two components are further divided into two aspects: initiation and maintenance. Initiation tasks form the basis of orientation and include getting to know the team members and their roles and preferences, the norms and practices of the clinical setting and the expectations that the supervisor and the team members have of the junior doctor. Maintenance tasks are more day-to-day and are mutually reinforcing. They include questioning, feedback, guidance, shared discussions and problem-solving.

The original study was designed within a phenomenological methodology, utilising in-depth interviews and focus groups. While this provided rich qualitative data from which the key themes and then the model were developed it was recognised that sample size and geographic spread were limitations. In order to address this we sought to validate the model further by surveying a larger and more diverse group of interns across New Zealand and Australia, using a questionnaire based on the model.

We decided that distilling elements of the model into a questionnaire could serve two purposes: it could be administered to more people, allowing us to check the applicability and generalisability of the model; and secondly, if it provided valid results, could then be adapted as a tool to evaluate clinical attachments (Owen & Rogers, 1999).

This paper describes the development of the questionnaire, reports on the results obtained and shares the evaluation tool developed from this study. This had two aims: (1) to develop our understanding of features of effective learning environments within clinical settings, and (2) to explore the generalisability of the model.

Methods

Questionnaire development

The questionnaire used 5 point Likert scales, ranging from strongly agree to strongly disagree, and asked respondents to rate statements describing aspects of teaching and learning on their current clinical attachment. The questionnaire had three parts.

The first part of the questionnaire included questions about the respondent's current attachment. An initial set of 25 questions was developed that tried to capture elements from all four quadrants of the model. The second part of the questionnaire asked six global questions on the overall value of the attachment. Although the questionnaire is targeted to the learning environment, we considered that learner factors may well confound some responses. The third part of the questionnaire therefore asked 12 questions about each respondent's own learning in any clinical attachment and his or her perceived locus of control.

The content validity of the questionnaire was established by asking a colleague in Australia to review the questionnaire and categorise each of the statements from the first part according to the four quadrants of the model. We also asked the colleague to make comments on overall readability. Her categorisation matched ours on all but two items. Those questions on which we did not agree were edited (in both cases to clearly refer to team interactions) and comments on readability, and local terminology were incorporated (e.g. the term "run" which is very much a New Zealand term was replaced by "attachment" in the Australian questionnaire). We then piloted the questionnaire with five junior doctors. Following their feedback, items they found confusing or repetitive were omitted or modified. This resulted in the final questionnaire consisting of a total of 38 statements about the respondent's current placement and their own learning; 20 questions related to specific aspects of the attachment, and were the main focus of this study; six questions asked for global opinions, and 12 questions related to a respondent's own learning (Table 1).

Questionnaire administration

The questionnaire was distributed in 2005 and 2006 to first year house officers in three hospitals within New Zealand and one hospital within Australia. This was coordinated by their Intern Supervisor or the Medical Education Coordinator and presented personally, at teaching sessions or by the hospital internal mail. The project was approved by each of the four hospitals, participation was voluntary and all participants gave written consent. Questionnaires were returned to the local representative, separated from the consent forms and returned separately so that responses remained anonymous.

Statistical analysis

The purpose of the statistical analyses was primarily to determine validity through factor analysis and by correlation with other measures. The factor analysis was restricted to the 20 questions from the first part of the questionnaire and extracted factors with Eigen values greater than 1.0 after varimax rotation. Internal consistency of the identified factors was determined using Cronbach's coefficient alpha.

The six questions from part 2 of the questionnaire were aggregated to form a global score for the overall value each respondent gave the attachment. The associations between each of the factors and the global score were determined by calculating Pearson's correlation coefficients.

In order to determine the attributes of each attachment that were valued the most, each individual question was correlated with the global score. To explore the effect of individual learning styles on ratings, each of the questions from part 3 was also correlated with the global score.

All analyses were undertaken using SPSS for Windows version 13.5.

Results

There were 84 respondents from a maximum sample pool of approximately 120.

Factor analysis identified four clusters of comments, each with internal consistency greater than 0.7 and that together accounted for 64% of the variance (Table 2). The names given to these factors are as follows:

Development of professional skills

This scale reflects a respondent's improvement in problem solving, clinical reasoning, consultation skills and general knowledge and skills.

Supervisor relationship

This scale reflects a respondent's ease of interaction with his or her supervisor.

Team environment

This scale reflects clarity of expectations, feeling inclusiveness with other team members and general level of engagement with the team.

Orientation

This scale reflects a respondent's views on aspects undertaken at the start of the attachment.

The four factors were then used to produce four subscales by summing the relevant question scores. Correlations between these scores, and with the global score, are shown in Table 3. This shows all factors, but particularly factors 1-3, are correlated with the overall view of the attachment, supporting construct validity of the factors.

Correlations between the global score and individual questions are shown in Table 4. This shows the strongest correlations with aspects relating to supervision and development of professional thinking. Moderate correlations were found with questions relating to the degree of engagement with a supervisor and/or team. The weakest correlations were found with aspects relating to respondents' own learning styles suggesting, as expected, that these are seen as primarily personal attributes and not influenced by the learning environment to the same degree.

Discussion

Our model of learning through participation in clinical practice suggests a learner must be able to feel invited to participate, and to be able to engage with the team. Once these have occurred, a reinforcing cycle can occur whereby professional thinking and clinical reasoning are encouraged; clinical skills are coached and confidence increases (Figure 1).

The results of this study provide further support for this model. The most valued aspect of an attachment is the development of professional skills, which is captured by the first factor from the factor analysis. This best correlates with the reinforcing cycle of ongoing participation in learning. However, in order for this to occur, a learner must feel engaged with the team. Such engagement is reflected in the aspects captured by factors 2, 3 and 4. Specifically, factor 2, or the supervisor relationship, assists in engagement as well as ongoing participation, while the team environment (factor 3) promotes engagement with the team. Finally, getting off to a good start is also important, albeit less influential overall. This is reflected in orientation (factor 4) being identified but explaining less of the overall variance.

The correlations of individual questions with the overall value of an attachment also support this model. The questions with the strongest correlations were those relating to the ease with which a learner can ask questions and be asked questions. The next highest correlations were found with those questions that measured how included a learner felt in the clinical environment. Specific aspects that were valued were: fostering an environment where questions could be asked of the trainee or the supervisor; the confidence a supervisor had in the trainee; valuing the trainee's opinion; and delegating just enough, but not too much, responsibility. These findings have important implications for staff development. For example they can be used to provide tips to supervisors, incorporated into workshops on effective supervision, or for setting performance standards for supervision.

Lower correlations were found with questions relating to personal learning styles. There are a number of possible interpretations of this finding. One is that while individual factors such as seeking out new clinical experiences are important, and may well contribute to the reinforcing cycle of ongoing participation, the environment in which a learner finds him or her self can be more influential. Alternatively, personal learning style factors may have been perceived by respondents as being outside the learning environment and having no influence, and therefore undervalued or not considered significant by the respondents. This raises some interesting questions that could be pursued in future studies. To what extent do learner's behaviours influence the learning environment through the reactions they invoke in others? It seems likely that certain learner's behaviours are seen as "positive" by supervisors and these in turn influence supervisory reactions and responses to learners. The possibility of this inter-dependence would be worth further investigation.

Parts 1 and 2 of questionnaire provide a simple and effective framework to evaluate the effectiveness of an attachment as a learning environment. More specifically it should assist in the evaluation of aspects of learning environments that promote the social aspects of learning and encourage participation of learners in the activities of the workplace. We hope that scrutiny of the results from the factor subscales alongside use of the learning model will also allow a supervisor to understand why some attachments are more effective than others. The first 20 questions describe environmental factors and supervisor attributes that learners value, and the final 6 provide the opportunity for respondents to rate their global impressions of the attachment. This should allow the evaluator to identify clusters of supervisor behaviours or team factors that are either promoting or inhibiting learning as well as obtain an overall global rating as to the effectiveness of the attachment from a learner's perspective. We invite others to use this evaluation questionnaire and welcome feedback on their results.

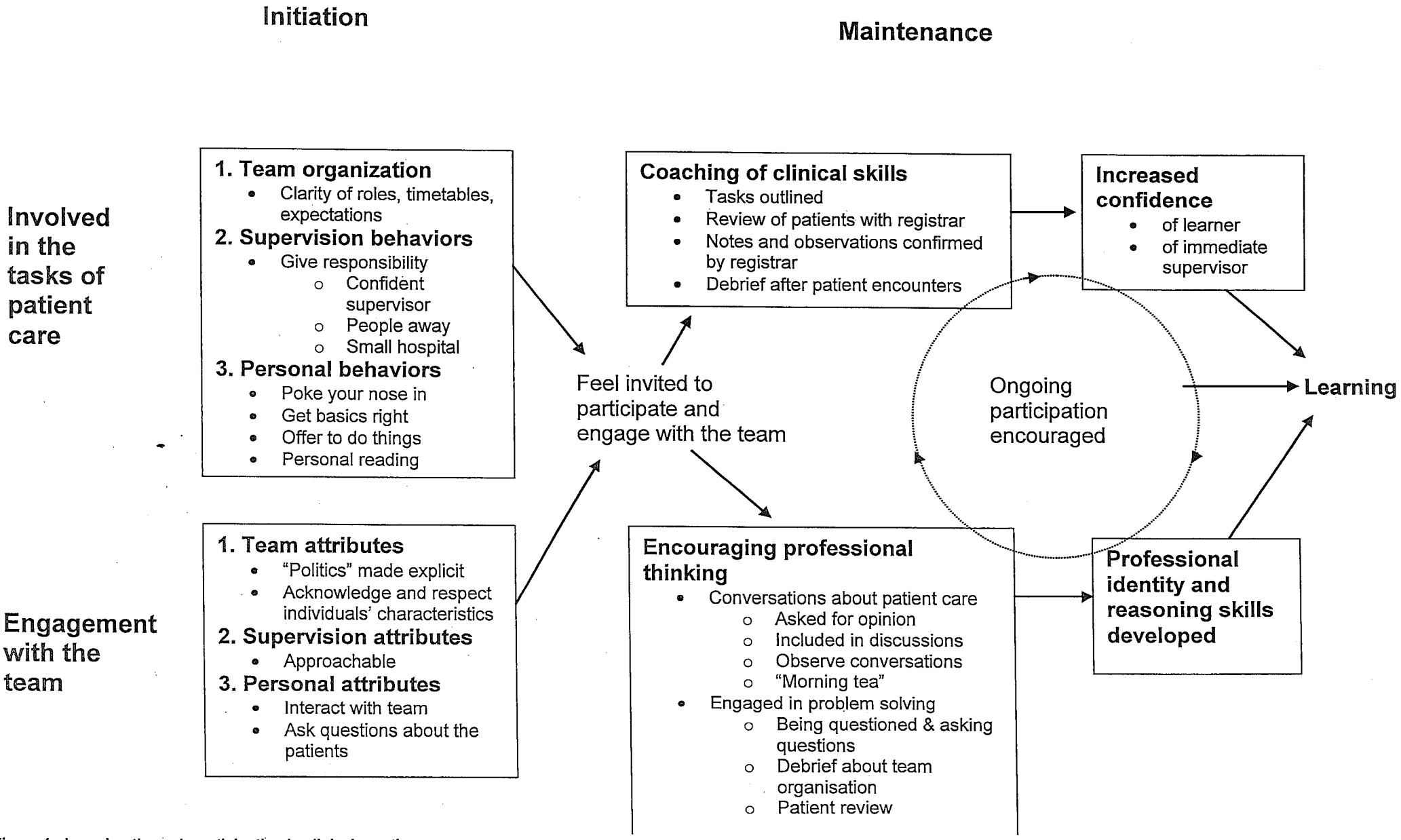


Figure 1: Learning through participation in clinical practice

Respondents used 5-point Likert scales to indicate levels of agreement (ranging from strongly disagree to strongly agree) with each of the following statements:

Part 1

In relation to this attachment:

- I understood what was expected of me
- I understood how I was expected to contribute to the team
- People showed me where important things were kept
- I felt that my supervisor had confidence in me
- It was easy for me to make suggestions about things that needed to be done
- I understood what my supervisor expected
- It was easy for me to ask questions
- I was able to discuss my decisions with other team members
- I was included in conversations about patient care
- I received feedback on the decisions I made
- Listening to other people talking about patients helped me to learn
- Overall I learnt useful skills during this attachment
- Overall I gained useful knowledge during this attachment
- Overall I became better at problem solving during this attachment
- My clinical reasoning improved during this attachment
- I feel more confident in my consultation skills
- I was introduced to other team members
- I felt comfortable with the level of responsibility I was given
- When I first arrived, specific protocols and procedures for this area were explained to me
- Overall, my opinion was valued during this attachment

Part 2

I would describe this attachment as one where you:

- learn a lot
- are supported to work independently
- develop as a doctor
- develop skills in working as part of a team
- see good patient communication skills being modelled
- would be happy to be a patient under the care of this team

Part 3

Now, thinking about your own learning on any attachment

- It is important that the consultant tells me what to learn
- What I learn on a placement is up to me
- I have control over what I learn
- I can seek out new clinical experiences
- I seek feedback from other health professionals

I learn from:

- doing the job
- my patients
- ward teaching sessions / journal clubs / tutorials
- other health professionals
- conversations with others
- follow up reading
- thinking about what happened

Table 1: Questionnaire items

Table 2: Results of factor analysis

	Factors			
Questions	Development of professional skills	Supervisor relationship	Team environment	Orientation
Overall I learnt useful skills during this attachment	**0.72**	-0.02	0.25	0.29
Overall I gained useful knowledge during this attachment	**0.80**	0.24	0.28	0.05
Overall I became better at problem solving during this attachment	**0.81**	0.16	0.25	-0.03
My clinical reasoning improved during this attachment	**0.82**	0.26	0.12	0.09
I feel more confident in my consultation skills	**0.62**	0.47	-0.08	0.27
I felt that my supervisor had confidence in me	0.11	**0.73**	0.31	0.07
It was easy for me to make suggestions about things that needed to be done	0.18	**0.71**	0.31	-0.15
I understood what my supervisor expected	0.09	**0.68**	0.23	0.24
It was easy for me to ask questions	0.37	**0.61**	0.29	0.15
I felt comfortable with the level of responsibility I was given	0.20	**0.46**	0.09	0.42
I understood what was expected of me	-0.32	0.30	**0.61**	0.31
I understood how I was expected to contribute to the team	0.03	0.18	**0.77**	0.29
I was able to discuss my decisions with other team members	0.37	0.31	**0.62**	0.02
I was included in conversations about patient care	0.26	0.19	**0.64**	-0.16
I received feedback on the decisions I made	0.28	0.30	**0.56**	0.15
Listening to other people talking about patients helped me to learn	0.27	0.07	**0.61**	0.09
Overall, my opinion was valued during this attachment	0.37	0.47	**0.48**	0.03
People showed me where important things were kept	0.26	0.08	0.06	**0.78**
I was introduced to other team members	0.15	0.55	-0.01	**0.56**
When I first arrived, specific protocols and procedures for this area were explained to me	-0.04	0.04	0.20	**0.82**
Eigen value	7.6	2.1	1.8	1.2
Variation accounted for	38%	11%	9%	6%
Internal consistency (alpha)	0.87	0.81	0.80	0.72

Table 3: Correlations between factors and global views of an attachment (n=84)

		Factor 2 Supervisor relationship	Factor 3 Team environment	Factor 4 Orientation	Overall value of attachment
Factor					
1	Development of professional skills	0.52	0.54	0.34	0.67
2	Supervisor relationship		0.67	0.43	0.65
3	Team environment			0.36	0.68
4	Orientation				0.42

All correlations significant at $p<0.01$

Table 4: Correlations between individual questions and the overall value of an attachment (n=84)

	Correlations with overall value of attachment	p
Own learning questions		
What I learn on an attachment is up to me	0.04	0.70
I seek feedback from other health professionals	0.07	0.52
I learn from conversations with others	0.11	0.31
I have control over what I learn	0.16	0.15
I learn from follow up reading	0.18	0.11
I learn from my patients	0.23	0.04
I can seek out new clinical experiences	0.23	0.04
I learn from other health professionals	0.26	0.02
I learn from ward teaching sessions / journal clubs / tutorials	0.28	0.01
It is important that the consultant tells me what to learn	0.30	<0.01
I learn from thinking about what happened	0.32	<0.01
I learn from doing the job	0.32	<0.01
Attachment questions		
When I first arrived, specific protocols and procedures for this area were explained to me	0.23	0.04
I understood what was expected of me	0.24	0.03
People showed me where important things were kept	0.37	<0.01
I understood what my supervisor expected	0.39	<0.001
I was included in conversations about patient care	0.42	<0.001
I was introduced to other team members	0.43	<0.001
It was easy for me to make suggestions about things that needed to be done	0.43	<0.001
Listening to other people talking about patients helped me to learn	0.44	<0.001
I understood how I was expected to contribute to the team	0.47	<0.001
I felt comfortable with the level of responsibility I was given	0.48	<0.001
I feel more confident in my consultation skills	0.48	<0.001
I received feedback on the decisions I made	0.50	<0.001
Overall I became better at problem solving during this attachment	0.51	<0.001
My clinical reasoning improved during this attachment	0.55	<0.001
I felt that my supervisor had confidence in me	0.56	<0.001
I was able to discuss my decisions with other team members	0.56	<0.001
It was easy for me to ask questions	0.57	<0.001
Overall I learnt useful skills during this attachment	0.58	<0.001
Overall I gained useful knowledge during this attachment	0.62	<0.001
Overall, my opinion was valued during this attachment	0.66	<0.001

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CHAPTER 8

Sheehan D, Wilkinson T.J: (2007) Maximising the clinical learning of junior doctors: applying educational theory to practice. *Medical Teacher*. 29(8).827-829.

Maximising the Clinical Learning of Junior Doctors:

Applying Educational Theory to Practice

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Abstract

Effective learning in the workplace emphasises the importance of participation in the social context and activities of that workplace. A model has previously been developed that sets out the elements of positive and participatory learning environments. The introduction of an attachment in the Emergency Department for newly graduated doctors provided an opportunity to (1) identify and implement the relevant elements from the theoretical model; (2) develop an evaluation plan in order to guide and monitor the intervention. The lessons learned from converting a theoretical model into practice and the use of quality management processes for implementation, monitoring, and evaluation are discussed.

Introduction

The workplace is the most important learning environment for junior doctors and quality supervision is key for learning and safe, effective patient care (Paltridge 2006).

We have developed a model outlining the components of positive clinical learning environments that encourage learner participation (Sheehan, Wilkinson, Billett 2005). Two critical components were attributes linked to the task of providing patient care, and attributes related to engagement with the team. Each is further divided into initiation and maintenance. Initiation tasks form the basis of orientation and include getting to know the team members, their roles and expectations. Maintenance tasks contribute to mutually reinforcing cycles of learning through feedback, shared discussions and problem-solving.

In 2004, an attachment for newly graduated doctors (interns) in an Emergency Department was introduced. The supervising consultant was willing to use the proposed model as the basis for planning and monitoring the attachment. This provided an opportunity to test the applicability and usability of the model for teaching, quality monitoring and evaluation. We chose a quality planning framework to implement and evaluate the attachment over its first six months.

Methods

We conducted the implementation by sharing the model with the supervising consultant. We identified the key best practice elements from the model and contextualized them to the attachment. We then developed an evaluation plan for monitoring these elements.

Key elements to implement from the model were:

1. Orientation to the tasks of patient care relevant to the Emergency Department
2. Orientation to, and encouragement to engage with, the clinical team
3. Ongoing coaching of clinical skills
4. Ongoing contact with supervisors and the team to encourage professional thinking and problem solving.

The medical educator attached to the project, and the supervising consultant identified activities within the model and incorporated them into an action plan for supervision. The key elements were broken down into standards, implementation methods and monitoring methods (Table 1). The medical educator and supervising consultant briefed the four interns who participated in the attachment over six months. As part of usual practice, training plans were completed with each intern at the start of the attachment, and reviewed mid-way and at the end of the attachment. The particular strategies were the development of individual training plans, regular case review, and feedback on teamwork and skills development.

We recognised that recording only distal outcomes (such as learner satisfaction) would be less informative than also recording whether the more proximal outcomes (such as elements of the model) had been met. We wished to verify the extent that the programme was being satisfactorily delivered, to explore what actually happened, and to identify the relevance of the model. Because quality management cycles focus on the delivery and outcomes of a programme (Owen and Rogers 1999), their use seemed to provide an appropriate evaluation methodology.

Data collection for the evaluation used a mixture of supervisor feedback, team feedback, in-depth interviews with the interns, and documentation checking. Forty minute interviews were undertaken by the medical educator with all four interns at the end of the first two attachments, using a structured schedule developed from the evaluation plan. Each intern gave a global rating of satisfaction. The medical educator reviewed the individual training plans and attachment feedback forms.

Results

All parties viewed the attachment as a success. The following planned learning activities occurred consistently and reflected the proposed model:

- Orientation to task and team
- Use of training plans to focus learning and set standards for performance
- Provision of clear clinical responsibilities for patient care
- Provision of appropriate opportunities for autonomy in patient care
- Promotion of case-based interactions and critical incident reviews with members of the multidisciplinary team
- Provision of regular formal and informal patient review with consultants
- Seeking out and provision of end-of-attachment feedback
- Initiation of each intern's own case review and self-assessment.

Comments invited at the conclusion of the interviews were of a general nature and were all positive (e. g. "The highlight of my year"). On a global rating for the attachment (10 excellent, 1 poor), three of the interns rated the attachment as 10, and one as 7.

The supervisor was asked to write reflections on the year and commented that:

> *The interns certainly benefit from having the opportunity to see patients "first off" and not after several other health professionals have had input. They are made to be part of the team …….*

Formal case review was a more consistent component of training for the first two interns than for the second pair, a situation that related to a period of supervising consultant leave. This illustrated the importance of supervisor commitment especially when service demands put pressure on time and priorities. The interns' comments revealed that they appreciated supervision, but also noted that is was less helpful when some supervisors "took over cases".

CHAPTER 9

Sheehan & Wilkinson. (In Press) Who's going to move first? Practice Guidelines for Clinical Supervision. Accepted for publication in FOCUS The Journal of Health Professional Education 2010.

WHO'S GOING TO MOVE FIRST?: PRACTICE GUIDELINES FOR CLINICAL SUPERVISION

SHORT TITLE - PRACTICE GUIDELINES

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Key Words

Clinical learning
Clinical supervision
Participation
Workplace learning and supervision

Word Count - 4,906

Abstract

Purpose This study explores the implementation of a model of clinical learning (Sheehan, Wilkinson & Billet, 2005) that encourages full participation and engagement in practice. Supervisors in diverse settings volunteered to trial and implement the model in their practice environments. The initial model was built from the perspective of junior doctors as learners; this study focuses on the experiences of supervisors from medicine and nursing in the workplace and their perspectives on workplace learning both as facilitators of learning and as life long learners.

Methods This study fits within a socio-cultural framework of learning and draws on practice research methodology to reveal and chronicle the experiences of clinical supervisors working across two health disciplines and diverse clinical settings. One within an emergency medicine environment, the other with a small group of nursing preceptors (supervisors) working on medical and surgical wards.

Results Results support the model and identified simple and effective behaviours that encourage participation and learning when learning is recognised as a social activity that occurs within inter-professional clinical teams. These include strategies that are familiar to supervisors but which are not consistently utilised: orientation to the tasks of the placement and to the team, ensuring engagement and involvement in the team and coaching professional skills and problem-solving abilities. The dynamic relationship between supervisor and supervisee evolves over time which can be likened to a dance but which requires someone to make the first move.

Conclusion This paper presents supervisors' and supervisees' reflections on the usefulness of the clinical learning model and builds on it by identifying strategies that supervisors and supervisee can use to enhance learning in clinical settings.

INTRODUCTON

This paper describes the outcomes of an iterative process to design a framework for encouraging participation and active involvement in clinical learning by junior doctors. The approach taken recognises that clinical practice is influenced by the socio-cultural and socio-emotional contexts in which it occurs (Bleakley et al., 2004; Sargeant et al., 2008). The underlying premise is that clinical workplaces can enhance effective learning by encouraging or inviting newcomers to engage in interactions with peers and more experienced practitioners and fully participate in a healthcare team. However practical ways in which this can be enhanced have been less well described.

Literature on effective workplace learning emphasises that social context and participation in activities are key facilitators of workplace competence (Fuller et al, 2005; Billett, 2001, 2002; Rogoff 1990). Lave and Wenger (1991) coined the term "community of practice" as a way to capture the concept of apprenticeship learning in modern organisations. It is a concept that moves from the notion that apprenticeship involves a master–novice relationship to one in which apprenticeship takes place within team settings involving collaborations with and co-construction of knowledge by novices (apprentices) and experts, and in which the novice steadily moves towards expertise. Lave and Wenger (1991) argue that learning begins by practising legitimately on the periphery of a community and then moving toward full participation as they negotiate their own place and in so doing develop professional identity. Wenger (1998) notes that "peripherality" allows exposure of practice with lessened intensity; in clinical work places this lessens the risk of error. Others in medicine have also stressed the importance of active involvement of junior doctors in team and the importance of a positive learning environment to encourage that involvement, but they have not described practice based activities to encourage such an environment (Van der Hem-Stokroos et al, 2003; Wilkinson and Harris, 2002).

A Dutch study (Teunissen, Scheele, Scherpbier et al, 2007) endorses participation in work related activities as the foundation of interns' learning and describes clinical learning as a process of interpretation, construction of meaning, refinement and expansion of personal knowledge through workplace experience;

while also accessing the codified knowledge of journals and medical texts. A follow up study (Teunissen, Boor, Scherpbier et al, 2007) asked the supervisors to comment on their interns' learning. Again the importance of participation emerged: learning to be a medical specialist means working and acting like one and confidence was identified as a key factor. When supervisors interact and discuss cases, confidence is an outcome for both; the supervisor has more confidence in the novice and the novice increases in self confidence. Kennedy et al' s (2007) work on oversight supports this finding with the type of oversight provided being influenced by the confidence supervisors had through their engagement with the learner. Learning is therefore a dynamic interaction created by both parties, rather than transmitted from a supervisor to a supervisee.

This paper began by drawing on a previous study that applied a socio-cultural perspective on workplace learning to junior doctors in clinical settings (Sheehan, Wilkinson, & Billett, 2005). The initial study described a model that set out the critical components that ensure clinical settings are positive learning environments that encourage participation. It detailed critical attributes needed to ensure that the junior doctor participated in two sets of tasks: providing patient care and engaging with the clinical team (Figure 1). These attributes are further subdivided by time into initiation and maintenance. Initiation tasks form the basis of orientation, including getting to know the team members (including roles and preferences), the norms and practices of the clinical setting and the expectations that the supervisor and the team members have of the junior doctor. Maintenance aspects are mutually reinforcing day to day tasks. They include questioning, feedback, guidance, shared discussions (formal and informal) and problem-solving. This stimulated the next phase of this programme of research as the model that was developed did not seem to provide a clear enough exposition of how supervisors might put these ideas into practice in the clinical setting. This current enquiry therefore builds on this previous research by focusing on the other part of the supervisory relationship: the practice of supervisors in the workplace.

Insert figure 1 here

The aim of this paper is to take a practice focus and explore the

implementation of the model (Figure 1) within two diverse practice settings (one medical and one nursing) and to identify specific practical strategies with the practitioners that could be trialled and evaluated by their supervisees. The focus changes from learning to supervising and the results of this study are presented as guidelines derived from supervisors and supervisees who have trialed the model in clinical settings.

METHOD

This study draws on practice research methodology (Kemmis, 2009) to reveal and chronicle the experiences of clinicians as workplace supervisors. It falls within the fifth of Kemmis's categories, "practice as reflective to be studied dialectically" (2009, p 20). We utilised facilitated reflective practice (individual and group) to examine participants' actions in the context of practice to uncover the knowledge that is influencing that practice (Kinsella, 2001). This is an approach supported by Higgs and Titchen, (2001) who claim that it is through doing, including the opportunity to deliberately reflect, that we have the potential to develop ideas, understandings and learn more about supervisory practice. In conducting this study we worked as experienced medical educators (from the "outside") with other experienced practitioner supervisors to make sense of the model (from the "inside") in a way described by Fish (2009). We applied a dialectical method whereby the dialogue between the researchers and the participants contributed to new knowledge. As such, even if the participants did not agree with the researchers, they shared at least some meanings and principles of inference so that they could discuss and debate ideas and experiences with us rather than simply reporting back on experiences

We sought to engage practitioners by firstly presenting the model as a conceptual tool, then by assisting them to implement it. We then collected feedback, discussed with them the utility of the model in practice, and identified supervisory practices that engaged supervisees. This has allowed us to trial the model and its recommendations in situ within real and viable existing communities of supervisors and supervisees. The aim was to critique, interpret the proposed model and in so doing shape practice by attending closely to what is practical, realistic expedient and convenient. The approach has been pragmatic in order to bridge where supervisory

practice is now and where it may end up and draws on the traditions of design-based research with researcher as both designer and researcher (Fish, 2009).

To add further richness to the research, the enquiry was carried out with two health disciplines (medicine and nursing) within selected clinical sites of a large metropolitan New Zealand Hospital. The participants were volunteers who responded to an invitation to work with the researchers to implement and trial the model. Two case studies emerged as an outcome of the differing programme structures and work schedules of the supervisors who volunteered. The first case study involved implementation of the model within a medical education environment with a consultant supervisor and junior doctors on an emergency medicine placement. The second case study was conducted with nursing preceptors working across a range of clinical areas.

Case Study 1.

This case study made use of the opportunity provided when an attachment for junior doctors in the Emergency Department at Christchurch Hospital, New Zealand was introduced. The supervising consultant was willing to use the model as the basis for planning and monitoring the new attachment. The quality monitoring aspect of this study has been previously described (Sheehan & Wilkinson, 2007). In this context the 3-month placement was the responsibility of the supervisor who worked with other staff within the inter-professional team to coordinate the training and supervision. In this environment one of the authors (DS) worked in a one-to-one coaching role with the supervising consultant to implement the trial. Together they developed an implementation plan and the supervising consultant briefed other team members and took responsibility for site implementation.

The supervising consultant drew on each of the four aspects of the model and trialled strategies to facilitate the following:

- orientation to the tasks of patient care
- orientation to, and encouragement to engage with, the clinical team
- opportunities for case discussion between the supervisee and supervisor and/or other team members to encourage professional thinking and problem-solving

- ongoing coaching of clinical skills

DS meet with the consultant supervisor on two occasions to monitor progress and notes of these meetings were taken. This included guided reflection on the implementation strategies, discussion of the junior doctors' individual training plans and written mid attachment feedback. DS collected feedback from the junior doctors about the success or otherwise of the implementation. Feedback to the researcher, rather than the supervisor, was chosen as the researcher was not involved in the assessment of the junior doctors' performance. The interview questions required the doctors to use guided reflection to debrief and then to record their experiences. Findings and themes identified were discussed with the consultant supervisor to provide a check on the interpretation of data.

Case Study 2

In response to our initial invitation an opportunity arose to work with a group of nurses (6 preceptors) who were interested in learning about the model, trialling it and sharing their experiences. The model was presented in a workshop format to the preceptors to discuss and identify strategies for trial within their own settings. The settings included both medical and surgical wards and one outpatient setting. The preceptors implemented the model and reconvened three weeks later to share their experiences, discuss and challenge the model and the practices advocated within it. The second workshop was run by an experienced facilitator (DS) and conducted in a style described by Bogdan and Biklen (1998) whereby individual and interpersonal reflection on the strategies trialled was encourage. This method was particularly suited to this case study because the interaction among participants and with the researchers provided dimensions of understanding in the views of participants that could not be achieved by individual interviews or other methods (Kitzinger, 1995). Data were analysed and summarised into themes by the participants and recoded using categories and language generated by the participants to ensure authenticity.

For both case studies the research design allowed all participants the opportunity to check the data collected for accuracy, and have a part in the theorising from the data. In this way trustworthiness and validation of the data are achieved

through reciprocity. However this did lead to different theme descriptors and the use of complementary but different terminology that required a second level of analysis to bring together the data from both case studies.

Secondary Data Analysis

Further thematic analysis using data from both case studies allowed us to analyse the experience of clinical supervisees to identifying successful practices. These could then be used to develop a set of guidelines and practical strategies for supervisors who are introducing new practitioners into inter-professional environments and supervisees entering these environments.

RESULTS

Case Study 1: Medicine

The behaviours identified by the supervisor and the interns as helpful in promoting participation were coded by category of planned intervention. We identified strategies that helped and hindered orientation to the tasks of the placement and team, inclusion within the team, case discussion and coaching professional skills. A sample of their statements is summarised in Table 1.

Insert table one here

Clarity about the role of the new practitioner and having objectives to focus learning and attention were important aspects of orientation. Supervisors and team members encourage inclusion by showing confidence in the novice while being accessible but it is important not to over supervise some novices. Individual differences emerged with some supervisees wanting to be given more direction (e.g. *"Could be invited to trauma more"*), while others wanted more autonomy, finding it unhelpful to be asked to follow the consultant because it "*felt like a fourth-year medical student.*"

We also identified learner attitudes and behaviours that contributed to the degree of engagement, and a link to the confidence of the supervisee. An early lack of

confidence for one intern was noted by the supervisor and when the intern asked about this said *"I hoped nothing nasty would come up on the top of the screen"* (in this context, the screen is electronic and shows new admissions). This intern had been observed "avoiding" the more difficult cases and when asked about this by the researcher acknowledged a lack of confidence early in the placement. Feeling included helped build confidence: when the intern felt that others had confidence in him, this encouraged his involvement and increased the scope of activities he felt confident with, such as being on call. One intern noted *"I felt part of the team, and more so as time went on . . . often invited to give an opinion.... this gave me confidence for being on call."* This illustrates the importance of a cycle of mutually reinforcing confidence between supervisee and supervisor.

Case review and feedback were closely related and the interviewer noted that they were described often within the same sentence. Joint review of cases and conversations around patient care were highly valued activities (including discussions with nurses). *"I could touch base with nurses or the registrar and ask."; "Had a case review session weekly with supervisor; could have been two-weekly."*

Supervisees made choices that impacted on engagement. Some appeared to rely on the supervisor for initiation and external motivation. One said "*I was supposed to look at the plan and self-assessment [when x away] but I did not."* Another commented that *"Case review fell off for a while when "x" away."* In contrast others recognised that being proactive, is a personal responsibility and that there is choice about whether to get involved or not. There was also recognition by the supervisees that at times they chose not to participate as actively as they may have but reasons for this were not explored. Examples are:

"If not my patient, I chose not to get involved."

". . . challenging and interesting. Made me want to go home and read up."

"At times I initiated my own review around different cases."

Interns appreciated opportunities to practise clinical skills and opportunities to be coached in core skills such as wound care: *"You see non-hospital patients and shown all the little things like eyes, wounds etc."* Training in resuscitation was highly

valued and it was seen as a skill that would transfer to other settings: *"Helped me for being the first person in an emergency."* These are statements about the nature of ED as a specific work and learning environment but they do capture an interest of interns to practise core, practical skills. It is interesting to note that the specificity of the ED environment raised concerns - one responded said *"ED does not prepare interns for clerking and time-management skills; you need on a ward placement."* This is a concern that was significant as it was this group's first placement after graduation from medical school and may not have been made if this placement followed ward experience.

Case Study 2: Nursing Educators

The reflective focus group of nurse educators critically reviewed the model, discussed approaches for implementing the model with the researchers and identified behaviours and actions that they saw as likely to promote participation. These were grouped around four themes generated by the participants during group discussion: orientation to task, engagement, encouraging professional thinking, and providing opportunities for practice. They then implemented these planned interventions and sought feedback from their supervisees, bringing that feedback and their experiences to the second meeting.

Table 2 summarises their comments and strategies under their four themes. The supervisee feedback was less well documented than in case study one but has been included where possible.

Insert Table 2 here

The results from this group mirrored Case Study 1 and therefore to avoid duplication (both from Table 1 and Table 2) they are not repeated here. Similar themes emerged as being important: knowing your own role on the team and "*who is who*" on the team, clarity about expectations and appropriate levels of responsibility, being valued, belonging, feeling able to discuss and share conversations. The supervisors described opportunities for reflection, discussing cases, enquiring and

feedback as "*professional thinking*" and saw these professional behaviours as participatory and engaging the supervisee and the supervisor.

Secondary Analysis

The results from the case studies identified simple and effective behaviours that encourage participation and learning when learning is recognised as a social activity and one that occurs within inter-professional clinical teams. They are the activities that inter-professional clinical teams engage in together (Sheehan, Robertson, Ormond, 2007) and the novice taking part was seen as an indicator of engagement by these educators. They are described in two parts:

1. Supervisee behaviours and attributes that promote learning
2. Supervisors' practices that encourage participation and learning within clinical teams

1. Supervisee Behaviours and Attributes

Being a supervisee within a clinical team is not a solo activity. It requires engagement with the community and active learning. As one of the supervisors emphasised, supervisees need to be interested and this in turn rewards the supervisor and encourages a response in them.

In the medical case study, participants reported positive and negative aspects of their own learning behaviours. For example, one participant talked of going home, reading up and initiating his own review around different cases when he was also supposed to look at the plan and self-assess. In contrast, another person admitted if the patient was not theirs, they did not want to get involved. Participants also recognised that confidence is important, and that an early lack of confidence is a barrier to participation. For example being scared that the next patient to be seen might be too difficult.

The key messages for supervisees are as much about personal attributes and interpersonal communication as they are about clinical skills or knowledge.

- **Get involved by building relationships**

  Be willing; take all opportunities to be involved. Look for things to do, do not stand back, offer to do things, accept all invitations to be involved in patient care and it is likely that this will also grow your confidence. Be interested in the work and show interest in all team members and their work and contribution. Offer to help when you can even when the duties may not be yours, be generous with your time, and support peers.

- **Be proactive, show enthusiasm**

  Bring a sense of urgency and enthusiasm to your work and others will notice you and respond. These behaviours encourage collaboration. Ask questions and develop an attitude of enquiry. "Poke your nose in." Enthusiasm, interpersonal skills, self-efficacy and a willingness to engage actively with the community ensures that collaborative work becomes a source of shared learning.

- **Be an active learner**

  Look up information, read around cases, attend case meetings and contribute even in small ways. Volunteer for tasks especially clinical skills of which you have little experience. Offer suggestions and do not be afraid of being wrong. Talk through your decision making process with your peers and supervisors, check that the way you are solving problems is effective. Ask questions all the time and of everybody. When appropriate ask your supervisor to think out loud and to explain their thinking and decision making. Ask for feedback.

2. Supervisor's practices that encourage participation and learning within clinical teams

The two case studies identified similar themes and thereby sets of behaviours that support novice practitioners and the supervisor's role. This is a dynamic process which highlights activities that are part of a well functioning clinical team's practices

(Sheehan, et al., 2007). Key findings highlighted the importance of informal conversations during the course of the working day, role modelling of inclusive language by the supervisor when talking with the members of their teams, role clarity within the team and being able to state opinions freely.

The following presents a summary of strategies that can be used by supervisors that were identified in the primary analysis of results and that clinical educators, clinical teams and supervisors can use to enhance clinical learning environments and build communities of practice:

- **Orientate supervisees to the tasks of the placement and team; introduce them to the team:** Ensure they know the protocols, where things are, key people to ask, explain any idiosyncrasies of the team members. Delegate meaningful tasks and increase these over time. Let others in the team know what the supervisees role is and show confidence in them to fulfil that role Act as a sponsor, endorse their presence and involvement.

- **Involve the supervisee in the team**: Be sure they know what is expected of them and that their opinion is valued. Delegate responsibilities and include the supervisee in team discussions about patient care, invite them to offer solutions and opinions and include them in informal conversations. Think aloud about your decisions, ask questions, invite questions from the whole team. Do not let the supervisee hover on the periphery; pull them in, encourage participation.

- **Coach supervisees professional skills and develop their problem-solving abilities**: Coach by choosing tasks appropriate to their level of ability, provide hints and scaffolding to help them tackle more difficult situations, evaluate their engagement in new activities and diagnose the kinds of problems they have along the way. Challenge and offer encouragement, give feedback, structure the ways they things, and help them work on identified weaknesses. Ask questions that help clarify

clinical decision-making and consultation/referral skills. Listen to their talk. Encourage reflection and critically review cases with the novice.

DISCUSSION

We see new practitioners in health settings as active peripheral participants (after Lave and Wenger, 1991). Orientation to the attachment and to the team legitimises the novice's position as a peripheral member of the practice community. Their ongoing engagement with the team (through conversation and dialogue) is the process that aids the passage from observer to involvement with the community of clinical practice and the wider inter-professional community. It is the conversations, and hearing more experienced practitioners "thinking aloud" that helps new practitioners understand the supervisors' and teams' idiosyncrasies and improves their skills in clinical reasoning. It is the dialogue, the language and the behaviours that give the experience meaning. Each comes to understand the other through their actions and conversation (Kemmis, 2005). The novice can not be passive, they must bring a sense of agency to their work and be aware that developing expertise will take time and that much will be gained through informally working with colleagues (Viskovic, 2005).

Increased engagement leads to increased confidence through social activity. Discussion and joint problem-solving, debate over decisions, and consideration of options are all highlighted as important activities. Middleton (1998) notes the positive role of "argumentative talk" in a clinical team as one of negotiating "collective intelligence".

We conceptualise this as a kind of "dance", a conceptualisation that draws on an analogy first proposed by Wells (1999). Wells uses the analogy of dancing as a cultural activity when endeavouring to provide an example of the participation model as learning in action. When first joining an ongoing dance community, dancers enter as novices. Guided by the music and the movements of others, they slowly pick up the steps. Thus, the structure of the activity as a whole forms the framework within which the learning occurs. We, too, see supervisees in health settings as active peripheral participants moving into a social learning environment requiring participation and active engagement in the professional medical community where the

structure of the activity as a whole forms the framework. Initially the supervisor, team and supervisee both keep their distance from each other, while each party tries to determine the "rules of engagement". Once one party moves, the other is more likely to reciprocate. For example, supervisees might be shy and reserved in case the supervisor wants to expose their lack of knowledge. The supervisor and team might be reserved because the supervisee does not seem keen to learn. If either party makes a move to indicate that knowledge can be shared, then the "dance" can begin. A supervisor or a team member might ask a probing question. The supervisee then responds with a tentative answer and reciprocates with a question of the supervisor. The supervisor acknowledges this gesture and starts to engage more with the supervisee. Before long, conversation begins and a dialogue ensues. It is these conversations, and "thinking aloud" that help supervisees understand the supervisors' idiosyncrasies and so improve their clinical reasoning. It is the dialogue, the language and the behaviours that give the experience meaning for the dancers. Each comes to understand the other through their actions and conversation (Kemmis, 2005). Discussion and joint problem-solving, debate over decisions, and consideration of options are all highlighted as important activities. Middleton (1998) sees such talk as a learning resource rather than just a clinical problem to be solved. Processes for encouraging reflection in clinical practice are outlined by Driessen, van Tartwijk and Dornan (2008) and stress listening and asking questions rather than giving answers. However, there is no dance unless someone moves first. Under our model, it is less critical who moves first, as long as it is someone.

Engagement with the team is the process that aids the passage from legitimate peripheral participation to involvement with the community of medical practice and the wider inter-professional community. Within the "dance analogy", once the novice is part of the community the dance is no longer predominantly a "twosome" with the supervisor but a more complex group dance where a number of participants work together and consider one another's moves and positions on the floor. Increased engagement leads to increased confidence and the individual becomes a product of social activity. Being accepted into and learning within a community of practice has implications for the development of professional identity as well as learning (Wenger 1998) an area that will be further explored in later studies.

The limitations of this study link to issues common in qualitative research: generalisability and bias. While the case studies are small and undertaken in specific contexts, this is balanced by the consistency of data across these studies, across clinical contexts and across disciplines. Bias is a threat in all qualitative work and one researcher (DS) did play a central role in all data collection, analysis and interpretation bringing an insider perspective as well as an outsider perspective to the study. It is hoped that this is mediated by the repetitive discussion of findings that occurred in the focus groups. However, the experience of the researchers as educators is also a strength. As experienced clinical educators, both researchers brought their experiences to the interviews and focus groups which ensured that dialogue with the participants was possible, different ideas and experiences could be presented in an atmosphere of all parties wishing to debate and to persuade as is necessary for a dialectic dialogue.

SUMMARY

The model translated well into practice, provided a useful framework for planning, and resulted in positive outcomes for the supervisor and for supervisees. The model of learning through participation in clinical practice (Figure 1) shows that a supervisee must feel invited to participate, and be able to engage with the team. Once these have occurred, a reinforcing cycle can occur whereby professional thinking and clinical reasoning are encouraged; clinical skills are coached and confidence increases. Lave and Wenger (1991) argue that learning by practising legitimately on the periphery of a community (as interns do) and then moving toward full participation is also about the development of professional identity and this warrants a stronger focus in future research.

What is not addressed is the impact of variation in the clinical attachments or the organisational structures and stressors that impact on practice. There is potential for conflict and instability not just for the individual but across the team. More work is needed to explore issues of power given the hierarchical structure in health and the possibility that not all healthcare environments are friendly and supportive.

This study provides support for a socio-cultural approach to learning which is strengthened by the addition of concrete practical strategies to enact the model. This study provides a step in ongoing theory building and contributes to the emerging dialogue on learning and supervision in clinical environments.

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Table 1: Case Study 1 - Behaviours Promoting Participation

Category	Helpful team or supervisor behaviours	Less helpful team or supervisor behaviours	Learner activities, responses
Orientation to the tasks of the placement and team	• A full attachment orientation took place. • The training plan and objectives were useful: *"Being given a list of things was helpful. I knew what to look out for." "It focused learning—I know what to pay attention to."*	• During the first attachment, there was some confusion, with nurses not being sure of the intern's role and boundaries.	• Lack of confidence early on for one intern: *"I hoped nothing nasty would come up on the top of the screen."*
Inclusion in the team and team showing confidence in the novice	• Interns enjoyed the degree of autonomy they had while appreciating that there was always a consultant around. All reported the benefit of working with the nurses. *I felt part of the team, and more so as time went on." "I could touch base with nurses or the registrar and ask."*	• One intern commented that they *"Could be invited to trauma more."* • One trainee felt over- supervised at times: *"Some consultants made us follow them— not helpful; felt like a fourth-year medical student."* (I4)	*"Gave me confidence for being on call."*
Feedback formal and informal, negative. Case review and discussion	• Informal Feedback Trainees reported more opportunities for case review and discussion than they experienced on other attachments: *"Had a case review session weekly with supervisor; could have been two-weekly."* • Specific Training *"Helped me for being the first person in an emergency."*	• Feedback was variable when the named supervising consultant was on leave: "less feedback when "x" away)" "Case review fell off for a while when "x" away"	• In relation to feedback mid attachment: *"I was supposed to look at the plan and self assessment [when x away] but I did not." "If not my patient, I chose not to get involved."* (S4) *"At times I initiated my own review around different cases."*
Coaching professional skills	• Chances to practice clinical decision making skills *". . . often invited to give an opinion." "more decision making than on other attachments.* Ongoing coaching of skills appeared very accessible in the ED. *"You see non-hospital patients and are shown all the little things like eyes, wounds etc."*	• The specific context of the placement was noted - after the first attachment, both interns noted that *" ED does not prepare interns for clerking and time management skills you need on a ward placement"*	*". . . challenging and interesting. Made me want to go home and read up.*

Table 2: Case Study 2. Behaviours Promoting Participation

Category	Helpful team or supervisor behaviours	Less helpful team or supervisor behaviours	Learner activities, responses (as reported by the supervisors)
Orientation to the tasks of the placement and team	• Available resources, such as induction package that show layout of ward, staff roles, emergency equipment, who the consultants are, who's who.	• A focus on the interesting and less routine tasks *"Need to know about the routine, need 2 or 3 days doing basics, need to know more average" things."*	*"Nursing is about performance!"*
Inclusion in the team and relationship with supervisor	• Build a relationship and learn how much to trust each other. • Grow a sense of belonging, feeling valued – not a nuisance • Safe environment – emotionally, patient safety, professionally • Coaching to be involved e.g. the supervisor said *"I want to hear your voice in the office talking to people"*	• People in the team who do not want to interact with you	• Trainee needs to be interested *"If they're interested, I'm keen."* *"Look confident"* *"Enjoy it"*
Case review and discussion Encouraging professional thinking (critical thinking)	• Regular feedback • Opportunities for reflection • Using 'Enquiring questions	• People on the ward who do not want to explain their practice or help learners .	• If the first person does not help ask someone else *"X was so dismissive, I went to a second person to ask"*
Learning tasks and professional behaviours.	• When asked what they learned it was often little things *"The surgeon choices re shaving"* *"Gloopy stuff when you remove a line"*	• A day too packed with experiences and not enough routine practice	*A goal is to look less scared!*

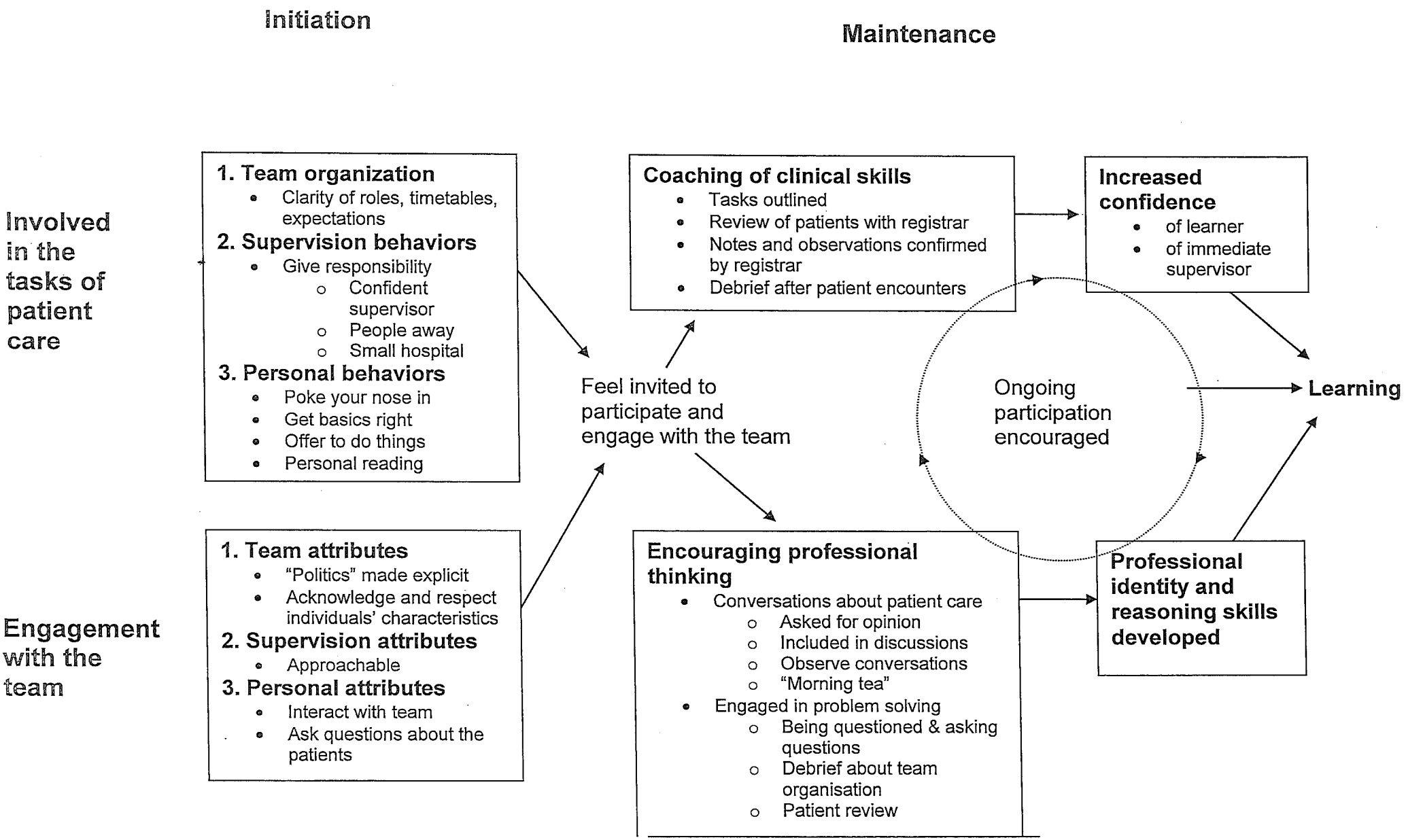


Figure 1: Learning through participation in clinical practice

Source: (Sheehan, Wilkinson, Billett . 2005)

SUMMARISING COMMENTS

These studies provide evidence that a description of learning that places social interaction (or engagement and participation) and knowledge sharing as a core component of learning can fit medical practice. Through this iterative process the model derived from the initial study in 2005 has been tested and progressively reviewed and added to.

These articles provide:

- a validated model for encouraging participation in a clinical environment
- a simple and effective tool to evaluate engagement in learning within clinical attachments
- descriptions of 'successful learning' from an intern perspective and indicate specific supervisor's behaviours that learners find useful in supporting these
- strategies that supervisor and learners can utilise to enhance learning in clinical settings that have been tested with practitioners.

These studies support the thesis that a socio-cultural perspective can be useful for understanding learning in internship and the development of an alternative structure for intern supervision is well advanced by these outcomes. However, the results from the first three studies were analysed and discussed within a general social learning paradigm, but as authors we did not draw on theory or a conceptual framework as consistently, or as well as we might have. This was partly addressed in the fourth study, but at no time did we recognise, describe or pay attention to the complexity of the learning environment. This matters, it has been shown that clinical workplaces might enhance effective learning through encouraging or inviting new comers to engage in interactions with peers and more experienced practitioners and so participate fully in a CoP. Some attachments invite more participation than others. For instance, those in a setting where there are other doctors and experienced nurses may hold greater potential for participation than in settings where there are few or no other doctors. Yet there is a personal element as well, that is, individual difference in communication style and personality is also part of the mix. There is thus reciprocity to participation (as noted by Wells, (1999) in using the dance analogy. One factor is how the team invites participation and the other is how the individual doctor elects to engage in team activities. The literature on workplace learning highlights the significance of co-participation in workplace learning, the reciprocal process of workplace participation. Outside health it has been noted that full-time workers will inhibit the activities of part-time workers, in order to preserve their standing

(Bernhardt, 1999). Also, non-English speaking workers have been marginalised and scapegoated in workplaces (Hull, 1997) and production workers in manufacturing have been denied the standing and involvement that an objective analysis of their work would warrant (Darrah, 1996). These studies have identified significant barriers to participation, and how they influence the opportunities that are afforded to individuals or cohorts of individuals. These factors could also be important for interns, especially overseas medical graduates required to complete an intern year prior to registration in NZ.

In work undertaken at the same time as this, thesis Boor (2009) demonstrated that in undergraduate programmes both departmental culture and student attributes determined the learning environment, and she also notes the reciprocal nature of the clinical workplace learning experience. Her thesis shows that clinical workplaces varied as learning environments and she describes them as restricting or expanding participation. Dornan and colleagues (Dornan, Boshuizen, King, Scherpbeir, 2007) also show that undergraduate students' experience is shaped by the environment provided by the department in which they are placed, and the student's personal response (e.g. taking initiative). Student involvement has also been shown to be a factor in quality undergraduate teaching (Hoellein, Feddocak, Wilson, Griffith, Rudy, & Caudill, 2007). The critical role of relationships and the learner's response also arose in Watling and Lingard's review of the literature on perceptions of feedback, and how these perceptions influence learning. After a focused exploration of literature in higher education and industrial psychology, as well as in medical settings, they conclude that regardless of the tool used "it is the relationship between the teacher and learner that is the centre of any process where feedback intended to enhance performance is offered" (epub) and the need for further research on the processes of feedback reception, and the social and contextual factors that influence it in medical settings.

Billett, (1998a, 1998b) also emphasised the social context in which expertise is developed. Expertise is related to a particular CoP; it is embedded in social practice over time; it requires development of competence in the community's discourse, activities and ways of behaving; and is reciprocal, as people shape and are shaped by the CoP (Billett, 1998b). For the intern, the specific context of practice and community changes every three months so there are multiple communities to engage with and transfer into. The fourth study adopts Wenger's concept of CoP (1998) and the concept of situated learning (Lave and Wenger, 1998) as the theoretical framework for the study. However, this work only addresses Wenger's first two levels of responsibility for learning organisations; that is the individual and supervisor

responsibilities. What is not addressed in this series of studies is how new knowledge is developed, and shared within the wider community of medicine, and how the context and wider environment impact on the learning of novices and established members. Nor are the relationships of the intern and supervisor within the interprofessional team, the wider community of medical practitioners and organisation environment explained or well developed.

The third level is organisational and professional; the responsibilities at this level are supporting and sustaining the interconnected communities of practice. For this reason the following section (Part II) addresses the ‘macro’ level or Wenger’s third level of responsibility at the professional and organisational level. It looks more closely at the practice architecture; that is the intern’s immediate working environment, including the informal learning that occurs when the supervisor may not be present. In Part II, ‘macro’ level investigations are used to review existing structures and to identify formal and informal learning opportunities, and practice communities in the immediate work environment of the intern.

PART II: THE MACRO LEVEL - ORGANISATIONAL AND PROFESSIONAL CONTEXT

As stated in Chapter 1 the thesis is presented as two parts. This, the second part, progresses the goal of the thesis through the development of a macro-level framework for supervision that can be used by supervisors to make sense of learning and supervision in the clinical environments of internship, challenging and at times rejecting or reframing previous views.

Part II commences (Chapter 10) with a rich description of the organisational and professional context of medical education that emphasises the support structures and the vast range of formal and informal learning activities that occur within healthcare organisations. Chapter 11 argues for the applicability and usefulness of Wenger's (1998) concept of CoP first, within health, and then for developing a framework for internship. In Chapter 12 dialogue with practitioners identifies three sites where CoPs occur within this learning environment.

CHAPTER 10:
ORGANISATIONAL CONTEXT AND THE EXISTING STRUCTURES THAT SUPPORT INTERNSHIP

In Chapter 1 it was noted that supervision is a practice that is conducted within the practice of medicine and that context is an important consideration in practice-based research. Also, one of the criteria in the specification for a supervision framework it is that it must be sustainable; therefore, it is important to describe and recognise the current political, organisational and economic structures within medical education. This chapter describes the organisational and professional context of medical practice and medical education.

McIntyre's (1983) distinction between medicine as a practice and hospitals as institutions is useful here; these institutions determine the context for practice and mediating preconditions that ultimately shape practice, and practice is both constrained and enabled by these social and political arrangements. Similarly, Lave and Wenger (1991) use the term 'practice architectures' to speak of the way institutions are structured so that people can learn within an apprenticeship (new) model. In this chapter, document and web site analysis is used to identify existing structures within the NZ health provider context and the values and educational practices undertaken within the existing organisations that can support a social learning framework.

10.1 BACKGROUND

Chapter 1 showed that apprenticeship (traditional) is well established in medicine, that there is recognition of the value of workplace learning and that internship is an important transition year within the continuum of medical education. There are a number of existing traditions and educational structures surrounding intern education and registrar training and it is argued that these structures can support a reconceptualised framework that seeks to draw on social disciplines of learning to inform and enhance the intern learning experience.

These support structures include the following:

- the MCNZ as the professional standards and accrediting body internship programme.
- the vocational medical colleges as the postgraduate educational providers and professional bodies who admit members, train and support members and provide ongoing development of the medical practitioner community.
- the internal educational structures within hospitals that support internship and continuing medical education.
- the broad network of external associations (e.g. The Cancer Society), undergraduate training providers (e.g. medical schools) and research foundations that exist near to, and are associated with medicine.

This chapter identifies, through document analysis, the values and structures within the current medical education and health provider contexts, and then maps opportunities for learning (formal and informal) within the interns learning environment.

10.2 METHOD

Document and web site analysis have been used to clarify and identify the support structures already provided by the existing regulatory and educational bodies that have the potential to support and complement the proposed framework.

The Instruction Assessment Resources web site of The University of Texas at Austin (2007) describes document analysis in education as the systematic examination of instructional documents, in order to identify instructional needs and challenges and describe an instructional activity. They claim that document analysis works best when the purpose is to gain insight into an instructional activity or approach. Descriptions convey the mission and objectives of the educational activity and include information about its purpose or statement of need, expected effects, available resources and instructional context.

The central objectives of the document and web site search were:

- To identify statements about the purpose and educational context of the organisations.
- Better understand the structures currently available that support learners and supervisors.

The data sources are the web pages of the organisations and networks listed above and these are available on line with open access and easily found using Google Search.

They included:

1. The accreditation standards published by the MCNZ who have responsibility for internship nationally and accredit providers.

2. Web sites of the royal Australasian colleges as providers of vocational training. The three largest colleges were chosen as they also include sub-branches known as faculties (eg ophthalmology within surgery (RACS), intensive care within anaesthetics, (ANZCA) and emergency medicine within medicine (RACP)). The RACP will have 46 new specialist training programs into full manifestation by 2011 (RACP, n.d).

3. A search of hospital and medical school' websites and then a more detailed search of the Canterbury District Health Board (CDHB) internet web site (http://intranet.cdhb.local) was used to identify the network of border communities for example: research groups, medical school forums, and conferences, patient groups (cancer society, diabetes association etc).

4. The CDHB intranet web site was used to identify the activities available in one week at a large metropolitan hospital accredited to deliver internship training. A hospital notice board was also used to identify any relevant documents not on the web site.

Analysis sought to uncover or gain insight into the current structures and values within medical education and heath provider environments that support a community of practice approach to supervision. For college data (where three sites were selected) statements were transcribed from the website, coded and grouped into common descriptors. These themes were discussed with a colleague experienced in medical education to cross check the coding and the choice of descriptors and a table was created to summarise the themes. This was modelled on a process described by Sake and Alsop (2009) for breaking text into constituent parts and re-assembling these to create what they call 'scientific text'.

10.3 RESULTS

The results are presented using the four categories of documentation described above.

The accreditation standards published by the MCNZ which has responsibility for internship and accrediting providers

The MCNZ requires all new doctors to undertake a probationary period of 12 months practice under supervision. They also take the following position in regard to ongoing medical education. This probationary year is 'about growth as a doctor' (MCNZ, 2006. p. 5) the goals include "exploring career goals and expectations" and "to begin to deal with the professional and personal pressures of being a doctor" (MCNZ, 2006. p. 5). A comprehensive list of goals can be found by referring to the Supervisor's Handbook available on the MCNZ web site (www.mcnz.org.nz).

The MCNZ encourages doctors to continue ongoing medical education and training. It does this through the following activities:

- regular accreditation of New Zealand and Australian medical schools
- requiring all new doctors to work under supervision in their first 12 months
- appointing intern supervisors, and setting education and training policies for doctors in the first two postgraduate years
- visiting hospitals which employ probationers to ensure a suitable teaching and learning environment is provided
- writing reports and recommendations on those hospitals visited
- recognising new vocational scopes of practice and approving vocational programmes' training for registration within a vocational scope of practice in those branches.

Their accreditation document (see www.mcnz.org.nz) describes a suitable learning environment as one where:

- The hospitals clinical staffs are aware of, and operate under, council guidelines on the responsibilities of consultants and registrars towards interns. Education issues are routinely discussed and considered by senior clinicians and hospital management. Consultant supervisors receive training in teaching and giving feedback.

- The hospital's clinical staff is aware of their professional obligation towards teaching interns. This is made explicit in the employment contracts of consultants and registrars, and may be assessed as part of individual performance reviews. Opportunities for clinical staff to develop teaching skills, such as 'train the trainer' sessions are available.

Websites of three of the royal Australasian colleges as providers of vocational training

Analyses of the selected three college's web sites identified and mapped the principles that underlie apprenticeship (traditional) learning as conceptualized by the vocational medical colleges (RACP, RACS, and ANZCA). All these formal organisations recognise the existence of a community of medical practitioners and have structures to share the knowledge and to develop artifacts and to create and disseminate new knowledge. They all require the novice be directly supervised by an experienced senior consultant who is a registered member of a vocational medical college They all have a philosophy, a structure and processes to support workplace learning. Analysis showed that they all:

- perceive themselves as an educational community, or network
- approve membership, and this is linked to patient safety
- undertake accreditation of training sites
- publish standards, have a clearly defined body of specialist knowledge artifacts
- structures to support learning in work from novice to expert
- a structure of supervision that networks to the parent body
- direct supervision of novices
- processes for building and disseminating emerging good practice.

All colleges had statements about supporting doctors' development, and policies and procedures for implementation. All had some form of central educational support unit, which offered formal courses, scientific meetings, literature, e-learning and networking opportunities. All offered programmes of informal seminars and workshops each year on both clinical and non clinical topics. (See Appendix 1 for full details.)

External organisations and associated activities

The Auckland School of Medicine has three clinical schools in: Auckland, South Auckland and Waikato. The Otago Faculty of Medicine in Otago consists of four schools at three campuses: Dunedin, Christchurch and Wellington. The schools are; University of Otago Otago School of Medical Sciences, University of Otago Christchurch School of Medicine and Health Sciences, University of Otago Wellington School of Medicine and Health Sciences and the University of Otago Dunedin School of Medicine. Most of the training hospitals are attached to, or associated with, one of the two universities with an associated library and extensive data base access.

On Sunday 3 May 2009 the "What's On" page of the Christchurch School of Medicine and Health Sciences website showed two medical seminars, one public seminar and four research news items all accessible to junior or senior medical practitioners for following week (http://micn.otago.ac.nz). Table 1 gives an indication of the number of border community activities in a month.

Regular hospital-based educational and medical community activities

The CDHB internet website also revealed an extensive range of interest groups, many of which are highly structured, conduct their own research programmes and fund educational events and activities (e.g. Cancer Society, Diabetes Foundation).

A list of the formal learning activities available in one week at a major metropolitan hospital was obtained through the Christchurch Hospital intranet web site (http://intranet.cdhb.local) and the notice boards. The list was checked for any significant omission by discussion with the Director of Medical Education. These are summarised in Table 2.

In addition, there are ongoing quality-based activities occurring every mont such as quality audits, mortality reviews, prescribing audits, skills updates, training for the use of new products. Not to mention individual intern and supervisor meetings, discussion, demonstrations of procedures at the bed side etc.

Table 1: Border community learning activities

March 2009	**What's On**
1-7 March	Red Cross Annual Appeal
1-23 March	2008 Active Women's Festival - www.sportcanterbury.org.nz.
2 March	Cancer Society's 'Relay For Life' at QEII Park, Christchurch
2 March	Children's Day
3-7 March	Feet First Walk to School Week
3-9 March	Well Child/Tamariki Ora Week
5 March	CDHB Allied Health Staff Inaugural Forum at the Rolleston Lecture Theatre, University of Otago, Christchurch from 8.30am to 1.30pm.
5 March	Health Lecture Series 2008 - "Learning about drugs and medical conditions through the internet." Presented by Professor Evan Begg and Associate Professor Murray Barclay, Departments of Clinical Pharmacology/Medicine.
5-11 March	Victim Support Annual Appeal
8 March	International Women's Day
10-16 March	Schizophrenia Awareness Week
10-14 March	National Drinking Water Week
10-16 March	Child Cancer Foundation Awareness Week
10-16 March	Brain Awareness Week
12 March	Health Lecture Series 2008 – "Saving life and limb. Preventable sudden arterial death." Presented by Professor Justin Roake and Professor Tim Buckenham, Departments of Surgery and Radiology. 7.30pm at the Rolleston Lecture Theatre, University of Otago, Christchurch.
13 March	World Kidney Day
19 March	Health Lecture Series 2008 - "If I'd known I'd live this long, I'd have taken better care of myself" - Healthy ageing in the 21st century. Presented by Professor Tim Wilkinson, Health Care of the Elderly. 7.30pm at the Rolleston Lecture Theatre, University of Otago, Christchurch.
24 March	World Tuberculosis Day
26 March	Health Lecture Series 2008 "Sun, food and the beginnings of asthma." Presented by Dr Michael Epton, Respiratory Physician, and Department of Medicine. 7.30pm at the Rolleston Lecture Theatre.
30 March - 3 April	April 7th International Diabetes Federation Western Pacific Region Congress

Table 2: Training occurring in any one week in a metropolitan hospital

1. **Teaching targeted to those in training programmes**
   - House Officer teaching programme 3-5pm every Wednesday
   - Registrar teaching: every specialty has a two hour weekly teaching that is designed for regsitars preparing for examinations but which all medical staff can attend.

2. **Case discussion and review, collegial problem solving**
   Every specialty has weekly:
   - journal Club
   - X-ray/ and/or pathology meetings
   - Formal handovers

   Monthly:
   - Clinical audit meetings

3. **Departmental clinical meetings**
   For example
   - Psychiatry: Lunchtime clinical meetings weekly Tues 12.30 - 1.30 pm.
   - Surgery Deptatment meetings Thursday ams.

4. **Hospital-wide education forums on new research and updating clincial practice**
   - Princess Margaret Hospital 'grand round' every Thursday lunch time
   - Canterbury hospitals' Friday clinical meeting 12.00 to 1.30 (an example of a topic is "Adrenals – Bigger Is Not Always Better.")

5. **Short term training events**
   For example week of 4 May 2008:
   - Attention all RMOs This Friday will be the last day for Sharps Safety training.
   - All wards/departments have, or will have by the end of this week, converted to the safety devices for cannulation, venipuncture, blood culture and blood gas taking." (CDHB all users email 4 May 2008)

10.4 DISCUSSION

There is clearly a lot of formal and informal education occurring in a metropolitan hospital every day of the week. Professional and organisational groups provide a wealth of educational experiences from the highly formal and structured accreditation procedures, to informal networks that provide an extensive range of educational opportunities. As indicated in the Part I studies there is much informal learning occurring gained from interactions with peers, patients and members of other health professions.

10.4.1 LEARNING ACTIVITIES WITHIN CLINICAL WORKPLACES

The interns in the 2005 study (reported in Part I) identified formal and informal processes that helped them to participate and engage in clinical decision making and problem-solving also highlighted formal and non-formal learning activities. The CDHB (CDHB, 2009) intranet web site and a hospital notice board analysis identified the educational events and clinical meetings (case presentations) available in one week. These activities can be arranged along dimensions of informal or formal enquiries (after Eraut, 2004) and as learning from, or with others. Figure 2 summarises the learning opportunities across these dimensions to illustrate that the immediate learning environment for interns is rich with learning opportunities. The supervisor provides some of the learning opportunities within the 'with' dimension (see Figure 2), but he/she is certainly not the only person on the team who can (and does) do this.

The situated learning outlined in Figure 2 is of value to both individuals and organisations because it is part of people's real work and so can be seen to be relevant. Much of interns' learning in clinical workplaces emerges from dealing with the problems and issues that arise in the course of work. Once shared with colleagues it becomes part of the knowledge held by that community and does not take place under the watchful eye of the supervisor. In fact it has been argued (Hughes, 2002) that the person nominally expected by organisations to foster learning in the work place, in this case the supervisor, may not always be the most effective person to do this because of the assessor component of the role, and the need for each intern to present themselves as a competent practitioner.

Wenger (2000) discusses what organisations needed to do to "design themselves as social learning systems" (p. 225), observing that:

> *… the organisational requirements of social learning systems often run counter to traditional management practices. The currency of these systems is collegiality, reciprocity, expertise, contributions to the practice, and negotiating a learning agenda… (p. 243).*

Figure 2: A sample of learning opportunities in the immediate work environment of an intern

Formal				
Formal teaching sessions Invited speaker Protocols Literature - evidence based Assessment Skills and simulation training Access to expertise Acute admissions Clinics, radiology meetings, pathology meetings	Peer Relationships Grand rounds Presenting cases at conferences Feedback from patients and external others (e.g. coroner) Writing and reading in patient notes Demonstrations Consultants feedback Journal clubs		Researching in a team and publishing Models of practice Referring a patient Listening to case presentations Formal handovers Meetings (team and family) Patient care Patient review Help desk/library	Audit teams Quality Projects Being an intern representative on committees Peer review Representing medicine on organisation wide projects and groups Formal Handovers Reflection, self assessment and goal setting with the supervisor Problem-solving Supervising medical students
From		**Dimensions**		**With**
Making mistakes Informal feedback Observing consultants Observing other health professionals Observing peers Just being there Monitoring others performance	Reading Asking question of whole team Asking for help or a second opinion Peer relationships Tips and pointers Patients and families Watching procedures Skills demonstration	**Informal**	Consultants Stories Team stories Informal handovers Open ended conversation Hallway conversations	Individual participation Reflective conversations Patients and families General enquiry Coffee break discussions Watching others work including other heath professionals

The hospitals and the colleges appear to have such learning systems in place which means that a lot of practitioner-driven learning is offered in hospitals unimpeded by management practices. Professional links, sound educational policies and practices exist due to the MCNZ accreditation requirements and a strong parallel learning environment is provided by the colleges making it feasible to implement change by working within an existing sound and well established structure and working with what is already in place. This is likely to be due to the long tradition of hospitals as the site of postgraduate learning and the powerful

influence of the colleges in providing a skilled workforce. While other professions conduct their postgraduate qualifications in tertiary institutions, medicine has always based their postgraduate vocational training in practice and developed educational systems through the professional bodies to manage and coordinate this. Furthermore, it is only their graduates who can be vocationally registered to practice and therefore employed. The long history of accrediting workplaces for the delivery of training and the requirements of registration to practice have all contributed to a wealth of support structures and a clear learning agenda.

The document analysis indicates that college communities and their individual members consciously think about continuity and development of professional medical practice from past to future. The colleges see it as their responsibility to induct, train or mentor newcomers, whether or not it is a formal part of their job description, and they develop artifacts to support practice development and learning. Drawing on Eraut (2004), if the process of thinking, acting and performing is influenced by contextual factors, the assumption here is that experiences of interns, that will eventually become knowledge, are embedded in these communities and the codified knowledge of medicine (i.e. agreed knowledge in protocols, best practice guidelines, journal articles etc) can influence the interpretation of activities and influence preparation for future learning activities.

This chapter is the basis for considering the organisational environment for an alternative, but complementary, supervision framework that is sustainable within current organisational and professional structures, and that values both the formal and informal learning opportunities that currently occur in clinical workplaces where internship is provided. The organisational learning culture in health care appears to offers potential for the natural development of CoPs, although the degree to which this occurs naturally will vary across contexts. It is argued in the following chapters that informal learning, can be strengthened if participation in work and in interprofessional teams is reconceptualised as learning in a CoP where the team is recognised as a source and a form of learning. The CoP as a conceptual framework provides a way for supervisors to see things differently and notice new things. This way new responses can be incorporated into practice rather than replace existing strategies, to extend (as opposed to revise) the way learning and supervision is seen and conceptualised within medical education. Taking such an approach means institutions could initiate change by working with what is already there, provided those changes are compatible with the existing structures. Even within an environment that is looking for alternatives the large service providers of internship training (district health boards) and the medical profession as the providers of specialist

vocational training (through the royal colleges) are not likely to adopt wide sweeping changes to long established practices and organisational and professional structures. A further barrier to change is that the vocational colleges are Australasian so any wide sweeping changes proposed in NZ would need to also be accepted in Australia. One of the advantages of utilising a socio-cultural model of learning to reframe internship is that there appears to be much in place already that supports it, and so no major structural or systems changes are required.

The next chapter advances the argument that the CoP concept for understanding and promoting learning in internship is useful by identifying potential clusters of professional practitioners operating as healthcare teams that are sites of naturally occurring CoPs. The responsibilities of team members if their team or community is to function and develop as a community of practice that supports the learning of all members are then considered, this includes the role and responsibilities of the intern as a novice or peripheral participant in the community.

CHAPTER 11:
EXPLORING THE APPLICABILITY OF THE COMMUNITIES OF PRACTICE CONCEPT

This chapter advances the selection of a conceptual framework to guide supervisory practice by exploring the applicability of Lave and Wenger's (1991) concept of situated learning and Wenger's (1998) description of CoPs to internship. It was argued in chapter one that in the context of health reforms across most countries in the industrialised world there is a focus of managing clinical work via dynamic self-organised teams that characterises the context of healthcare delivery in which interns work. With this comes a shift from a focus on performance as individual skills and attributes, to a focus on quality care being a function of team work, mutual understanding and collaborative care. It is argued in this chapter that using the CoP concept (Lave and Wenger, 1991 & Wenger, 1998) is useful; first to value, understand and explain peer and informal learning within healthcare teams (for all new members but here with a focus on interns) and, secondly, for describing the roles and responsibility of intern supervisors and interns in the context of healthcare team based healthcare delivery. For a framework based on the CoP concept to be fully useful in the context of NZ as a bicultural society it must be compatible with a Maori world view, so this is also examined in this chapter.

The chapter begins by defining the team in health care and explains why it has become a key factor in health reforms. This is followed by a description of a CoP and of healthcare teams as CoPs, proposing that strongly performing healthcare teams can be conceptualised as CoPs where learning occurs through participating, 'knowledging', legitimate participation and boundary spanning. Finally the compatibility with Maori pedagogy is illustrated.

11.1 DEFINING THE TEAM IN HEALTHCARE

This section addresses 'the team' and how it is talked about in the health literature and concludes with a summary of the characteristics judged central to good healthcare teams

extending these beyond contextual and organisational factors to specific interprofessional team communication activities. These activities are set out with reference to studies where shared understandings, valuing of roles and contributions, collaborative working and learning, and documenting team practice are advanced as facets of activities that characterise an effective healthcare team. The purpose is to anchor clinical supervision and learning to what interns and intern supervisors can do as members of a clinical team (or CoP), to enhance the transition from new practitioner to independent professional practice.

Teams are generally defined as a small number of people with complementary skills who have committed to a common purpose, performance, goals and approach for which they hold themselves mutually accountable (Katzenbach & Smith, 1993). Other authors cite organisational, contextual, interpersonal and relational dimensions of teams with lists of attributes and traits attributed to effective teams (Brannick & Prince, 1997; Ducanis & Golin; 1979, Huszczo, 1996; McGregor, 1967). Firth-Cizens (1998) account of teams is multivariate including intra-personal characteristics (reflexivity, diversity of skills and personalities), interpersonal characteristics (full participation, diversity), organisational characteristics (external recognition of the team, team rewards), and team communication and processes (clear team goals and objectives and review of these, regular formal and informal communication, feedback). It is claimed that these characteristics allow teams, (particularly interprofessional teams) to deal with the complexity of healthcare delivery, the potential fragmentation of care and improve quality.

Mickan and Rodger (2000) developed a strategy that recognises relationships and interdependencies within and between teams and specifies these as inputs (organisational structure), throughputs (individual contributions) and outputs (team results). The organisational environment provides the antecedent conditions. These include; clear vision in line with organisational values, a culture that recognises the success of teams and shares that experience across the organisation, individuals working on tasks that are motivating and that they feel make a concrete contribution, role clarity in order to have organisation commitment and job satisfaction, roles that are interchangeable and negotiated, suitable leadership, membership, and adequate resources. The contributions that individuals make to the team are also antecedents (Mickan & Rodger, 2000). These include self-knowledge, personalities, perceptions of role and position that contribute to trust and a healthy competitiveness, flexibility, commitment to group goals and co-worker solidarity. Once all the antecedents are

in place, the team can perform the interactions and patterns of organising work that transform into outputs (coordination, decision making, social relationships and performance feedback).

Iedema, Meyerkort and White (2005) define post reform healthcare delivery as "a shift from independent departments working in relative isolation with ad hoc communications and non directed information generation and usage towards teams whose teamness affords multidisciplinary and cross shift negotiations" (p. 17). These negotiations and communications are about all aspects of patient care, quality of care, patient safety, and patient/client feedback, along with how to document team practice in a way that satisfies non-team stakeholders and stimulates ongoing practice change. Ongoing practice change implies the development of expertise, team learning, contribution to organisational learning and safely, introducing new practitioners to patient care and to team membership. Learning is situated in the daily routine of clinical practice and novices participate on the periphery supported by the team.

This part of the chapter has described healthcare teams and how the team contributes to the development of the new practitioner and to organisational learning. However, this work does not detail the substance of what multidisciplinary and inter-professional teams do or even talk about. In order to identify what teams talk about and how they communicate and learn together Sheehan, Robertson, & Ormond, (2007) published a study which analysed interview data using a symbolic interactionist approach. This study explored the relationship between the use of language, how individual health professionals develop a sense of their own identities and how they construct perceptions of others in the clinical team. Some teams achieve a greater sensitivity to social issues within the team and a willingness to share roles in order to develop collaborative ways of working and learning together. These are summarised in Table 3.

In this study, records were a regular source of communication between the team members and frameworks for patient documentation rested on such principles as consistency of terminology and ease of understanding between team members. Informal conversations occurred in the course of the working day. The supervisor role modelled use of inclusive language when talking with the members of their teams. It may be that raising awareness of language within the team could be an important factor in influencing, effective, collaborative behaviour. While role clarity was necessary for team functioning, the attitudes each person within the teams held about self and towards the others was more important. Being able to state opinions freely and feeling valued may well be the most important features of a collaborative team approach (Atwal, 2002; Crepeau, 1994; Sheehan, Robertson & Ormond, 2007).

Table 3: Behaviours of interprofessional teams adapted from Sheehan, Robertson, & Ormond, (2007)

Themes	Inter-professional, Interacting Teams
Work cooperatively and shared many common understandings and goals	Team members worked cooperatively and shared many common understandings and goals. There is not only an understanding of one another's roles but also of the necessity for joint communication and for knowing and understanding what each team member is contributing to both patient care and team functioning.
Interactions affecting patient outcomes	There was a level of professional communication that went beyond an understanding of roles. It was demonstrated by a commitment to joint communication and a genuine valuing and interest in what each team member was contributing to patient outcomes and the common goals.
Communication	There were clear communication processes within the team. The use of patient documentation contributes to a shared understanding, frequent use of progress notes held at the nursing station to both record, and to check in for, any updates, daily discussion around the progress notes, team members referring to each other's notes in the interviews and team/family meetings. Informal conversations occurred in the course of the working day, in the corridors and interwoven with patient care and including the patient.
Valuing of team members	Clear understanding of each other's roles and the need to be a team member and contribute to and learn from team opinions and solutions. There was a level of professional communication that went beyond an understanding of roles to a commitment to joint communication, and a genuine valuing and interest in what each team member was contributing to patient outcomes and the common goals. Decisions that affected patient outcomes appeared to be made as a team, with team members acknowledging individual contributions.
Language usage	Language was inclusive with frequent use of the words 'team' and 'we'. Inclusive language is used extensively and there are discussions centred on being part of the team. There is a strong identity as a member of a collaborative group.

‘Teamness’ in healthcare is critically linked to quality and notions of accountability (Australian Council for Safety and Quality in Healthcare, 2005; Leeder, 2007). Documentary resources establish links to non-team members, to other healthcare teams, to patients and their families and to new staff. Documentation is central to health team practice because not all members of a ‘health care team’ are working alongside each other in the same time and place. Engstrom, Engstrom and Vahaaho (1999) have refered to this as knot-working and it highlights work collaboration that does not necessarily involve co-presence, and is useful for including the fluid kind of work that is undertaken by clinicians. Clinicians do not just do their work, but also devise ways of speaking and writing about that work in order to convey decisions to those team members not temporarily or spatially present. Documentation is about making sense for others.

Iedema, Meyerkort and White (2005) describe the activities of healthcare teams as participating, ‘knowledging’ and boundary spanning. Participating is about attending meetings, representing others who are absent and following the ethics and processes of team and group communication. Meetings are not just about immediate work but about knowledge, creating meta-descriptions of the work for others (‘knowledging’). It is about practice systematisation and the development of case-based working knowledge and seeks to understand the scientific, economic, social and practical implications of healthcare delivery. As these descriptions are produced for others potentially far removed from the teams’ professional expertise, (e.g. patients, families, managers, and funding bodies) participants engage in boundary spanning. Boundary spanning often involves problem identification and problem-solving, and as such it is about drawing out the consequences and implications from ‘knowledging’.

Teams are engaged in these processes when they devise multidisciplinary protocols, engage patients in care decisions and inform them of care options, debrief traumatic events as a team, write care plans consult and refer. “Participating, knowledge and boundary spanning are three facets of observable, accountable and situated conduct that instantiate a mode of teamness that connects with the complexities of modern healthcare.” (Iedema, Meyerkort & White, 2005 p. 18).

Learning associated with clinical practice delivered in teams occurs in a context that offers learners opportunities to participate actively in tasks and inter-personal interactions and to be supported while doing so.

11.1.1 WHY HAS TEAM WORK BECOME A KEY FACTOR IN HEALTH REFORMS?

The quality and safety agenda in health has highlighted the value of effective teamwork. Just taking one example, a Canadian review of the evidence for the benefit of effective teamwork (Clements, Dault & Priest, 2007) identified the following favourable outcomes.

- improved communication and partnership among health providers and patients
- clarity on the role of all health providers.
- better response processes in addressing the determinants of health.
- improved coordination of healthcare services.
- high levels of satisfaction on the delivery of services.
- effective use of health resources.

Most importantly for the consumer of health services, teamwork emerges as a crucial factor in patient safety (Australian Council for Safety and Quality in Healthcare, 2005). Outside of healthcare, research tells us that teams working together in high-risk and high-intensity work environments make fewer mistakes than do individuals. This includes empirical evidence from commercial aviation, the military, firefighting and rapid-response police activities. These studies show a strong relationship between qualities such as flexibility, adaptability, resistance to stress, cohesion, retention and morale with effective team performance (Baker Gustafson, Beaubien, Salas, & Barach, 2005a; Gully, Devine, & Whitney, 1995; Gully, Incalcaterra, Joshi, & Beaubien, 2002).

In healthcare, studies have suggested that teamwork, when enhanced by inter-professional collaboration, could have a range of benefits (WHO, 1988). Although the link is far from definitive, it appears that teamwork and team composition could have positive effects, particularly in quality and safety (Oandasan et al., 2006; Hoff, Jameson, Hannan, & Flink, 2004). These include reducing medical errors, improving the quality of patient care, addressing workload issues, building cohesion and reducing burnout of healthcare professionals. For example, a trial of team training for emergency room staff in USA hospitals resulted in a reduction in clinical error rates from 30.9% to 4.4% over a 12-month period (Morey et al., 2002).

The WHO report (Health Professions Network Nursing and Midwifery Office, Dept of Human Resources for Health, 2010) emphasised the imperative for increased collaborative

healthcare practice to strengthen health systems and health outcomes. The direct relationship between collaborative practice and improved health outcomes includes improved patient safety and reduced clinical errors, the WHO Patient Safety curriculum guide for medical schools emphasises the need for medical students to learn to work safely in health systems, to communicate effectively and work in teams (WHO, 2009). If hospitals are to produce the 'collaborative practice-ready workforce' recommended by the WHO then interns need to learn to work collaboratively, they need to know about the roles, responsibilities and boundaries of their own and other professions, and they need to be able to communicate and learn from others. If we want to ensure that our future doctors are equipped to work in integrated services, function effectively across professional and organisational boundaries and genuinely work collaboratively with other health workers, then we need to educate them to do so across the continuum of medical education, reinforce it in internship and not simply leave it to chance.

11.2 COMMUNITIES OF PRACTICE

Jean Lave and Etienne Wenger (1991) identified the community of practice (CoP) as a concept for understanding how people learn in a social environment while studying apprenticeships as a learning model. A CoP is a model of situated learning based on collaboration among peers where individuals work towards a common purpose defined by knowledge rather than by task (Wenger, 1998). It is, therefore, a concept that moves from the notion that apprenticeship involves a master/novice relationship to one in which apprenticeship takes place within team settings involving collaboration with and co-construction of knowledge by novices (apprentices) and experts, and in which the novice steadily moves towards expertise. Lave and Wenger observed Yucatec midwives, tailors, quartermasters, butchers and recovering alcoholics and traced the progression of the individual from newcomer to full member of the community (Lave and Wenger, 1991). They noted that very little observable teaching occurred and that the foremost process was learning. Many of the exchanges of practical information and problem-solving happened during informal gatherings where tradesmen exchanged stories and novices could consult with experts in a non-threatening environment. Through this process, gaps in knowledge were identified, solutions proposed, tested by individuals and fed back to the group, and these informal communications were the way knowledge was shared and created. These

observations formed the basis of situated learning theory which describes learning that takes place specifically in the context it will be applied (Lave and Wenger 1991).

Later Wenger (1998) built on his early work with Jean Lave to describe three interrelated dimensions of a CoP. Mutual engagement (leading to shared understanding and meaning), joint enterprise (engagement and working toward a shared goal), and a shared repertoire (common jargon and resources). Participating in a CoP is the way practitioners can share and gain situational knowledge. By the sharing of stories and experiences (mutual engagement) practitioners can reflect and receive feedback (shared repertoire) from other members of the group on a shared passion or subject (joint enterprise). This sharing leads to new ways of doing and so creates a cyclical learning pattern that is driven by practitioners themselves. Wenger (1998) theorises that meaning is continually negotiated and renegotiated through the processes of participation and reification, which is derived from the active experience of ongoing practice and the use and development of shared artifacts. He argues that negotiation of meaning is shaped by these artefacts and in turn affects them and so is historical and yet also context specific (Wenger 1998). The community may contact other professionals and seek expert guidance or access new material (border crossing), but it is their need to solve a problem that drives the learning and they will use new information to negotiate their own community meaning.

Lave and Wenger (1991) argue that learning begins by practicing legitimately on the periphery of a community (as interns do) and then moving toward full participation as novices negotiate their own place and in so doing develop identity (as, for example, an experienced practitioner). Wenger (1998) notes that ‘peripherality’ allows exposure to practice with lessened intensity, helping lessen risk and error, providing special assistance and offering close supervision are all part of the process and purpose of internship in the health professions. Lessened risk, special assistance, lessened cost of error and close supervision are all part of the process and purpose of internship in medicine. Lave and Wenger (1991) suggest that this process of legitimate peripheral participation in communities of practice assists with the creation and sustenance of soft knowledge. In this process newcomers learn the practice of the community by being situated in it, and from its established members. If the newcomer feels out of place or not valued in the community then they may not return preferring to gain the knowledge they seek in other ways (Billet, 2001). There is a process of change occurring as the individual becomes more and more involved in the community, a change that Swanick

(2005) describes as “more about being than doing, and this progression may be enhanced by creating a favourable working environment” (p. 862).

Wenger’s (1998) concept of CoP and the development of professional identity through peripheral participation appears to provide a useful framework for explaining the social learning opportunities available to interns and recognising that internship is not just about learning but also identity formation.

The CoP concept offers the following notions that are useful for understanding and describing learning in healthcare teams:

- It emphasises that communities that support work place learning are not newly formed to solve specific problems but are old and existing structures with history and shared understanding between members.
- It is the shared making of meaning (and ‘knowledging’) that establishes the community, and the depth of their shared history and knowledge of practice that is the valuable resource that cannot be acquired as an isolated practitioner.
- CoPs are practitioner driven. They are communities that occur naturally and share tacit knowledge in ways that exceed and cannot be matched by formal knowledge sharing processes and systems in terms of effectiveness or reach.
- CoPs engage in boundary spanning as part of clinical decision making and problem-solving.
- ‘Peripherality’ allows exposure of practice with lessened intensity, helping lessen risk and error, providing special assistance and offering close supervision. By practicing legitimately on the periphery of a community (as interns do) and then moving toward full participation novices negotiate their own place, and in so doing, develop identity.

11.2.1 HOW HAS THE COP CONCEPT BEEN APPLIED IN HEALTH?

Li et als’ (2009) systematic review set out to answer this question in both health and business. The term began to appear in the health literature in the mid 1990s but they note that it was often used as a label for groups and teams, rather than a social concept and then mostly in occupational therapy, nursing and management with only two articles from medicine. They note that in “All the primary studies published in 2000 or later, the term CoP was used as a synonym for a group of health professionals working together” (p. 11). While all cited

Wenger's definition, the structure of these groups varied and included, students in clinical placement, journal clubs, health agency collaborations and virtual communities. It appears that the studies on clinical placement emphasised acquisition of knowledge and identity building while the management groups used the CoP concept for continuing professional development and quality improvement, rather than identity development. While the concept of CoP has been identified as potentially useful to describe teamwork and learning in a healthcare setting, it does not appear to have been utilised in a consistent way. Li et al (2009) through their literature review examine how CoPs have been defined in health and while the nature of the groups vary greatly from voluntary informal networks to interprofessional project teams four characteristics were identified.

- social interaction among members.
- knowledge sharing.
- knowledge creation.
- identity building.

Li et al (2009) also comment on a falling off of interest in CoPs by the mid 2000s and suggest this may be to the emerging criticism of the concept at that time.

11.2.2 CRITICISMS AND LIMITATIONS

There are a number of limitations to the Wenger's concept and it has drawn its share of criticism. One of the criticisms of Wenger's work is that does not address issues of conflict and unequal power relationships that can occur in clinical workplace contexts (Cox, 2005). Other criticisms are: lack of clarity and the problematic use of the terms community and practice.

11.2.3 POWER

The most significant limitation of the CoP theory for use in this study is the lack of attention given to the role of power. Issues of power and hierarchy in clinical teams are well documented and can create environments that hinder learning (Lempp & Seale 2004; Seabrook, 2004; Radcliffe & Lester, 2003; Stark, 2003). Lave and Wenger's original study (1991) does acknowledge intergeneration conflict, yet it does not explain the other power forces within the community such as between established members or with border communities. Later in his 1998 work (when the focus is on identity) Wenger stresses the

importance of trajectories through levels of predication and the dilemma of multi-membership and boundaries between communities, but power is not a central concern. Health environments are not always supportive learning environments (Lempp & Seal, 2004; Seabrook, 2004; Radcliffe & Lester, 2003; Stark, 2003) therefore issues of power can not be ignored so this is a significant limitation for this thesis.

11.2.4 LACK OF CLARITY AROUND THE DEFINITION OF A COP

Li et al (2009) notes that the definition of a CoP has diverged significantly over time and Wenger's comparison to project teams and other groups is varied and contradictory. A recent Canadian analysis of the CoP model furthers this criticism commenting that Wenger's description of CoPs as natural phenomena (through the horticultural analogies) is contradictory when they are actually socially constructed. They add that postulating that CoPs emerge in all social domains also contributes to this lack of clarity (Bently, Bowman & Poole, 2010). The lack of clarity about the responsibilities of the CoP facilitators, supervisors and other team members is a significant limitation that is addressed in this thesis.

11.2.5 COMMUNITY

A community is traditionally viewed as a warm, comfortable, cosy, supportive place (Roberts, 2006). This is seen as a limitation by a number of commentators (for example Cox, 2005; Handley et al, 2006; Lindkvist, 2005; Rogers, 2009; Bentley et al, 2010), but is seen as less of a limitation here. Wenger uses it somewhat differently than common usages, declares this and defines community as "a way of talking about social configuration in which our enterprises are defined as worth pursuing and our participation is recognisable in competence" (Wenger, 1998, p. 5). As a social configuration a CoP will reflect the wider social structures and institutions in the broader context in which they are situated. This definition appears to sit well with the nature and social functioning of the medical colleges as described in the previous chapter. Roberts (2006) also argues that those societies that have strong social structures may well have stronger and more effective communities of practice. If those societies that value community over individual are more effective in the use of CoP then this may well indicate that CoP is an effective concept for Maori communities.

11.2.6 PRACTICE

Practice has multiple meanings and definitions. Cox (2005) suggests much of the confusion comes from whether what is meant by practice is engagement together in the same activity, or in a similar one, and explains this using the example of boat building; there is the practice of those working on this boat and of practitioners working on all boats. In medicine it is the difference between practice as described in local best practice guidelines for a specific skill and the practice of medicine. There is overlap here with distinctions between fast versus slow communities. CoP suggest a degree of trust and mutual understanding built up over time, a slow community. But within health, other groups can form and disperse rapidly and although Wenger (1998) does not specify any time span in his criteria for a CoP it is debatable whether these fast communities are a CoP. Lindkvist (2005) develops an alternative and complementary description of collectivities of practice. These are temporary, established quickly and are concerned with knowledge creation and exchange. Roberts (2006) makes a distinction that is useful within medicine, noting that in business many communities of practice exist independently of the organisation and have an important role in the creation and transfer of knowledge. She uses the example of the film industry. Individuals come together to create a film and once this is achieved they disperse. The shared enterprise, mutual engagement and shared repertoire of the film community are brought together in the temporary project of this one production, but it is in the wider community that novices gain legitimate participation and eventually full membership. There are parallels here with medicine. The royal colleges are an external community of specialist medical practitioners, who come together within a hospital or clinical services to provide care to a group of patients and then in turn form a community with other health professionals to provide care for an individual patient and their family. Wenger's definition of practice as "…doing in a historical and social context that gives structure and meaning to what we do" (Wenger 1998, p. 47) seems useful within a health context. A community of practice does not function in a vacuum. The context within which a community of practice is embedded is "a major factor determining its success as a means of creating and transferring knowledge" (Roberts, p. 634).

11.2.7 POTENTIAL VALUE OF COP AS CONCEPT FOR UNDERSTANDING PRACTICE BASED LEARNING IN INTERNSHIP

There are two strong similarities between healthcare teams as they are described above and CoPs. CoPs are self organising and dynamic entities for which learning is an inevitable and

necessary part of their functioning and work life (Wenger, 1998; Brown & Duguid, 2002). Learning includes the application of scientific, technical, practice and situated knowledge with social and interpersonal membership in the relevant community or communities. Secondly, and importantly here, CoPs encompass the ways in which new practitioners are accommodated, and integrated into the practices and how practice changes and develops within the community. Changing, learning and modifying practice is ongoing and the nature of clinical work. These dimensions of CoPs mirror Iedema, Meyerkort and White's notion of participating, 'knowledging' and boundary spanning (2005). Learning is linked to participation and engagement in collaborative activities, such as gathering data as part of a clinical team's approach to caring for a patient. Authors in medicine have stressed the importance of participation, for example Van der Hem-Stokross, Daelmans, van der Vleuten, et al, (2003) stress the importance of the active involvement of junior doctors in team and the importance of a positive learning environment to encourage that involvement. The CoP concept acknowledges "shared histories of learning" (Wenger 1998, p. 87) which manifest as kinds of reification such as tools and protocols. This is knowledge history and is shared with new comers through participation and the adoption of the tools and practices developed by the community. A key strength is the focus on practice-based learning as a collaborative process and an emphasis on the interrelationships between learning, working, doing and peer input. When physicians, nurses and clinicians are willing to come together in good practice teams, they are a learning community that has developed relations, and that will make them effective (Kerfoot 2002, cited in Bently et al, 2010).

The concepts of situated learning and legitimate peripheral participation within a CoP offer a framework to describe the relationships between the individual, the supervisor, the clinical team, the wider interprofessional service team, the profession of medicine (often referred to as 'guild') and the wider organisational environment and structures that support internship. In doing so interaction is permitted between theory and the empirical and testable observations that can be made in the context of internship. It does not privilege research evidence over experience, a CoP is an interpretative community (Wenger, 1998) and the members create their own understanding of the practice through ongoing processes of working with that knowledge, problem-solving and recreating knowledge through experience. This places knowledge management in the hands of practitioners, not managers or academics, and this supports the long standing traditions of the royal colleges managing postgraduate learning.

As a theory of apprenticeship (new) learning, Lave and Wenger's concept of CoP and the development of professional identity through peripheral participation appears to be a useful framework for examining the social learning opportunities available to interns. It suggests that clinical workplaces can enhance effective learning by encouraging or inviting newcomers to engage in interactions with peers and more experienced practitioners, and so participate fully in a community of practice. Concepts of legitimate peripheral participation and identity formation that describe practice learning as joining and being involved in an experienced community of practitioners sharing history and common goals, building knowledge, developing expertise and solving problems fit well with the context of team-based healthcare delivery. The position that the concept of CoP can provide a theoretical framework within the NZ context concurs with Jaye and Egan (2006) who argue that Wenger's model offers a framework for exploring learning in undergraduate medicine in what they call communities of clinical practice.

As discussed in the introduction the obligations of all health and education providers to meet their obligations to the treaty of Waitangi can not be ignored. The final section of this chapter tests compatibility of the CoP framework with a Maori world view.

11.3 RECOGNISING CULTURE - COMPATIBILITY OF VALUES AND UNDERLYING ASSUMPTIONS

This section explores the compatibility of a CoP framework with a Maori view of learning. This is critical for the social and political sustainability of a framework as it offers the opportunity for Maori practitioners to develop a blended model of cultural supervision in the future. This would ensure that the needs of Maori interns could be addressed by blending Maori learning concepts with the proposed supervision framework. (For a description of blended models in education and psychology see MacFarlane, 2008)

Socio-cultural models of learning assume that knowledge is not in the 'mind' of an individual but is distributed across persons and artifacts and that there is a collective memory that resides in the artifacts (computer records, case notes and in the professional practices, protocols and rituals that the team and the wider profession is socialised into). Common knowledge is more than the sum of the recollections of the individuals but is the product of their ongoing social

and professional interactions. MacFarlane (2008) describes learning within a Maori world view as holistic, collective and experiential and characterised by an emphasis on relationships.

> *A Maori world view is characterised by an abiding concern for the quality of human relationships that needs to be established and maintained if learning contexts are to be effective for Maori students, and for these relationships to balance individual learning and achievement against responsibilities for the well being and achievement of the group (MacFarlane, 2008).*

He also notes that the process of establishing one's 'connections' is, for Maori, a natural activity that underpins all interactions and forms the basis on which all learning and teaching occurs.

Themes of belonging, membership, shared meanings and understanding are common threads in both a CoP and a Maori world view of teaching and learning. In order to explore this further, themes are derived from the needs of Maori learners identified in work previously undertaken (Sheehan, Jansen, Ruka & Crengle, 2004; Sheehan & Jansen, 2006) a summary of this work supported by literature on Maori pedagogy is provided within the appendices for readers less familiar with Maori learning environments (Appendix 2). These themes are compared with themes that underpin learning in a community of practice described in the early part of this chapter (Table 4). The themes are reproduced side by side for ease of reading only, no attempt has been made to match ideas or concepts as this would neither be appropriate or feasible.

As a Pakeha (New Zealander of European descent) I am concerned about representing beliefs and principles that exist within the culture of Maori. It is extremely difficult to undertake a comparative analysis from such a position therefore no attempt has been made to link statements across columns. It is hoped that it is useful to present the values and assumptions in each of these views as the basis for others to consider their compatibility. It is proposed that these views do not work against each other and that there is sufficient evidence for compatibility for Maori colleagues to consider developing a blended framework in the future.

Table 4: Comparison of CoP themes and a Maori view of learning

Themes on learning from a CoP conceptual framework	**Themes on learning from a Maori view of learning**
Identity is tied to community membership. Learning is about engaging in, and contributing to the professional community. Knowledge is identified, constructed and recorded by groups of people informally bound together by shared expertise and passion for a joint enterprise. Knowledge is social and resides in the community of practitioners (past and present). Meaning is socially constructed and acquired through participation and contribution. Evolving forms of mutual engagement tune a sense of joint enterprise; and communities develop their own repertoire, styles and discourses. It is the shared making of meaning (and 'knowledging') that establishes the community and the depth of their shared history and knowledge of practice that is the valuable resource. It emphasises that communities are not newly formed to solve specific problems, but are old and existing structures with history and shared understanding between members. Leaning occurs in the context of activity and is not context free. Knowledge is transformed by participation in the clinical environment. Success and achievement comes from contribution to, and involvement in society. Good decisions are made recognising we are part of a wider interdependent social context.	**Tikanga –** Working within a framework provided by Maori traditions and customs. Pride in being Maori. ***Whanau*** (extended family) and whakawhanaungatanga (building family-like relationships). A sense of belonging to and relating to each other. ***Manakitanga*** (a context of caring relationships). Enhancing the overall well being of the learner. Stronger than 'relating to' (also a whanau concept). Encapsulated is a sense of those who have gone before, other people in our lives and relationships, signs symbols and artifacts that are the language of the culture and a sense of place. Incorporates taratiratanga**,** that is, a combination of thinking, problem-solving and commitment to supporting the group. ***Rangatiratanga*** (taking responsibility and control for one's own learning). One's individual identity as shaped and formed by one's group identity. A sense of inner agency that comes from being accorded the respect of others and by them giving us manageable amounts of responsibility and choice. **Whaiwahitanga** (inclusion: participating and contributing). Powerful collective identity. 'Ko au Ko koe, ko koe ko au", I am you and you are me. Striving for individual excellence while at the same time providing and caring for the community, and receiving the respect of the community.

11.4 FINAL COMMENTS

Lave and Wenger's theory of apprenticeship (new) within a community of practice (1991) promotes the application of a professional practice approach to the development of the new practitioner, and envisages supervision as including guiding the novice from peripheral to full participation within the health practitioner community. It also recognises and values the informal peer learning that occurs in teams as they collaborate to deliver safe and effective patient care. This contrasts with a traditional model of apprenticeship as time served with a master practitioner. It also moves the focus of learning from the individual (setting individual objectives and goals and achieving personal self-directed outcomes) to a learner with a community of practitioners and an organisation where meaning and knowledge is shared, made, refined and created over time. This still requires the supervisor to engage the novice in safe patient care and but it also requires the health care team and the learner to bring together the peculiarities of this case, judgment about this case, experience of other similar cases, and combine this with the science of medicine and values and norms of the profession. Then they must make the best choices possible for this unique patient. Schwandt (2005) argues that it is through the process whereby practitioners discuss argue and learn about cases demanding judgment, that the practice continually realises and redefines its internal aim, and practitioners shape and reshape their habitus and disposition. Learning is therefore occurring through the ongoing interaction with the patient and the healthcare team, that is, through the social environment and CoP of patient care.

A socio-cultural model appears to be compatible with the team-based context of a modern healthcare environment in NZ and a Maori world view of teaching and learning which also stresses the social nature of learning and the impact of group members on identity formation. Importantly for this thesis, it begins to provide an explanation for the learning processes of a novice within a clinical setting including an explanation of how professionals develop expertise. (As required in the specification in Chapter 3). Concepts of legitimate peripheral participation and identity formation describe practice learning as joining and being involved in an experienced community of practitioners. Sharing history and common goals, building knowledge, developing expertise and solving problems fits well with the context of team based healthcare delivery and the peer and interprofessional collaboration that occurs

The application of the concept of CoP to the development of a framework for describing the context of internship, roles responsibilities within internship as situated within healthcare teams is further advanced in the next chapter.

CHAPTER 12:
THREE SITES OF PRACTICE WHERE COPS OCCUR NATURALLY WITHIN THE INTERNS' AND SUPERVISORS' WORK ENVIRONMENT

Having established in the previous chapter that situated learning theory (Lave and Wenger 1991) and Wenger's (1998) concept of a community of practice (CoP) is applicable as a framework for describing the context of internship this chapter, through dialogue with practitioners, identifies teams that do or could function as CoPs and confirms the significant of the provider organisation and professional groups as influential border communities.

Participation in a community has implications for understanding and supporting learning and Wenger (1998) describes three levels and types of responsibility"

- for individuals learning is engaging in and contributing to practice.
- for communities learning is refining practice and ensuring new generations of members.
- for organisations learning is sustaining the interconnected communities of practice through which an organisation knows what it knows …

(Wenger 1998, pp 7-8)

At each level, learning in practice involves:

- evolving forms of mutual engagement
- understanding and tuning a sense of joint enterprise
- developing repertoire, styles and discourses. (ibid, p. 95)

As stated earlier, studies of workplace learning have emphasised the social context in which expertise is developed noting that the development of expertise in a particular community of practice, is reciprocal, as people shape and are shaped by the CoP (Wenger, 1998; Billett, 1998b). This suggests that it is useful to look more closely at what goes on in interns' immediate working environments to identify contexts where CoPs occur naturally, or could be developed, to complement the formal teaching programme and the forms of support that are offered by appointed supervisors, professional bodies and medical education units.

Wenger (1998) provides 14 indicators that clarify the nature of his concept of a CoP and these are reproduced in Table 5.

Table 5: Indicators of a community of practice adapted from Wenger (1998 p. 125-126)

(1)	Sustained mutual relationships.
(2)	Shared ways of engaging in doing things together.
(3)	The rapid flow of information and propogation of innovation.
(4)	Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process.
(5)	Very quick set up of a problem to be discussed.
(6)	Substantial overlap in participants' descriptions of who belongs.
(7)	Knowing what others know, what they can do, and how they contribute to an enterprise.
(8)	Mutually defining identities.
(9)	The ability to assess the appropriateness of actions and products.
(10)	Specific tools and representations, and other artifacts.
(11)	Local lore, shared stories, inside jokes, knowing laughter.
(12)	Jargon and shortcuts to communication as well as the ease of producing new ones.
(13)	Certain styles recognised as displaying membership.
(14)	A shared discourse reflecting a certain perspective on the world.

Other likely features are that all participants will interact intensely with each other, that they are held accountable by other members and that much of this has been invented locally (Wenger 1998). CoPs can and do occur naturally, there is no need for a group of people to name their group a CoP.

12.1 METHOD

Using the indicators in Table 5 and, drawing on my own experience of the work environments of interns (as medical education coordinator for six years), the possibility of adopting Lave

and Wenger's conceptual framework has been presented and discussed with practitioners at six forums, both local and international. The forums were:

1. ANZAME – The Association of Health Professional Education, Sydney conference 2008, a 40 minute workshop co-facilitated with Tony Egan whose work is referenced in this chapter.

2. Presentation and discussion at Christchurch medical hospital meeting (approx 30 participants, medical).

3. The 3rd International Clinical Skills Conference, Prato, Italy – presentation within a discussion forum.

4. Presentation and discussion at The Princess Margaret Hospital meeting (20 participants, medical and allied health).

5. Two departmental supervision and clinical learning forums at Christchurch hospital (Oncology with medical, nursing and medical radiation technology staff and peech language therapy).

6. Four groups of inter-professional students undertaking postgraduate study in clinical teaching and supervision. (Two groups in Auckland and two groups in Christchurch between March 2008 and November 2009, average size of group 12 participants).

The ANZAME conference workshopswas delivered in what is called a PEARLS format. This stands for a PErsonally ARranged Learning Session. They were developed by the ANZAME network and are a feature of these conferences. PEARLS are designed to allow practitioners and educators to bring their developing ideas to a group of other educations for refection problem solving and the testing of ideas (Shwartz & Heath, 1985).

Tony Egan (who has also written about the usefulness of the CoP concept in New Zealand medical education context) was at this conference and I asked him to join this group and co-facilitate. (This PEARL followed his presentation on community of clinical practice and one I presented titled "Finding Wenger"). The workshop started with a sharing of Wenger's concept and I introduced the idea of the immediate ward or clinical team as a CoP and Tony briefly

reiterated his concept of the CoP around the patient. Notes and summarising comments were recorded on a white board and copied. Participants were informed that this debate was contributing to my PhD.

This workshop lead to the development of the notion of three communities and this idea was then discussed and refined the series of local and international forums. This process draws on methodology described by Fish (2009) where the researcher works collaboratively with practitioners exploring subjectively their own practice and understandings. It is an invitation to look at the familiar differently and invite variations. By examining more instances and professional understandings of naturally occurring CoPs I sought to obtain and increasingly adequate description of these, imaginative variation was invited. At each forum the conceptual framework was presented and the application to medicine discussed. Participants were asked to identify groups that they worked in that they believed functioned as a CoP. Sometimes this was done in pairs followed by a feedback process, at other times, a small group discussion was held as this was more appropriate for the size and context of the group. Ideas, feedback and discussion led to a cycle of review, editing and new descriptions.

12.2 RESULTS

Following considerable debate and discussion at the initial workshop at the ANZAME conference the concept of three communities operating in clinical environments emerged. The following comments were noted are extracted from the white board notes and my field notes:

- Tony – we have focused on the micro level you at the meso – where Wenger describes his theorising
- J – there is a hook somewhere sometimes teams are uni-professional sometimes multi professional
- TW- medicine the medical team is potentially a CoP too (a third CoP emerges)
- C - it is also a hierarchy – at the top you have institutions, next professions, legislated the silos, then those who work on the ward in the service then Tony's communities of clinical practice
- All - The emphasis on activity is important here you may be told you are a team member but you may not feel that way. When you participate as a member of a team you have meaningful experience – for a student this is often at the patient level

- Tony - in the clinical practice community we defined it by making it those who work with the individual patient, this is a defining characteristic, a necessary condition.
- J - And those that work on the ward or service do not work with every patient together the clinical practice community includes the patients a member. (We draw on the board a circle (whole team) with overlapping inner circles (pt clustered teams))
- T - You can be told you are team member and not feel like one (lots of students report that) – especially that interprofesisonal team level of the service
- Note to self - We have both taken different direction, the group think both are important.

This PEARL lead to the identification of three communities. The comments and dialogue indicated that the patient care team and the service team were two different entities that did overlap both in membership and time, and using Tony's terms, are operating one at a "micro" level the other at a "meso" level. The Community of Clinical Practice forming fast with a shorter life in acute settings, the Community of Practitioners slower, more enduring and one participant comment "perhaps more defensible and aligned to Wenger's theorising". The distinction was clearer for those in longer care environments especially palliative care or rehabilitation settings. The centrality of the patient in the clinical practice community is a key component of this CoP.

At each of the forums the three communities concept was presented and the application to medicine discussed. Ideas and feedback and discussion lead to a cycle of review, edit and new descriptions. The process involved a description of the CoPs and participants were invited to comment on the concept of three CoPs and in small groups generate ideas about processes and artefacts that supported learning in each CoP.

From dialogue with over 100 medical and allied health educators across six forums, three key practice contexts were identified in which communities of practice emerge naturally. These are the clinical team providing care to the patient, the wider inter-professional community that works together to provide a service or deliver care in a specialty of practice (e.g. an orthopaedic ward, an oncology department), and the medical professional community that extends beyond the ward or unit. A number of border communities are also identified.

12.2.1 THE CINICAL TEAM

The first context is the patient-focused clinical team that Jaye and Egan (2007) refer to as the community of clinical practice. This is the clinical team who come together to provide care for an individual patient (it includes the patient and family, and is interprofessional). The duration of this community varies depending on the nature of the patient's illness so it may be a stable team for the duration of an intern placement (3 months), for example, in a palliative care setting, or it may be very brief as in an emergency department.

The focus of this community is the patient. Without repeating the criteria above, once the relationship with patient and family is established, the roles, shared language and mutual understandings all develop rapidly. Much of what is learned about patient communication and patient centred care in under graduate medical school helps the intern participate in this team. Patient case notes, care plans, drug prescription, and observation charts are the artifacts and boundary objects of this community. Family meetings are the vehicle for checking and assessing the appropriateness of care plans and for clarifying what others know, what they can do, and how they contribute to the enterprise of patient health and well being.

The time frame in acute and specialist areas where the patient stay is short, is problematic, significantly so in the context of an emergency department or an operating theatre. In these contexts team work is short, intense, critical and often with little patient and family engagement. On the other hand, in both of these areas intense effort and training (usually by simulation) is deemed important to quickly and effectively establish team roles and relationships. Also processes for understanding, and artifacts for ensuring, patient and family wishes are known and correctly interpreted are well developed (e.g. consent forms and power of attorney). Significantly, neither time span nor duration are indicators of a CoP and Wenger (1998) notes that some CoPs are short-lived. Roberts, (2006), concepts of "fast" communities also applies here.

This community sits within and crosses boundaries with a wider interprofessional community situated in the ward, unit or service. These are the ongoing, more stable communities providing care to groups of patients; these I have named "the interprofessional communities of practitioners".

12.2.2 THE SERVICE BASED TEAM - THE INTERPROFESSIONAL COMMUNITY OF PRACTITIONERS

This community forms as a community of inter-professional practitioners; it is the inter-professional team that takes responsibility for the provision of a service. There are multiple communities of practitioners within a hospital environment aligned to specialty areas of care within a hospital. They take responsibility for the provision of a service, across time and patients and develop inter-professional knowledge within a specialty of care (e.g. oncology, palliative care, orthopaedic surgery, diabetes). An intern will be placed within one of these teams for a three month clinical attachment. This community provides the structure and the clinicians for the provision of patient care, (it inducts new comers, supervises novices and ensures patient safety). When functioning as a CoP it creates an effective clinical learning environment. It is the repository of ongoing learning, across time and patients. It is the heart of local practice development, where inter-professional knowledge, good practices and skills are developed within a specialty of care. This team has relationships with multiple border communities (e.g., general practices, homecare agencies, radiology, recovery, ICU, operating theatres). Border objects are developed to ensure continuity of care as the patient moves between these other communities, ensuring that the patient has a safe journey. Examples of border objects are handover notes and verbal handover protocols, referrals, pre-operative check lists, and outpatient prescription forms.

Referring to Wenger's (1998) indicators in Table 5, these communities are characterised by sustained mutual relationships amongst the 'long timers' in the area. Each unit or ward will have well established ways of engaging, and of doing things together; sharing information through handovers, team meetings, protocols, patient data bases etc. Pager systems ensure that there is a quick way to set up discussion of urgent problems. In a well functioning community there will be substantial overlap in participants' descriptions of who belongs, knowing what others know, what they can do, how they contribute to the service; and there will be informal interaction with insider jokes, knowing laughter. Knowing the local jargon, shortcuts to communication, member's individual style, and the 'ward politics' were identified as important for encouraging participation of interns. The intern is a short term member of this community (a three month period only) and this was seen as bringing challenges for novices who are shy and less self promoting.

Intersecting these communities are the single profession communities of practitioners, the professional groups (e.g. medicine, nursing, occupational therapy). These are long established communities that support the ongoing professional development of their members and build discipline specific professional knowledge.

12.2.3 MEDICAL TEAM – A UNIPROFESSIONAL COMMUNITY

For the intern, the community of medical practitioners is a stable long term community to which they will belong all their working life. It is closely connected to and part of a large professional body which has influence within the health provider environment and has links nationally and internationally. Their members contribute to registration and accreditation boards and monitor the ongoing competence of their members.

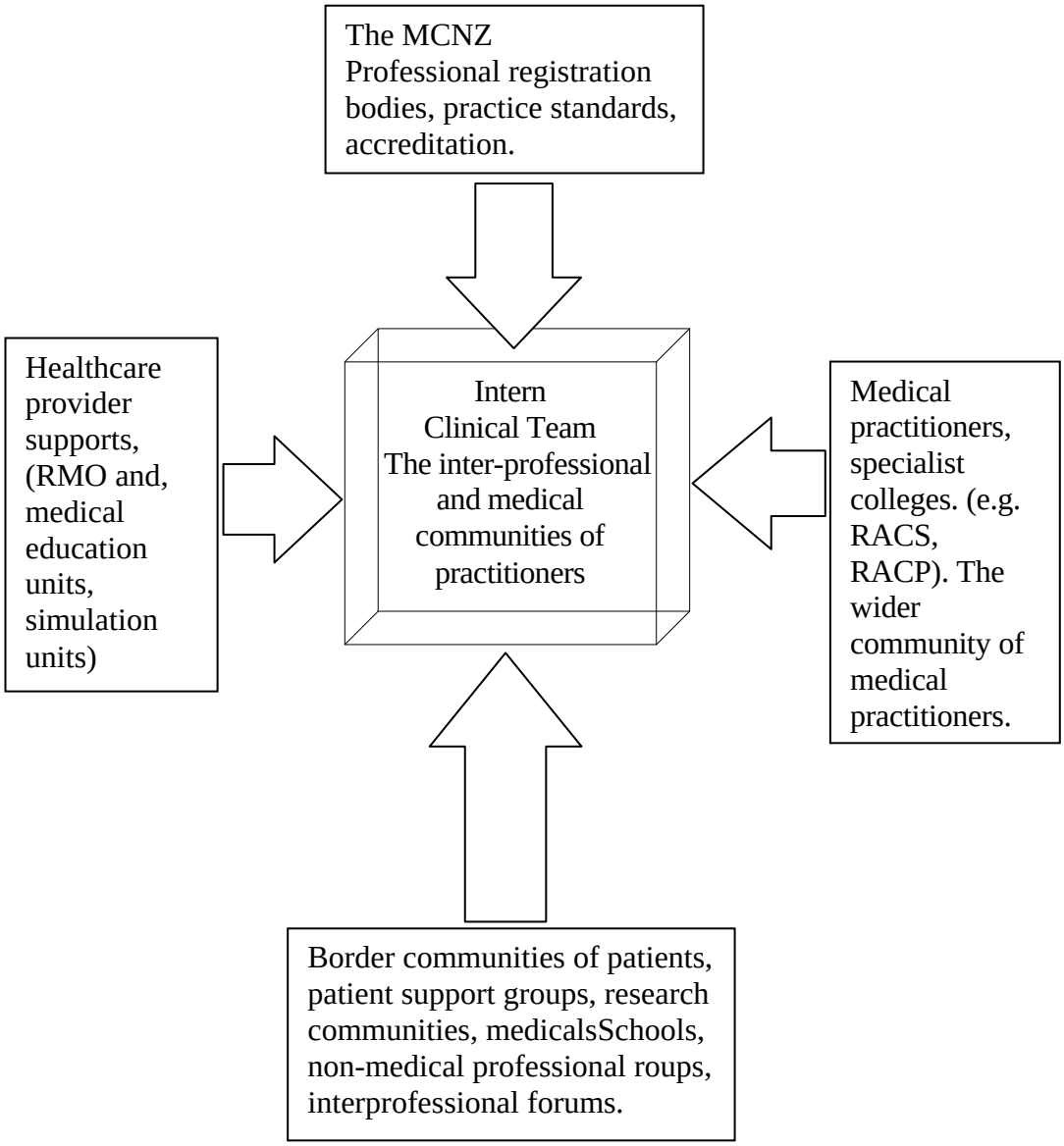
At the point of care (and as part of the clinical team and the interprofessional community of practitioners) the intern works with members of the medical team to provide the medical aspects of patient care. Again, the indicators of a CoP all apply to this community and it seems unnecessary to repeat them here other than to note the very detailed and elaborate procedures that the professional bodies of medicine have established to ensure the ongoing activities of these influential communities of practitioners. It is this community that has a dominant influence on the identity of the intern as a medical practitioner.

12.3 ORGANISATIONAL STRUCTURES AND BORDER COMMUNITIES

These three teams (or communities) are situated within hospitals accredited by the MCNZ and therefore within the organisational environment of a tertiary healthcare provider. (Currently in NZ interns are not placed in primary care.) Figure 3 represents this.

Figure 3: Structures that support internship

*The size of the arrow indicates the closeness of the these border communities

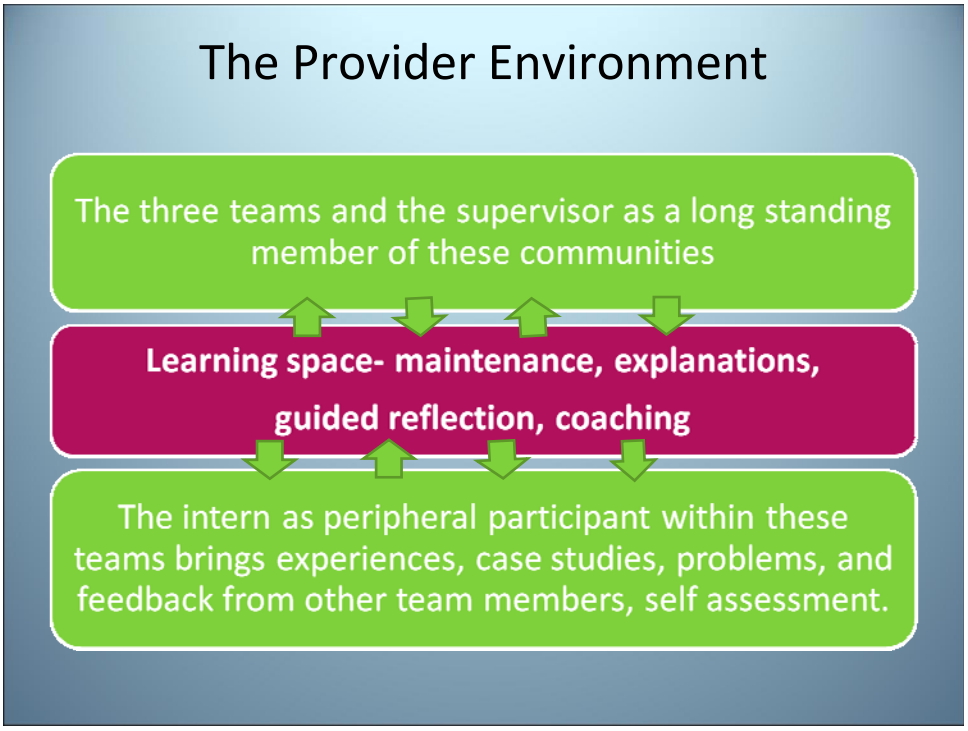


These groups provide a wealth of educational experiences from the highly formal and structured accreditation procedures to informal networks that also provide an extensive range of educational opportunities both within the communities in which internship immediately occurs and outside the communities.

12.4 DISCUSSION - THE LEARNING ENVIRONMENT OF THE INTERN

The three sites of team based learning (identified by practitioners as often operating as CoPs) and the organisation and professional support groups constitute the learning environment of the intern and the practice environment of both intern and supervisor. This is represented in Figure 4.

Figure 4: The health communities the supervisor and the intern within the immediate clinical context



For the novice the supervisor is a buffer, an interpreter and a sponsor operating in a protected learning space. Over time that learning space becomes reduced and as the novice gains expertise and full membership to, and acceptance by the team, the need for a supervisor decreases and the supervisor role is replaced by peer monitoring and learning within the professional community as a vocationally registered practitioner.

The wider organisational structures of the hospital management, medical education units, colleges, research groups, patient groups and the professional organisations of the other health professions all function as border communities and in doing so contribute to the organisational learning environment (Figure 3). They are border communities that interns, supervisors and the community of practitioners engage with frequently.

The document analysis in Chapter 9 shows that royal medical collegse and their individual members consciously think about continuity and development of professional medical practice from the past to the future; and fellows of the colleges see it as their responsibility to induct, train or mentor newcomers, whether or not it is a formal part of their job description. In NZ registered health professionals are required under the Health Practitioner's Competency Act, Ministry of Health, NZ (2003) to engage in ongoing education and to consciously think about and contribute to the development of practice, to think about the continuity of knowledge (through evidence-based practice) and see it as part of their professional responsibility to induct train and mentor new comers even if it is not in their job description. So there are structures in place that already recognise and support the learning activities of these teams that already exist within the context of healthcare delivery (See Figure 3).

Together the border communities and the clinical teams in which the intern and supervisor practice over a wide range of learning activities identified in Chapter 9 can be summarised using classifications of learning activities and artifacts described by Wenger (Workshop Christchurch, 2008).

1. Exchanges (document sharing, tips, stories, information, news, pointers to resources, scientific conferences).
2. Productivity (enquiry, exploring ideas, case clinics, project review).
3. Building shared understanding (patient-related discussions, joint response, inter-professional case meetings, grand rounds, case presentations, quality audits).
4. Producing assets (documenting practice, collections, problem-solving, innovative projects, boundary collaboration, feedback from others e.g. coroner or pharmacy audits).
5. Creating Standards (mutual benchmarking, warranting, models of practice, external benchmarking, and audit).
6. Formal access to knowledge (formal practice transfer, help desk, systematic literature search, invited speaker, training workshops, skills and simulation training and update).

7. Visits (other consultants, as part of accrediting teams, being an examiner for a professional college).

While the structure of health care delivery offers the potential for CoP's to develop, the degree to which this occurs naturally will vary across contexts.

In this chapter the argument that the learning environment (or context) for internship can be conceptualised as three communities of practice has been advanced by describing the interns' hospital-based learning environment as three contexts or sites in which CoPs naturally occur or could be developed. These are described as situated within the broader communities (such as the professional bodies of medicine) and the organisational structures that host and support these communities.

Part III builds a framework for internship by describing the responsibilities of team members if their team or community is to function and develop as a community of practice that supports the learning of all members and recognises the role and responsibilities of the intern as a novice but also as an active member of these professional communities.

PART III:
WEAVING THE THREADS

In this final section the two parts of the thesis that started out as separate and independent lines of enquiry come together and influence each other.

Part II (Chapters 11 and 12) established that situated learning theory (Lave & Wenger, 1991) and Wenger's (1998) concept of CoP is applicable as a framework for describing the context of internship. Chapter 13 draws on the rich description of the organisational learning context reviewed in Chapter 10 and the outcomes of the studies of learning and supervision in internship in Part 1 to develop a framework of supervisory practice and to describe the roles and responsibilities of supervisors and interns.

Chapter 14, the final chapter, provides an overview of the thesis and returns to the specification developed in Chapter 3 to guide the design of the framework then the proposed framework against these original criteria. A discussion of the strengths and weaknesses of this thesis links to other research and the implications for practice and future research closes the chapter.

CHAPTER 13:
A FRAMEWORK FOR LEARNING AND SUPERVISION IN INTERNSHIP

The two parts of the thesis that started out as separate and independent lines of enquiry now come together and influence each other. Part II (Chapters 11 and 12) established that situated learning theory (Lave & Wenger 1991) and Wenger's (1998) concept of CoP is applicable as a framework for describing the context of internship. This chapter draws on the rich description of the organisational learning context reviewed in Chapter 10 and the outcomes of the studies of learning and supervision in internship in Part 1 to develop a framework of supervisory practice and to describe the roles and responsibilities of members in each CoP. The demands on the intern as a peripheral participant developing identity within the context of these CoPs are considered and then the roles and responsibilities of supervisors within this framework are articulated. The chapter ends with the application of the CoP framework to the participatory learning model proposed in Part 1.

13.1 RESPONSIBILITIES OF THE CLINICAL TEAM

As providers of patient-centred care these communities (clinical teams) are responsible for encouraging shared communication and decision making, ensuring the best possible outcomes are achieved, and also for maintaining patient safety. The community shares and creates artefacts with the patient, shares goals and strategies and problem-solves together. There is a sense of the co-production of knowledge as it focuses on and includes the patient, especially in caring for the chronically ill or patients in rehabilitation settings. The notion of co-production of health is applicable here (Bovaird, 2007). Partnership between professionals, clients and the wider community is the basis of co-production and assumes that services are only successful when the people being served are involved. There is recognition that health care does not simply involve binary relationships, usually there are multiple relationships: client care is delivered through a complex mix of organisational design and staff/client interactions and through a series of relationships (Hyde & Davies, 2004). This aspect of co-production is familiar to medicine. Doctors have an expectation of reciprocity in the doctor-patient relationship. Professional

advice is expected to be met with cooperation in the interaction, particularly during history-taking, diagnosis and in compliance with treatment. A degree of mutual adjustment often occurs in planning and providing of treatment and rehabilitation.

Learning occurs through case management, constant review and update, feedback from patients, family and team members. Patient support groups, fundraising groups, practitioners and researchers all form independent communities whose activities intersect and interact around their common cause, the improved health status of the individual. So for the intern there is significant border crossing with community groups, patient groups, general practitioners and specialists, and health care consultants.

13.2 RESPONSIBILITIES OF THE SERVICE-BASED TEAM

Within a specific health care setting (eg a ward or service) these communities engage in the delivery of care with discipline-specific responsibilities for supervising and supporting new practitioners. Each community needs to develop a conscious sense of "being a learning community" or a CoP to share and gain situational knowledge. Wenger (1998) claims that it is by the sharing of stories and experiences (mutual engagement) that practitioners can reflect, and receive feedback (shared repertoire) from other members of the group, on a shared passion or subject (joint enterprise). This sharing leads to new ways of doing and so creates a cyclical learning pattern that is driven by practitioners themselves (Wenger, 1998). This can be achieved through sound orientation processes, sharing assumptions and tacit organisational knowledge, team introductions, story telling, shared discussions (informal and formal) and joint decision making.

It was observed in the study of interprofessional communication described in the previous chapter (Sheehan, Robertson & Ormond, 2007) that the beginnings of shared linguistic practices mark the development of an interprofessional team. If inclusive language is one of the hallmarks of an interprofessional team this has implications for new and temporary members such as interns. Raising awareness of language and "translation" by a supervisor could also be an important factor in influencing effective participation and collaborative behaviour.

13.3 RESPONSIBILITIES OF THE MEDICAL TEAM

Interns are part of an extended community of medical practitioners in which their ongoing development as a specialist medical practitioner will occur. Membership of this community is

critical for the maintenance of professional practice, ongoing maintenance of competence and for maintaining registration with the MCNZ. Within the immediate clinical environment the intern is not just part of a medical team providing patient care but also part of a community building medicine-specific knowledge through practice, quality audit, peer review and research. For senior clinicians who have selected their specialty this will be a stable environment as they will not be rotating through attachments every three months as interns do. There is an obvious and key role for the immediate supervisors to debrief, review cases, encourage reflection and problem-solving and explain medical decisions. Research in many occupations (Ericsson, Kramp & Tesch-Romer, 1994) has shown that it may be very hard for experts to describe expertise, especially when there are strong visual and physical dimensions (as in surgery). This makes working alongside the intern, providing direct coaching, previewing and reviewing cases even more important. This style of coaching goes beyond the master–apprentice relationship (that relies on demonstration rather than analysis) and aims to develop expert performance and speed up the process by seeking to discuss with the aid of mediating artefacts (eg notes, pictures, pieces of evidence such as lab reports, X-rays) just how the intern might progress.

There is also a role for a member of the medical team to act as a mentor guiding the novice through the tensions and conflicts that arise in interprofessional teams and assisting interns to develop teamwork and medical leadership skills. Such a mentor or supervisor should not rely on the more formal processes of learning such as journal clubs, grand rounds (formal didactic case presentations to peers), and intern teaching but recognise and promote that informal situated learning that will, over time, impact on practice, attitudes and ethical development.

The responsibilities of practitioners as members of the three communities are summarised in the following table using criteria extrapolated for Wenger's (1998) three types of responsibilities—mutual engagement, sense of enterprise, development of repertoire, that includes artefacts, styles and discourses. In the table, styles and discourses are separated into artefacts and learning activities to recognise the key role artefacts, particularly case notes and referrals, have in patient safety. Activities identified in the micro-level studies as helpful for encouraging participation, engagement and the development of practice knowledge are included. The learning activities are included as examples to illustrate learner and supervisor options and strategies, they do not cover all the possible learning resources or strategies and are not intended to offer a "one approach fits all" solution. This is the immediate work environment of the junior practitioner

and it is a complex, multi-disciplinary workplace. Just as these three communities intersect so do the artefacts and activities for engagement also intersect.

Table 6: Sites of practice and associated responsibilities and activities as a CoP

Responsibilities and Activities	Medical Practitioners	Interprofessional Service-based Team	The Clinical Team (Patient Centred)
Nature of sharing, participation and engagement.	Promote a sense of community of medical practice— maintain standards of medical practice. Implementation of college training, accreditation body polices and procedures for planning learning and assessment.	Promote a sense of community and mutual engagement—collaborative care, sharing and developing knowledge. Team communication that encourages membership participation.	Performing as an interprofessional team, collaborating, sharing knowledge, providing care for a specific patient. Patient centred team care models. Delivery of care.
Artefacts generated.	Extensive: includes college policy and procedure, membership, formal teaching programmes, assessment, conference and scientific meeting papers, research journals, practice guidelines for doctors and ethics statements.	Team protocols, patient's notes, patient and staff guidelines and educational material, incident reports, staff presentations, articles written, in-service material, charts and posters in the care environment.	Patient notes, referrals, discharge summaries, patient information leaflets, instructions, incident reports, case review, patient feedback.
'Knowledging' activities.	Medical case presentation, within and across specialties, mortuary and mortality review, audits, peer review). Career guidance.	Promotion of team-based learning—shared learning and development (eg case presentations and review, audits, peer review).	Promotion of case-based learning, joint problem-solving, informal discussion and problem solving.
Learning activities.	Clinical supervision and cognitive apprenticeship of interns, engagement, observation, feedback. Learning through work, case-based practice, dialogue with other interns and specialists communities. Learning through border communities of patient support groups, research funding groups (eg Cancer Society), and patient advocacy groups.	Team-based case discussion, audit, practice development, guidelines (eg case notes, team goals, care and rehabilitation plans), patient based, case discussion, utilisation of patient focused artefacts, (eg case notes, team goals, care and rehabilitation plans).	Learning with and through patients and their family and care givers, patient-based case discussion, utilisation of patient focused artefacts, (eg case notes, team goals, care and rehabilitation plans).

13.4 RESPONSIBILITIES OF THE INTERN IN EACH SETTING

Situated learning theory (Lave & Wenger, 1991) positions the CoP as the context in which an individual develops the practices (values, norms and relationships) and identities appropriate to that community. In this chapter learning is considered in an environment conceptualised as a CoP from the perspective of the individual intern in order to discuss the individual's responsibilities and their responsibilities as a novice member of each of the communities.

Participation is depicted as central to situated learning and the studies in Part I confirmed that it is a key factor for learning in internship. As Wenger (1998) suggested, participation is more than just engaging in the events and actions of the community, it is "a more encompassing process of being an active participant in the *practices* of social communities and constructing *identity* in relation to these communities" (Wenger 1998, p. 4; emphasis in original text). Participation is not just a physical action it also involves 'connection' and includes the 'possibility' of mutual recognition, the ability to 'negotiate meaning' but does not entail equality or even collaboration (Wenger 1998, p. 55). This is evident in the socialisation of medical students as described by Becker in her text entitled *Boys in White* (Becker, 1961). Situated learning also calls attention to the possibility of variation across communities bringing with it the potential for intra- and inter-community conflict.

So learning within internship is not just about developing one's knowledge and the skills for clinical practice, it also involves understanding who you are and in which CoP you belong and are accepted. Wenger's (1998) work is limited in the way it refers to theories of identity construction, therefore, I refer to the work of Alvesson and Willmott (2002) who differentiate between two processes of identity construction, identity regulation and identity work. Identity regulation refers to processes originating from and mandated by the organisation (as employer) and the professional bodies (as gate keepers to registration and the right to practice as a doctor) and interns' individual responses to these (e.g. enactment or resistance). Identity work involves negotiation between this regulation and the intern's sense of self derived from previous and current work, including the impact of the undergraduate education programme. Through these processes the intern either embraces or rejects the opportunities as they present themselves within the, at times competing, communities of practice. By participating in these the intern develops an awareness of each community's practice and learns how to understand and engage with the various protocols, tools, languages, role definitions and expectations,

implicit relationships (medical and interprofessional), and tacit conventions underlying assumptions and values. Thus it is participating in these CoPs (stressing the plural), observing others, imitating them, and adapting and developing practices that allows the individual to adapt, reconstruct and define their identity as a doctor (Ibarra, 1999; Breakwell, 2001). This requires that interns bring a sense of responsibility to their work and an awareness that this year is about developing their individual identities as a doctor and as a member of the interprofessional team and the medical community.

The MCNZ describes this probationary year of internship as "being about growth as a doctor" and the goals include exploring career goals and "to begin to deal with the professional and personal pressures of being a doctor" (MCNZ, 2006 p. 5). So interns need to recognise that this process will take time, that this is the beginning, and from now on the pressure to learn will not come from the structure of a university programme but from the workplace; from the maintenance of the practice requirements of a professional body and through working with colleagues in the community of medical practitioners. Interns need to recognise and value the knowledge they bring to the community, that is: current scientific knowledge, enthusiasm, interpersonal skills, experience as patients or supporting family members, and knowledge management skills. They also need to be aware that the learning process will change in the workplace and that they will need to actively engage with colleagues, patients and families in the collaborative management of health care delivery. Recognition is needed that even as novices they contribute to problem-solving and decision making with colleagues and patients and in so doing they contribute to the collective knowledge held within these health communities. In the interests of patient safety interns must have a strong sense of their level of capability, know when to ask for help and when to show initiative and they must be active learners.

In our study of interprofessional communication (Sheehan, Robertson & Ormond, 2008) dual membership of the interprofessional team and one's own profession was noted and also the need for health professionals in teams to remain mindful that they must foster this dual membership. It takes energy to maintain such membership even as an experienced practitioner; it follows that for the novice it must take considerable effort to maintain and increase participation in two communities simultaneously. Furthermore, in the complex environment of health care delivery there are many border communities with which to engage and interact.

Table 7 uses the same criteria as Table 6 to summarise the personal responsibilities of the intern as a new practitioner in multiple communities of practice.

Table 7: Personal responsibilities of the intern as a new practitioner

Responsibilities and Activities	**New Practitioner – Individual learner.**
Nature of sharing, participation and engagement.	Actively participate and engage as opportunities become available. Observe, model, talk about cases, ask, and read around cases. Show initiative. Develop shared understanding and create knowledge with other practitioners. Participate in formal workplace learning opportunities (eg attend intern teaching, grand rounds, journal clubs and team education opportunities). Participate in institutional and wider medical communities to learn about systems and values.
Artefacts generated.	Make personal notes, make entries into the patient notes, handover (verbal and written) and discharge notes. Deliver case presentations to medical and interprofessional teams. Complete personal training plans; prepare reflective exemplars, written up as part of a professional portfolio. Contribute to supervision through supervision records, 3 monthly feedback and assessments (self and supervisor).
Knowledge activities.	Learn through participation and engagement in clinical meetings, patient conferences, and education sessions and through patients and their care - givers. Contribute to clinical decision making and problem-solving, both formal and informal. Prepare reflective exemplars written as part of a professional portfolio. Ask questions of supervisors and other expert practitioners. Offer to contribute to audits and other safety and quality procedures.
Learning activities.	Learning about and learning within the continuum of patient care. Learn through doing the work and from role models, trial and error collegial problem solving, reflection, and conversations with patients. Engage with families, general practitioners and other professional groups. Take opportunities to attend medical conferences and scientific meetings provided by the wider medical community.

13.5 THE ROLE OF THE SUPERVISOR

This section recognises and describes the role of the supervisor as a consistent figure and support for the intern as they move within and between CoPs and as a clinical leader supporting and promoting the dialogues, information sharing and educational activities of the clinical teams (medical and interprofessional). In doing so it acknowledges the growing interprofessional and team-based emphasis in health care that has emerged in the last decade and the role of the medical practitioner as the team leader and team member in these teams. (It is acknowledged that the team leader's role is not always undertaken by the doctor in the team.)

In Chapter eight strategies identified that can be used by supervisors to enhance clinical learning environments and build CoPs were:

- Provide orientation for the supervisees to the tasks of the placement and team; introduce them to the team and delegate meaningful tasks and increase these over time. Let others in the team know what the supervisee's role is and show confidence in them to fulfil that role. Act as a sponsor, endorse their presence and involvement.

- Involve the supervisee in the team, invite them to offer solutions and opinions and include them in informal conversations. Think aloud about decisions, ask questions, invite questions from the whole team, pull them in and encourage participation. Guide and support the supervisee's education.

- Develop supervisees' professional skills through coaching and develop their problem solving abilities. Coach by choosing tasks appropriate to the supervisee's level of ability, challenge them and offer encouragement, give feedback, structure the ways they think and help them work on identified weaknesses. Encourage reflection and critically review cases with the novice.

The supervisor is also a consultant physician or surgeon and is an established and respected member of all communities. The supervisor's role in sponsoring and supporting the novice practitioner is essential for patient safety and interprofessional team acceptance. The team and the medical council as registering authority, rely on the supervisor to monitor the work of the intern as a probationary practitioner and to provide oversight of the care delegated to the intern.

Finally, Chapter 9 reminds us that internship is part of a continuum and that it is the bridge between graduation and vocational registration. Another task of this period is for the intern to select their vocational training pathway, be it medicine, surgery, general practice etc. Career guidance emerges as another role for an effective supervisor.

This previous work has demonstrated that the supervision role has four functions: monitoring competence to ensure patient safety; personal professional development and support of the intern; providing team leadership and role modelling of team work skills; educational, including teaching clinical skills, role modelling medical practice and formally assessing performance. This is represented in Figure 5. This diagram demonstrates that supervision in medicine has four components or roles: career mentoring and educational guidance; practice mentoring and sponsoring within the interprofessional team; clinical oversight; and role coaching and pastoral care.

Figure 5: Roles of supervisor/s of interns

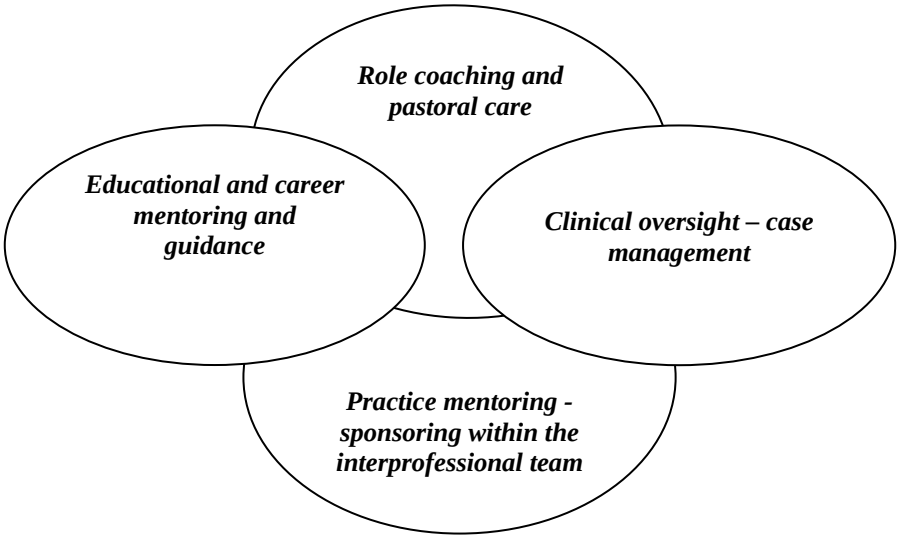


Table 8 links these functions or roles to the context of medical education when conceptualised as three CoPs and the responsibilities associated with each of these roles to provide a summary of the previous description of the roles and responsibilities detailed above.

Table 8: The roles and responsibilities of the supervisor

Context	**As a member of the community of medical practitioners**	**As a clinical and educational leader and member of a community of interprofessional practitioners within a ward or service**	**As the medical specialist providing patient care within the clinical team**	**As the supervisor meeting regularly with the intern to provide feedback and monitor progress**
Roles of the Supervisor	Educational and career mentoring and guidance.	Practice mentoring - sponsoring within the interprofessional team.	Clinical oversight – case management. Assessing intern's competence and safety to practice.	Role coaching and pastoral care.
Responsibilities of the supervisor	Sponsoring, supporting and initiating introductions, membership. Promoting boundary crossing. Encouraging professional activities, attendance at: case presentations, hospital-wide meetings, college scientific meetings; and participation in quality audits and reviews. Career guidance, help with examination preparation, college selection interviews, references.	Supporting and encouraging participation by ensuring adequate orientation, initiating introductions and sponsoring membership. Role modelling of collaborative practice. Encouraging and promoting interprofessional case discussion, learning opportunities.	Introducing and promoting the novice as part of the team, case discussions, and direct case supervision. Role modelling of good medical practice, and scaffolding learning. Encouraging reflection and critical thinking. Assessing for patient safety and competence. Targeted feedback on procedures and clinical decision making.	Supporting the intern through the trajectory of identity formation. Ensuring acceptance, participation, engagement. Coaching in peer and patient communication, conflict resolution. Providing feedback on communication interactions. Affirming professional identity.

13.6 APPLICATION OF THE COP FRAMEWORK TO THE PARTICIPATORY LEARNING MODEL

The first study in Part I investigated learning in clinical environments, the outcome was a model setting out the critical components that ensure clinical settings are positive learning environments which encourage participation. The development of the evaluation tool provided further support for this model and support for a CoP approach as it showed that the most valued aspect of an attachment was the development of professional skills. In order for this to occur a learner had to feel engaged with the team. Such engagement is promoted through the supervisor relationship but maintained and supported by the team environment. Significant engagement behaviours included: asking questions and being asked questions; the supervisor and team expressing confidence in the trainee who in turn valued their opinion; and delegating just enough, but not too much, responsibility.

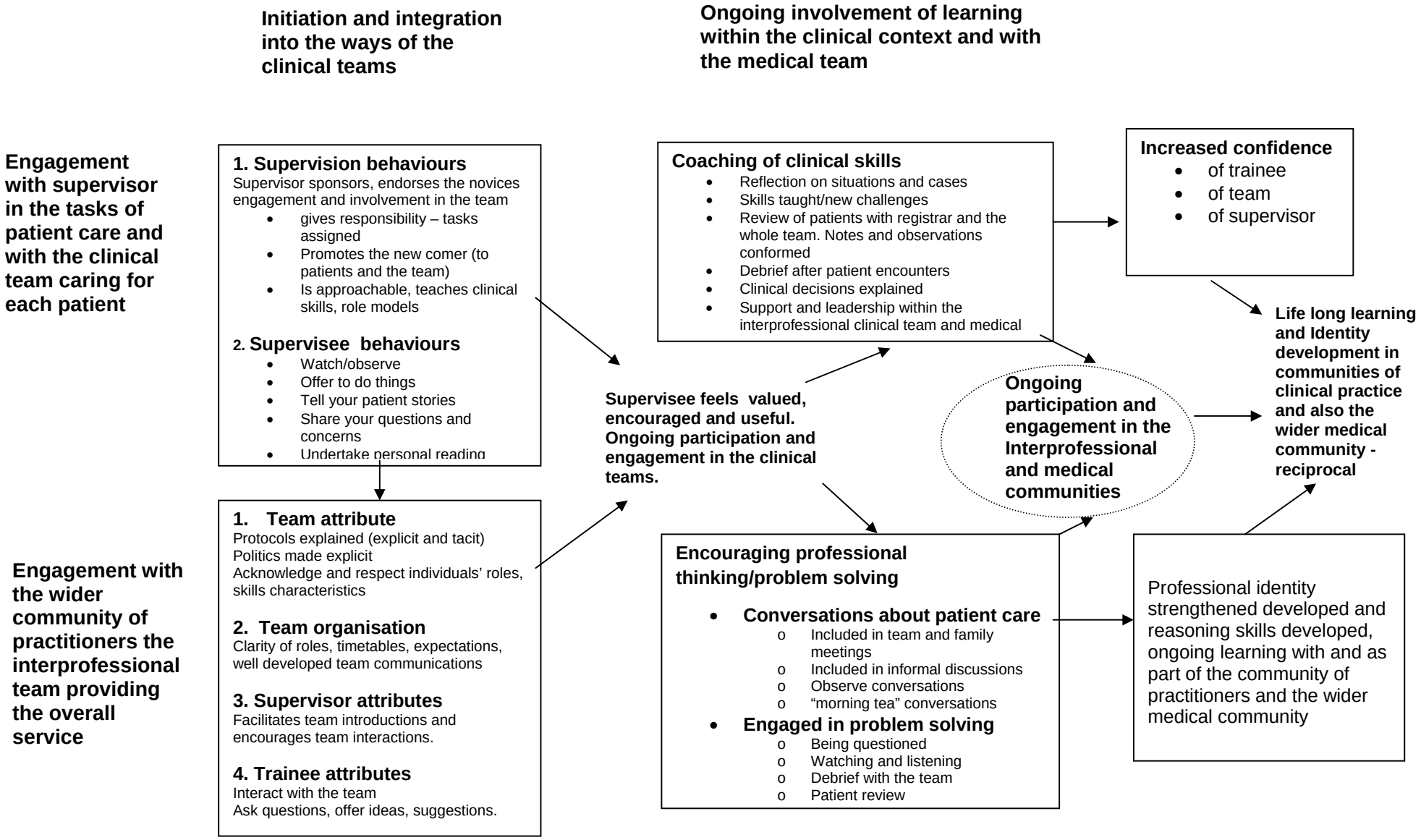
The evaluation study also highlighted the need to ensure that all roles are understood, orientation to the team and knowing 'who is who' were important for learning. For interns, knowing what the protocols and procedures are and what is expected of them also helped them feel as though they belonged to the team. These findings concur with Mulroy, Rogers, Janakiramanan, & Rodriques (2007) whose review of the literature about what junior doctors want in start-of-term orientation identified key factors such as input from the previous incumbent (preferably face to face), 'street knowledge' (eg consultants preferences), 'tips' on how to prepare for meetings, ward practices, and involvement of the whole team, medical and non-medical, in their orientation. In this review questionnaire items about orientation to departmental protocols and receiving information about the job expectations clustered with team orientation behaviours. In the original model these behaviours are described as initiation to the tasks of patient care (so they have a task function). However, reflection within a social learning framework suggests these are better described as engagement with the supervisor and the team in the tasks of patient care. There are benefits from these activities that go beyond getting the job done.

This follows the process of legitimate peripheral practice described by Wenger (1998) by which newcomers become part of the community. Being part of the team, a feeling of being able to contribute and feeling that one's opinion is valued are themes that emerged in the team and CoP literature and in our previous work (Part II). It is not simply "doing" and repeating tasks themselves that promotes learning but the dialogue that ensues with the supervisor and

the team while doing those tasks, the interaction and the decisions made all influence everyone's learning. This view is supported by a study by Wimmers, Schmidt & Splinter (2006) which showed an increase in patient encounters did not improve competence but that the quality of supervision and involvement in the team environment emerged as crucial ingredients. It was the orientation to the team and the intern role, engagement with the team in decision making and problem-solving, and a sense of being valued and contributing that significantly impacted on learning. Learning within a clinical team occurs through active participation (initially on the periphery), the guidance and sponsorship of a supervisor, and later through the ongoing membership of the community of practitioners.

Figure 6 shows a revised model, utilising the theoretical framework of apprenticeship (new) provided by Lave and Wenger (1991). The changes made apply predominantly to the aspect of the original model which was initially conceptualised as orientation and introduction to the activities of patient care. This conceptualisation suggested that these activities helped the intern care for the patient and learn about the tasks of care. In the revised model these are reinterpreted as activities that promote engagement with the supervisor and the team, and in so doing facilitate peripheral participation in a CoP thus giving community engagement a greater focus and recognising it is the ongoing involvement with the team that is at least as significant as each individual patient encounter.

Figure 6: Learning and supervision in a clinical context



13.7 FINAL COMMENTS

The outcome of this chapter is a four-dimensional community of practice framework for internship that recognises three practice communities in the immediate work environment of the intern and incorporates the responsibilities of both the intern and the intern supervisor.

The communities of clinical practice and practitioners are not mutually exclusive; together they provide the structure for Wenger's (1998) mutual engagement, a sense of enterprise, development of repertoire, artefacts, styles and discourses. A limitation for the notion of multiple communities of intern practice is the way Wenger (1998) portrays a picture of compartmentalisation of practices, one for each community setting to which the intern belongs, arguing that learning and identity is fully situated with little transfer across settings. If knowledge is to transfer with interns as they move between health settings (eg from an acute surgical area to a primary care environment) then Wenger's compartmentalisation of practice is highly problematic. There is also the potential for conflict and instability not just for the individual but across the community.

Within these communities the novice is supervised by an experienced senior who introduces them to all three communities. This fits with Wenger's (2008) description of the 'master' as a ''figure head" who has a 'blessing' role. Mistakes or potential for mistakes are a way to pull the interns into the community not to exclude them, learning is becoming a member, it is also is transformational and reciprocal. Moving between communities and negotiating multi-membership is part of identity formation.

A positive force for adopting the CoP approach is the professional learning culture within medicine and the growing focus on collaborative care and interprofessional learning within health care delivery. However, despite the growing interprofessional focus collaboration may be limited in some workplaces. As noted in Chapter 3 not all clinical environments and clinical teams are warm, friendly and collegial (as observed elsewhere by Brown and Duguid, 1993; Billett, 2002; and Wenger, 2000). Traditional hierarchical patterns and traditional professional silos may not support the collegiality and reciprocity envisaged by a CoP approach. In some clinical areas collaboration may be limited or not possible, time constraints or workplace structures may limit opportunities for learning or even the absence of expertise to facilitate learning. If a community does not value teaching expertise and teaching and learning is seen as a concern of the individual rather than the group, then recommending that a

clinical team or practice group give increased attention to members' learning involves a significant culture change. Learning from other people also depends on interpersonal encounters: the isolation of some interns has been noted in both the literature and the studies reported within the thesis.

A limitation of the notion of multiple communities of intern practice is the way Wenger (1998) portrays a picture of compartmentalisation of practice which is highly problematic if knowledge is to transfer with interns as they move between health settings. Mutch (2003) offers an approach that addresses this. He suggests that individuals maintain a sense of agency through the adoption and adaption of different forms of participation within different communities. The continual negotiation of self within different communities may generate interpersonal tensions and conflicts of identity in relation to the performance of the role they are expected to perform. Therefore, the choices to renegotiate, withdraw or maintain a marginal form of participation in non-complementary CoP are part of the work of identity formation.

Mutch's (2003) approach offers a solution and highlights a key role for the supervisor in supporting and coaching the intern as they transfer across settings, adjusting not just to new roles and tasks but new team dynamics and a new trajectory of identity formation. For the intern the only immediate stable community is the community of medical practice, so it is hardly surprising that internship is a difficult period in the medical education curriculum. Every three months a reorientation is required to a new service and a new team, and full set of new relationships has to be established and negotiated. Promoting these becomes a key role for the supervisor.

An advantage of adopting a CoP approach to intern development is that professional communities committed to practice development and to learning already exist in health provider organisations through the postgraduates' training and supervisors' structures provided by the royal colleges and within hospitals as directed by the MCNZ. These existing professional groups can support deliberate planning for intern development, as well as people's more informal learning. What is helpful, and pragmatic, is that the CoP model builds upon the status quo. Wenger et al (2002) discussed organisational contexts, noting that "because communities of practice are organic, designing them is more a matter of shepherding their evolution than designing them from scratch" (p. 51). There is certainly much that exists already at the level of the individual communities and the organisation that

supports learning in internship. Wenger (1998) comments that professional values and attitudes are likely to be stronger where a community takes responsibility for the collaborative work of its members, instead of seeing teaching simply as a process carried out by isolated individuals. Legitimate peripheral participation and cognitive apprenticeship within such CoP enable both old-timers and newcomers to contribute to continuity and development of professional practice.

A framework for supervision is created that is situated in the context of health care delivery in NZ which can be used by supervisors to make sense of learning and supervision in clinical environments of internship, challenging and, at times, maybe rejecting or reframing previous views. It provides a structure within which to debate the issues and discuss the multiple roles of an intern supervisor. As a framework it requires a supervisor to have a range of educational experience and knowledge on which to draw. It also assumes that there is no one given answer in all situations but that different approaches will be needed in different situations and contexts, that different approaches will have different outcomes and that the role of the supervisor is to recognise the complexity inherent in the supervisor's role and select different options in an informed manner. The supervision framework may have limited applicability in a situation where a supervisor believes their role is to teach only the knowledge and skills of clinical medicine.

CHAPTER 14:
FINAL DISCUSSION

The thesis that social learning theory is useful as a framework for understanding learning in internship and for developing a framework to guide supervision is upheld. This work offers an alternative framework from which to view internship, in order to provide a way to see supervision differently, noticing new things. This enables new responses to be incorporated into practice rather than replacing existing strategies, to extend (as opposed to revise) the way learning and supervision is conceptualised within medical education. It is suggested that one way of looking at the situation differently is to reframe or reconceptualise it. By drawing on Wenger's (1998) concept of CoPs through the framework offered here, institutions can initiate change by working with "what is already there" because health care practitioners are already learning informally in their teams. Factors associated with Wenger's concept of CoP can then be used to develop ways of more fully supporting shared learning in health care teams.

The thesis goes beyond the CoP framework addressing two of its identified weaknesses. As noted in Chapter 11, Eraut (2002) accepted Lave and Wenger's (1991) argument that participation in a CoP was a good way to learn but he questioned their proposition that it was the only way to learn. Fuller et als' (2005) review of legitimate peripheral participation found strengths and weaknesses, the latter including Lave and Wenger's (1991) dismissal of the contribution of formal education and teaching to workplace learning. A danger of taking a CoP perspective alone is that there is much formal learning occurring within the context of the interns' learning environment which could be overlooked. The supervision framework in this thesis recognises both the informal and formal learning available in clinical workplaces providing a model that allows supervisors to pay attention to both aspects of learning in clinical workplaces. As noted earlier there is a lack of clarity in Wenger's work about the responsibilities of the CoP facilitators, supervisors and other team members and this significant limitation is addressed in this thesis.

The sociocultural learning framework offers a way of looking at internship differently, to reframe or reconceptualise learning in internship to effectively utilise the formal and informal learning provided by the context in which internship is situated. By taking this approach it is

expected that supervisors can work within institutions to initiate change by working with what is already there because health care practitioners are already learning informally in their teams and medicine has well developed formal structures. Factors associated with Wenger's concept of CoP can then be used to develop ways of more fully supporting shared learning in health care teams. In addition, the model of learning as participation and engagement and the associated tools for supervision provided in Part 1 provide a model that supervisors can use to understand and explain learning in the immediate clinical environment. This model of learning also offers a set of strategies that can be used to develop the intern supervisor relationship. It may also be useful for interns seeking to develop their own effectiveness as practice-based learners, a skill needed throughout their professional careers.

14.1 SUMMARY AND OVERVIEW

Internship is a formal apprenticeship (traditional) into the professional practice of medicine, and is central to the identity construction of the doctor. However, because the workplace is changing the traditional model of apprenticeship is said to be failing. Internship has been subject to review and reform since the turn of the century, first in the UK and more recently in Australia and NZ.

In order to identify the elements of what is a multi-layered and complex problem the issues that have been identified nationally and internationally are traced by reviewing the literature and government policy documents associated with government reviews and structural reforms, and subsequent evaluations published over the last decade. The literature reviewed in Chapter 1 articulates this dissatisfaction, and shows that reforms in the United Kingdom have recognised and responded to changes in service delivery (eg shorter patient stays, shorter working hours for interns, high acuity patients), predominantly by addressing the structure and the governance of internship. However, these changes have had limited success. A careful and critical review of the published comment shows that it is often falsely assumed that there is a common understanding and theory of apprenticeship, so not surprisingly there are no consistent educational frameworks to guide clinical learning and supervision, or the training of supervisors. It is not just the change in health care delivery that is contributing to the problem. A further contributing factor is the mismatch between the traditional approaches to traditional models of apprenticeship and a shift to a patient-centred care and delivery models

that favour interprofessional team-based care, a change driven by workforce shortages and the patient safety agenda.

A review of the literature since 1990 (Chapter 2) shows that there has been very little research on postgraduate supervision but there has been considerable work investigating the learning environment (or the immediate context of learning), drawing on experiential learning theory, describing the attributes of supervisors, devising models for giving feedback, and more recently seeking to understand and explain learning at work and the development of expertise. However, the transference of research findings into a conceptual and structural model of supervision has not occurred. In addition, recent research (2002-2010) has demonstrated that social learning approaches exploring clinical/workplace learning can be useful in bridging this gap. While there is an emerging body of work exploring the immediate (ward or clinic) learning climate there remains an absence of research on supervision and little consideration of the wider organisational and professional context in which internship is conducted.

Before proposing a solution previous literature was analysed to identify and describe the learning demands placed on interns and the expectations placed on supervisors. This analysis provided criteria for a specification for the development of a model of supervision that will meet the identified needs of the sector. This thesis confirms the importance of an underlying educational framework that addresses how learning occurs, how competence is developed, the supervisee and supervisor relationship, relationships with the team, the structure and context of supervision in internship at both the micro-level (learner environment) and the macro-level (organisational and national). Within the NZ context a model of practice-based teaching and supervision must be flexible enough to be translated into varied health contexts including Maori health environments. Certainly in a Maori world view, learning (ako) and health practice is seen as part of the community and knowledge is a treasure (taonga) owned by the community not by individuals. Practice must support the articles of the Treaty of Waitangi and therefore seek to encourage participation, partnership and self determination. (This is a legislative requirement in NZ.)

The thesis was developed and reported in three parts. Initially, the micro- (learner's experience) and the macro- levels (health provider) of enquiry were separate, then they have been brought together to inform a framework for supervision.

In Part I a series of studies explored interns' perceptions of learning in clinical areas and supported the proposition that a social learning perspective can be applied to internship. The first, an initial exploratory qualitative study, shows that interns recognise and value a participatory learning environment, and supervision strategies that promote participation and engagement and which are linked to knowledge sharing and identity formation. From these outcomes a model is presented that sets out the critical components that ensure clinical settings are positive learning environments which encourage social interaction. The model also provides an evaluation tool to assess placements as learning environments. Finally, strategies are offered which both supervisors and learners can use to promote and support learning in clinical workplaces.

The key messages for learners are very simple: get involved by building relationships; show interest in the work and in all team members, their work and contributions; be proactive; show enthusiasm; bring a sense of urgency and excitement to your work and others will notice you and respond. These behaviours encourage collaboration. Be an active learner, look up information, read around cases, attend case meetings and contribute even in small ways. Offer suggestions and do not be afraid of being wrong.

Supervisory practices that encourage participation and learning within clinical team are also manageable and familiar to many consultant supervisors (even if not consistently utilised). Orientate supervisees to the tasks of the placement and team; introduce them to the team; act as a sponsor, endorse their presence and involvement. Once you do this the novice's position as a peripheral member of the practice community is legitimised. Involve the supervisee in the team; be sure they know what is expected of them and that their opinion is valued. Do not let the novice hover on the periphery; pull them in, encourage participation. Coach supervisees professional skills and develop their problem-solving abilities: coach by choosing tasks appropriate to their level of ability, provide hints and scaffolding to help them tackle more difficult situations, evaluate their engagement in new activities and diagnose the kinds of problems they have along the way. Encourage reflection and critically review cases with the novice.

Part II, used document analysis to describe the organisational and professional context of learning in internship in order to lay out clearly the wider environment in which internship is enacted and to uncover the rich formal and often tacit, informal learning opportunities available. Critical analysis of Wenger's (1998) model of CoP shows that this conceptual

model of learning can provide a framework to organise and consider the learning environment of internship in a way that is more compatible with a team-based approach to the delivery of healthcare than previous perspectives. Importantly, the CoP framework also appears to be compatible with a Maori world view and this offers a platform for future research by, or with Maori practitioners to develop a blended model of supervision for Maori health contexts.

The CoP framework and its potential as a conceptual model in the context of internship was shared and discussed within workshops at conferences and learning events with over 100 practitioners who identified and described three naturally occurring sites where CoPs naturally occur, these are: the clinical team who provide patient care, the interprofessional ward or unit and the medical team.

In Part III descriptions of these three sites as CoPs, the data on support structures, formal and informal learning opportunities within health provider organisations and the outcomes from Part I are combined to develop a framework of supervision and to describe the roles and responsibilities of a supervisor. The result of combining these two streams of work is:

- A model of learning by participation and engagement in clinical practice to guide supervisory practice and assist interns as they develop the skills needed to be active lifelong learners throughout their medical careers.
- An alternative framework from which, interns, supervisors and the organisations can view and therefore plan and coordinate internship.

14.1.1 AUDIT AGAINST THE DESIGN SPECIFICATION

As noted above, a specification was drawn up to guide the development of the thesis and to provide benchmarks against which to review the key findings and outcomes. Table 9 considers the main findings and outcomes of this thesis in light of these criteria

Table 9: Audit against the design specification

Specification criteria for a model of Supervision in internship	Thesis outcomes
1. A model of supervision should be based on theoretical educational framework for work-based learning and apprenticeship suitable to practice environments.	Socio-cultural learning theory and the CoP concept were demonstrated to be useful and appropriate for describing learning a within the NZ context.
2. Draw and build on existing knowledge and concepts in medical education, so that new responses can be incorporated into practice rather than replacing or over-riding existing successful strategies. 3. Provide an alternative conceptual framework from which to view internship, in order to provide a way to see supervision differently, noticing new things.	Many of the strategies identified and recommended in Part II are supported in the literature review of previous work in medical education outlined in Chapter 2.The strategies recommended are not in themselves new but the framework in which they are placed is and it provides opportunities for recognising and incorporating the wider clinical team and practice communities as part of the learning climate and therefore as part of the learning experience.
4. Recognise internship as a transition period where the learning culture changes significantly from academic to practice- based.	Adopting a CoP framework allows the thesis to achieve these criteria through recognition of learning as peripheral participation within a work community. As described in Chapter 9, CoP as a workplace learning model explains and describes the development of practice knowledge and expertise.
5. Provide an explanation for the learning processes of a novice within a clinical setting including an explanation of how professionals develop expertise within a clinical team.	Internship as a period of identity formation is introduced but is less well explained within this study. The power dynamics that accompany border transitions and organisational hierarchies are also not addressed and exploration of these issues and their influence on learning are noted for future research.
6. Provide a structure for supervision that includes roles and responsibilities of all those involved and guidelines for learning and supervision activities (eg definitions of core terms and concepts including the context and learning environment of internship, the type of knowledge and skills acquired, practical strategies).	This criteria is met within the thesis through: - a model of learning as participation - practice strategies for supervisors and learners - a framework outlining the responsibilities of clinical teams, supervisors and interns.
7. Allows practitioner supervisors to perform effective actions in varied contexts. 8. Empower practitioners (supervisors and the interns) by augmenting and improving their experience of their clinical world.	The study described in Part I, Chapter 8 begins to test both these criteria. Implementation, monitoring and evaluation of the model in practice are an area for post-doctoral research.
9. Be feasible and sustainable within the current health care environment and workplace realities (eg recognise that interns must leave internship equipped to enter registrar training and to engage in clinical teams, in practice-based learning and research and self-assessment throughout their professional lives, meet the accreditation requirements of the MCNZ)	Chapter 10 explores these issues and the model appears to be at least as feasible as existing approaches and more compatible with a team approach to health care delivery. This can only be fully tested by trial implementation which is outside the scope of this thesis
10. Be flexible enough to adapt to the diverse sites and contexts for learning including Maori health environments and new and emerging models of health care delivery.	A limitation of this work is that is only tested within one location. The thesis has begun to address applicability for Maori and the possibility of developing a blended model is being discussed with Maori advisors with a view to exploring this as a partnership project.

14.2 OTHER WORK SUPPORTING THE OUTCOMES OF THE THESIS

Towards the completion of this thesis, Klarke Boor completed her thesis which explores the clinical learning climate for both students and residents in the Netherlands (2009). Boor's results support both the outcomes of this thesis and the approach taken. The survey questionnaire is the predominant method used in her thesis and is supported by the use of focus groups. The thesis develops and validates a feasible tool for evaluating the learning climate and there are many similarities with the evaluation tool developed in this study. Perhaps more significantly Boor's (2009) work also supports participation of interns in daily activities of the workplace as a key factor in learning. She recommends what she calls an 'expansive' approach and her recommendations mirror much of those included in Part II including "the opportunity to participate in multiple communities of practice" (Dornan, Boshuizen, King, Scherpbeir, 2004. p. 102) and recognition of the intern's learner status by all members of the team.

One of the most interesting parallels with the work of this thesis is that Boor has also conceptualised participation as central to the establishment of a clinical learning climate within postgraduate medical environments. Other studies underscore the importance of participation in workplace learning (see Chapter 2). A model of experience-based learning for undergraduate medical students by Dornan (2004) and colleagues shows that 'supported participation' is pivotal in clinical workplace learning, the department curriculum and students 'human interactions'. The results within this thesis show similarities to this model within the postgraduate context of internship.

14.3 STRENGTHS AND LIMITATIONS

14.3.1 STRENGTHS

The strengths of this thesis are:

- Theory has been used as a framework for data analysis and presentation of results.
- The scope of the thesis ranges from learners and supervisors to organisational support structures.

- Mixed methodologies have been utilised within a focus on practice.
- The Treaty of Waitangi as the founding document of NZ has been recognised by noting and responding to Maori cultural issues and perspectives that are critical within the NZ health care context.

The thesis has adopted a theoretical framework infrequently used in medicine. The selection of CoPs was the outcome of recommendations from previous research that socio-cultural frameworks be considered, applied and tested with careful consideration of the context of clinical learning (as team-based) and of the supporting structures available. It was the adoption of this framework that lead to the exploration of the wider organisational factors that support learning and therefore informed the scope of the thesis. Previous studies have tended to focus on small parts of the supervision process rather than the larger picture (Chapter 2).

In keeping with a focus on supervision as a practice and learning in clinical practice, this thesis draws on the reflections of learners and supervisors and on data from previous and current research by the author on learning in clinical environments. This previous work included quantitative and qualitative analysis of questionnaire data, interviews with learners, trialling and evaluation of interventions with supervisors and learners as well as focus groups with supervisors. Later exploration of organisational structures is based on document analysis.

Addressing applicability for Maori is a difficult matter for a non-Maori New Zealander. This was undertaken with cultural supervision and with approval and support of Maori health professionals with whom I have closely worked in the past. The difficulties of avoiding privileging one world view over another and the unacceptability of a New Zealander of European descent appearing to speak for Maori often deter other NZ researchers. However, it was the viewpoint of my cultural advisors that my personal history working with Maori health professionals and level of cultural competence made this an imperative. The risk of not doing so was to impose, yet again, a Euro-Western perspective on indigenous people, and in doing so I would fail to meet my obligations under the Treaty of Waitangi as a NZ researcher. Despite the unique position of Maori as the indigenous people of NZ it is hoped that the considerations of Maori world view when selecting the CoP framework may have application to other indigenous people.

Finally, the results and conceptual frameworks presented in this thesis are relevant to practice and provide practical tools for clinicians (be they interns or supervisors); medical educators

designing and structuring supervision training; and managers in health provider organisations to link supervision within the wider structures and organisational values and processes.

14.3.2 LIMITATIONS

The limitations of this thesis link to issues common in qualitative research, they are generalisability and bias.

The fact that the studies are conducted in the NZ environment potentially compromises the generalisability of the study. Furthermore, the evidence base of the studies is limited as apart from the questionnaire study (conducted across four sites in NZ and Australia) the participants were all from one site.

Bias is a threat in all qualitative work and the researcher did play a central role in all data analysis and interpretation and brought an insider perspective as well as an outsider perspective to the study. This is mediated by the range of methods used, the joint analysis and cross checking, the data triangulation, member checking and repetitive discussion of findings with expert groups that occurred throughout the development of the thesis.

14.4 IMPLICATIONS FOR EDUCATIONAL PRACTICE

The thesis offers implications for practice at five levels:

- the intern-supervisor relationship
- the ward or clinic and clinical team
- the health provider
- governance
- cultural supervision for Maori and non Maori practitioners.

14.4.1 THE INTERN-SUPERVISOR RELATIONSHIP

The model and framework alongside recommended strategies for encouraging participation and engagement offer tools that both learners and supervisors can utilise in daily practice. They provide experienced supervisors with an alternative viewpoint from which to reflect on

current practice and as such are seen as an adjunct to, and not a replacement of, current approaches. For the new supervisor the studies in this thesis offer a comprehensive set of tools to use in the development of their supervisory practice. This thesis contributed to two articles written to promote effective intern-supervisor relationships published in the New Zealand Medical Journal: "The Good Apprentice in Medical Education " (Sheehan, Bagg, Child, de Beer, Hazell, Poole & Rudland, 2010) and "Maximising Learning through Effective Supervision" (Rudland, Bagg, Child, de Beer, Hazell, Poole, Sheehan & Wilkinson, 2010), both of which have been commented on by the MCNZ as useful for interns and intern supervisors.

14.4.2 THE WARD OR CLINIC CONTEXT AND CLINICAL TEAM

The conceptualisation of the clinical ward or clinic as a community of practitioners provides a framework from which supervision of all team members can be viewed as part of an interprofessional team. In a health environment where collaborative practice is linked to patient safety and interprofessional learning has been shown to enhance collaborative practice, this work is timely (WHO, 2005).

14.4.3 THE HEALTH PROVIDER

Chapter 9 documents the extensive range of informal and formal learning activities that a typical large metropolitan hospital provides. For institutions wanting to enhance teaching and learning adopting the framework outlined in this thesis would allow informal learning to be strengthened, especially if participation in work is reconceptualised as both a source and a form of learning.

Much of people's learning in clinical workplaces emerges from dealing with the problems and issues that arise in the course of work; once shared with colleagues it becomes part of the knowledge held by that community. An advantage for providers of adopting a CoP approach to intern development is that communities of teaching practice already exist in health provider organisations so hospitals are well placed to build on members' current shared practice. They can support deliberate planning for intern development, as well as people's more informal learning. Institutions seeking to enhance the learning climate could initiate change by working with 'what is already there' because health care practitioners are already learning informally in their clinical teams.

14.4.4 GOVERNANCE

On the 14th of December, 2009 the chairperson of the newly appointed New Zealand Health Workforce Advisory Board wrote to all DHBs announcing the establishment of Resident Medical Officer "apprenticeship standards and assessment" by 2011. This is part of the proposed changes to the governance of internship and ultimately changes to the educational practice of clinical education in postgraduate settings in NZ. This thesis could contribute to the discussion and debate about the nature of those changes and the governance structures. The central role of learning by working and the applicability of the apprenticeship (new) model have been confirmed by the thesis. What is offered is a conceptual framework and practice model that could inform the development of a national curriculum for internship and provide evidence based quality standards for accreditation.

The roles and reponsibilities detailed in Chapter 12 could be used to develop a comprehensive job description for intern supervisors and to adequately scope their role. (This need was identified in Chapter 1.)

14.4.5 CULTURAL SUPERVISION FOR MAORI AND NON-MAORI PRACTITIONERS

Compatibility with a Maori world view offers the potential for development of a blended approach to supervision. MacFarlane (2008) has proposed a blended approach to address culture in the psychological assessment. Drawing on this work, blending could be achieved by adding a fourth community to the framework; this community being the kaupapa Maori service, or the local hapu (sub tribe), or iwi (tribe). The role of the supervisor would then include the provision of sociocultural expertise from a culturally reasoned epistemology. This will ensure a culturally inclusive approach to professional practice and ensure that the mainstream perspective is not privileged at the expense of cultural wisdom and values. It may be impractical (due to small numbers) to always provide a Maori doctor as supervisor for a Maori intern and while this is ideal the expertise may be provided by a co-supervisor from another health profession or from within local hapu and iwi (tribes and sub tribes) via Maori health advisors or kaumatua (Maori leaders).

The provision of cultural supervision would ensure that Maori interns have the opportunity to have their thinking and acting challenged and enriched. Also, when conflicts arise for Maori

providing care for their own people within a mainstream service or Maori interns struggling with issues of cultural identity or conflicts within a Maori health environment, they could have access to meaningful support and mentoring. For non-Maori who may be international medical graduates developing cultural competence under cultural supervision will ensure that cultural practice issues and cultural perspectives on health and wellness are explored and that practitioners more easily understand Maori patients and Maori health issues and utilise this in practice (ie gain cultural competence). The same will apply to NZ graduates working within a kaupapa Maori service which requires cultural competence beyond that required either to qualify as a doctor or register to practice in NZ.

Recommendations for a blended model of delivery provide an invitation for Maori practitioners to critique the perspective offered and take this work further to develop a structure for cultural supervision in Aotearoa-NZ. The approach could also enrich educational theory in the health professions of other nations.

14.5 RELEVANCE FOR FUTURE RESEARCH

As discussed in Chapter 1 changes are proposed to internship in NZ and throughout the western world. Much needs to be investigated about effective and safe workplace learning and supervision in postgraduate medical education. This thesis joins an emerging body of work on workplace learning in clinical settings by Dornan (2006) on medical student learning in the UK, Teunissen (2009) on residents learning in the Netherlands, Rene Stalmeiger (2008) on cognitive apprenticeship in medicine and Klarke Boor's work on the clinical learning climate, also in the Netherlands. These recent studies are based in medicine and while this thesis has had some nursing input, further input from both nursing and the allied health professionals who form part of the clinical practice community would enhance understanding.

This study concludes with recommendations for a framework and overarching structure that has been neither implemented nor tested and this is clearly a necessary direction for future research. It would be beneficial if the publication of this framework lead to further testing and refinement.

Internship as a period of identity formation is introduced within the CoP conceptual framework but is less well explained within this study and warrants further investigation.

Neither this thesis nor the recent work noted above investigates what is learned during internship. Research to uncover the tacit learning of interns has commenced. We ask interns to reflect on what they 'really learn' during internship. Early results suggest that identity formation is a key developmental task of this period of medical education.

One of the limitations of using the CoP framework is that does not address issues of conflict and unequal power relationships that can occur in clinical workplace contexts. There is hierarchy within the colleges' structures and with it the potential for unequal power relationships between supervisors and learners. Lave and Wenger's original study (1991) does acknowledge intergenerational conflict but focuses on the legitimation of the participant. It does not explain the other power forces within the community such as between established members or with border communities. Later in his 1998 work (when the focus on identity increases) Wenger stresses the importance of trajectories through levels of participation and notes the dilemma of multi-membership and boundaries between communities, but power is still not a central concern. More work is needed to explore these issues given the hierarchical structure in health and the possibility that not all health care environments are friendly and supportive.

As noted above the thesis has begun to address applicability for Maori and the recommendations for a blended model need to be taken up by Maori health professionals. This is being discussed with Maori advisors with a view to exploring this as a partnership project in 2010.

14.6 FINAL COMMENTS

The initial intention of this thesis was to investigate learning and supervision with a focus on practice. What the adoption of the CoP framework highlighted was the importance of looking at the wider picture and recognising the context, the practice architectures and the structures in which this is practiced. The outcomes are an expansive framework within which a model of learning and tools and strategies for supervisors and learners sit. The intention is to offer an alternative framework to enhance current apprenticeship practice and perhaps contribute to the current national development strategies.

Finally it is important to note that adopting a social learning approach does not necessitate a withdrawal from the current practices that facilitate individualistic learning but can complement and support them. As Bleakly (2006) notes, “the family of learning theories based on how an individual learns need to be supplemented to inform safe practice in dynamic and often high-risk contexts such as teamwork” (p. 156). Certainly procedural skills and the need for individuals to demonstrate clinical competence is likely to remain an important part of learning as a new practitioner. The potential to utilise sociocultural models to supplement individualistic models and to utilise team and organisational learning is a strategy that fits with discourses about health care teams, interprofessional learning and the emergent properties and facets of work within current post-reform health services. The framework for supervision offers an alternative way to conceptualise and define the role of the supervisor and the supervisee and transform supervisory practice in a way that aligns it to modern health care systems of delivery and accountability with, and to, other health professionals and other stakeholders.

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APPENDICES

Appendix 1 **College Web Site Results**

Appendix 2 **Listening to culture – the other world view in Aotearoa (NZ)**

APPENDIX 1:

COLLEGE WEB SITE RESULTS

The following table indicates the three selected Royal Australasian Colleges all have:

- well established cultures of learning
- detailed education curriculum and continuing professional development
- experienced (qualified) specialistswho take on a training role in the development of new professionals and specialists.

The ANZCA, RACP, and RACS, are all governed by an overarching Council. Some of the Council's major activities include:

- setting strategy
- reviewing and approving the annual budget
- managing risk
- cultivating and maintaining the highest principles and standards of practice of anaesthesia, intensive care and pain medicine
- promoting the science and practice of anaesthesia, intensive care and pain medicine
- monitoring the performance of the college against its financial benchmarks and strategic objectives

The colleges are all represented on several major national and state-level organizations, committees and boards by Fellows (approved members) of the College who acts as represntatives of these external organisations.

Table 10: Results of document analysis of college websites

Theme								
College	**Perceive themselves as an education community, or network**	**Approved membership – link to patient safety**	**Accreditation of training sites**	**Standards, a body specialist knowledge, artifacts relating to this**	**A requirement to learn by experience over extended period of time and for experienced clinicians to teach**	**Structures to support learning in work from novice to expert. structure of supervision that networks to parent body**	**Direct supervision of novices**	**Processes for building and disseminating practice knowledge**
ANZCA	..in ANZCA's educational network; A major initiative undertaken in 2006 was the launch of the ANZCA Foundation, a vehicle for funding critical research in anesthesia, intensive care and pain medicine.	Objects of the college as set out in the Memorandum of Association and its stated mission: To serve the community by fostering safety and quality patient care in anaesthesia, intensive care and pain medicine. If you are a medical practitioner wanting to practice anaesthesia in Australia or New Zealand, you must register with the Australian and New Zealand College of Anaesthetists.	Accreditation of hospital sites is required: The suitability for training of a clinical post will depend upon the facilities available in the unit; the staffing of the unit; the level of functioning of the trainee within the clinical structure; the level of supervision of the trainee; and the number and case mix of patients treated within the intensive care unit.	Competencies listed on web site Trainees are expected to gain experience and expertise in the indications for and performance of a variety of investigational, therapeutic and monitoring modalities including: - cardio pulmonary resuscitation -airway management including translaryngeal intubation etc.	Trainees undertake Five years of supervised clinical training at Approved Training Sites. All specialists employed in accredited units have an obligation to teach trainees, as outlined in Policy Document.	A number of ANZCA representatives provide support, guidance and oversight in the course of your training for Fellowship. These include Supervisors of Training, Module Supervisors, Rotational Supervisors, Regional Education Officers, and the Assessor.	**Supervisors of Training (SOTs)** provide guidance and oversight to you throughout your training for Fellowship. SOTs act as a reservoir of knowledge, coordinate learning experiences, provide guidance and help improve your clinical skills.	**Maintenance of Professional Standards** The Joint Faculty offers Fellows a Maintenance of Professional Standards Programme. Participants are required to self-maintain a MOPS Diary, which is a logbook record of involvement in specified educational activities in intensive care and elated disciplines. Website lists 109 seminars, scientific meetings, educational activities for 2009.

College	Perceive themselves as an education community, or network	Approved membership – link to patient safety	Accreditation of training sites	Standards, a body specialist knowledge, artifacts relating to this	A requirement to learn by experience over extended period of time and for experienced clinicians to teach	Structures to support learning in work from novice to expert. structure of supervision that networks to parent body	Direct supervision of novices	Processes for building and disseminating practice knowledge
RACP	One of the primary roles of The Royal Australasian College of Physicians is education – education of trainees and ongoing education and professional development of Fellows.	The college has an important role in fostering an environment that rewards the practice of evidence-based health care. One way we can do this is by providing Fellows and trainees with the practical tools of quality improvement while traversing the appropriate educational framework.	Basic Training Site Accreditation The Adult Medicine Division Education Committee (AMDEC) and the Paediatrics & Child Health Division Education Committees (PDEC) both have standing Accreditation Subcommittees which accredit sites for basic training.	The curriculum encompasses the totality of the learning experience and its environment. It is a total package of teaching and learning experiences designed to enable the trainee to reach specified learning objectives, to gain the related knowledge and skills, and to adopt attitudes and behaviours enabling the trainee to become a competent consultant physician or paediatrician.	The joint training programme requires 7/8 years in total undertaken within a service environment.	A comprehensive level of educationally focussed supervision and support for trainees will be provided through a four tier structure within each of the training institutes. Key elements centre around planning and facilitating the trainee's learning path, the facilitation of effective teaching and learning opportunities and the provision of comprehensive and timely feedback on the trainee's progress . The four tiers are: Director of Physician Ed., Educational Rotational Supervisor (Ward consultant) Professional Development Advisor (PDA)	Rotational Supervisor (Ward consultant)**.** 1 per Basic or Advanced Trainee as applicable . Focus is to actively supervise and support the training of individual Trainee(s) and provide direct teaching and learning support to their trainee(s). Role as ward consultant, be actively involved in the direct teaching of their trainee(s) Guide and facilitate development of knowledge and skills outlined in Basic or Advanced Training curricula as applicable. Role model exemplar clinical practice and procedures.Monitor trainee progress and provide advice to Educ. Supervisor.	My CPD embraces the concept of lifelong learning, a continual process of reflection and self-assessment and a learner-centred approach which begins with the learner identifying their needs and ensuring the means for change are available. This online user-centred professional development model combines the features of a diary and a learning log into an integrated learning navigator

College	Perceive themselves as an education community, or network	Approved membership – link to patient safety	Accreditation of training sites	Standards, a body specialist knowledge, artifacts relating to this	A requirement to learn by experience over extended period of time and for experienced clinicians to teach	Structures to support learning in work from novice to expert. structure of supervision that networks to parent body	Direct supervision of novices	Processes for building and disseminating practice knowledge
RACS	The overall aim of the college is continual improvement in surgical care and advocacy for the health and well-being of the community.	The Professional Development and Standard Board (PDSB) is responsible to Council for providing the policy framework to ensure maintenance of competence of Fellows and provision of high quality surgical care to patients. The College mission is to provide safe, comprehensive surgical care of the highest standard to the communities we serve.	Accreditation The College approves training posts that enable trainees to acquire the competencies needed to become consultant surgeons, able to practice independently or as part of a multidisciplinary team.	Competencies are listed on web site In order to meet this standard, the aim of college training and development programs is to certify specialist surgeons with the following attributes: Professionalism Scholar / Teacher Health Advocacy Management and Leadership Collaboration Communication Medical Expertise Judgment – Clinical Decision Making Technical Expertise	Prolonged (6 year period) of on-the-job experience Trainees are required to keep a record of work undertaken in an official logbook. The logbook has been designed for the purpose of recording experience and in permitting an audit of the performance of the Trainee and the unit in which they work. The format of the operative logbook is specific to each specialty:	The duties of a supervisor are: to advise surgical trainees on all aspects of surgical training to ensure that Surgical Trainees are appropriately registered to monitor logbook entries by regular three-monthly inspection to arrange regular meetings with surgeons and to discuss programs and progress of individual trainees to monitor, report (on a three-monthly basis) and manage trainee performance during specialist surgical training to provide reports to the regional committee	While they are on clinical placements trainees are hospital employees, supervised by hospital supervisors.	The key focus of the Conferences and Events Department is successful management of the Annual Scientific Congress (ASC). In addition to the ASC, we manage medical meetings/events on behalf of Fellows and their Societies. A set of business processes on how we manage external events is available from the Conferences and Events Department.

APPENDIX 2:
LISTENING TO CULTURE - THE OTHER WORLD VIEW IN AOTEAROA (NZ)

Introduction

A socio-cultural framework for intern supervision must be capable of being adapted to or "blended with" with a Maori world view if it is to meet the needs of Maori supervisors and Maori interns within New Zealand's bicultural context of healthcare delivery. Blending refers to a cross–cultural approach which proposes that cultural constructs that complement the Wmainstream (Euro-western) model are blended with it to provide a comprehensive approach to learning and supervision (Macfarlane, 2008). Within this approach there is potential for the Maori world view to enrich and extend a socio-cultural perspective on learning within Aotearoa, (New Zealand). MacFarlane (2004) notes that when Vygotsky was writing about the socio-cultural nature of learning and development so too were Maori scholars (such as Makeriti - Maggie Papakura) writing about Maori learning and development from an ecological perspective, and he implies that a socio-cultural perspective may be more compatible with a Maori learning perspective than individualistic models of development and learning.

In this appendix outcomes from a bicultural/blended project working with Maori clinical supervisors are brought together with the writings of Maori educators to describe those aspects of a Maori world view that would be critical in the consideration of a blended model of cultural supervision for a heath care environment.

In 1999, a key goal of the Maori Health Provider Development Strategy in NZ was to establish healthcare services delivered by Maori for Maori (Ministry of Health, 1999). In 2001, as part of an initiative to develop clinical teaching and supervision skills within the Maori health workforce, an existing mainstream qualification, the Graduate Certificate in Clinical Teaching (GCCT) was adapted to meet the needs of Maori health professionals from all disciplines. The core goal of the GCCT-Maori was to develop a pool of Maori clinical teachers with the confidence and skills to support and supervise Maori health trainees in

vocational training courses. Thus, the anticipated outcomes of this course were to develop Maori clinical teachers who would contribute to the overall development of the Maori health workforce and subsequent evaluations showed that these were achieved. (Sheehan, Jansen, Ruka &Crengle, 2004). The first programme took place in 2001 and evolved as a bicultural (or blended) programme delivered on marae. The programme was delivered by blending the existing programme with a Maori view of teaching and learning by offering the programme on marae and observing tikanga (Maori protocols and practices). That is, the content was Euro- Western but the process of teaching and learning was Maori. This programme provides a model for bicultural delivery that can inform and contribute to the work of this thesis.

Published evaluations and outcomes from the GCCT- Maori

Full publications describing the process of this project and the evaluative research are available, the following is a summary and collation of the outcomes of these three papers.

Following the graduation of the first cohort group in 2001 the usual programme evaluation activities had been undertaken and the success of the programme ensured ongoing delivery and funding until 2007. However, a participatory evaluative research project was initiated to go beyond student reaction and course outcomes and allow all stake holders to gauge reaction to the programme, satisfaction and the worth of the programme to employers. It was deemed important to understand the key components of the programme, particularly those that ensured its success as a bicultural programme, to explore with graduates what the key elements for success were and to identify what would continue to make this accessible to Maori practitioners. This participatory research project is described through three published studies. (Jansen, Jansen, Sheehan & Tapsell, 2002; Sheehan, Jansen, Ruka & Crengle, 2004; Sheehan & Jansen, 2006.)

The first paper (Jansen, Jansen, Sheehan & Tapsell, 2002) captures the voice of course participants, not just the named authors but the voices of the first cohort group (our whanau/family). This paper articulates why it was important to base learning on a marae, what was important about place, protocols and about whanau that contributed to the success of this bicultural teaching/learning project. It uses story telling as a research tool and as a useful and culturally appropriate way of representing the truth within the storyteller rather than have the researcher retain control or reframe that truth within ‘theory’ (Smith, 1999). It is included because it describes the power of being within a strong whanau group or community,

the strength that the traditions and rituals of that community provide and the comfort of learning in a whanau community.

The second (Sheehan, Jansen, Ruka, Crengle 2004) employed a more traditional research method, semi-structured interviews using the telephone, conducted by an independent Maori university researcher. The interviewer would have been known to the course participants though whanau connections and by her status within the Maori community but was neutral in terms of programme design and delivery. The purpose of this paper was to evaluate the effectiveness of the programme for participants one year after completion and to identify their subsequent pathways within the health/education, mainstream/kaupapa Maori interfaces that it was hoped this course prepared them for. It identified teaching and supervision strategies that were found to be helpful within the bicultural framework of the project and for the way it captures the voice of the participants.

The third paper (Sheehan & Jansen, 2008) is written by me from an 'outsider' perspective with the permission and support of the wider whanau (participant community). It draws from an external evaluation conducted with five cohorts of students, the stories told within the environment of the marae and the experience of the author as a participant in this project. It documents my experience and perspective as a course coordinator and reflections on what constitutes a bicultural clinical learning environment. My co-teacher and cultural supervisor are named as co-author recognising his contribution to the programme to the previous studies and his cultural support and authority in allowing the article to be submitted.

Throughout the project described in these articles I was cognisant of the potentially important parallels between the preferred practices that represent and embody a Maori world view and the socio-cultural pedagogical themes emerging in the interprofessional team and intern learning studies being undertaken at the same time. This series of publications stresses the importance of the whanau concept in learning, the role of whanaungatanga (building family like relationships), the spiritual importance of the marae as a clinical environment and a learning environment and the customs and protocols that support learning in a Maori clinical environment. The need for engagement and participation within the learning community and the Maori health community is an emerging theme. Themes that emerge are that of inclusion, participation, whanau/family, community engagement, understood protocols and rituals, language, shared understandings and being included in a shared world view. It is these features that ensured the programme was 'culturally safe'. (Cultural safety is a term

introduced into nursing practice by Irihapeti Ramsden (1990) and is a mechanism which allows the recipient of a service to say whether or not the service is save for them to approach and use)

The benefits of a blended programme as identified by Maori clinicians who were participants on the bicultural project are organised within the cultural constructs encountered within the work of a number of Maori educators. The participants in these studies all identified as Maori and were clinical supervisors and practitioners drawn for a range of health disciplines (including medicine, nursing, allied health and included Maori health workers). All had provided cultural clinical supervision to Maori and non-Maori health professionals (including interns) and were learners themselves within mainstream and Maori clinical environments. The premise is that their voice is applicable to supervision for interns from the perspective of both supervisors and as learners in clinical contexts. The purpose is not to provide a Maori worldview (which would be inappropriate as non-Maori educator), but to provide an alternative view point to the constructs presented within this thesis and the evolving framework for intern supervision.

These publications (along with additional literature by Maori authors) form the basis of a discussion about the compatibility of a Maori world view with a COP conceptual framework in Chapter 10 of the thesis.

Theorizing within a Maori world view

Within a Maori world view of learning (Te Ako Maori) learning is holistic, collective and experiential and characterised by an emphasis on relationships.

> *A Maori world view is characterised by an abiding concern for the quality of human relationships that needs to be established and maintained if learning contexts are to be effective for Maori students, and for these relationships to balance individual learning and achievement against responsibilities for the well being and achievement of the group.*
>
> *(MacFarlane, 2008)*

Commentators with little exposure to Maori culture often comment that a description such as this is true of all learning. However, it is important to note that the values inherent in a Maori world view come from a wider and deeper meaning and a different values base than the

majority European cultural world view from which these claims of ‘non difference’ are made. In my experience such statements or claims of equivalence are seen as patronising and/or colonising.

This section begins by identifying the themes that emerged in the articles, that document and describe the experience of course members both as participatory researchers and through course evaluations both internal and external. The titles of the themes have been drawn from the Maori language version of The Treaty.

Theme 1 – Tikanga (traditional customs and traditions)

Delivering the course on a marae was seen as a powerful endorsement of Maori customs and a powerful approval of Maori ways of doing things. Participants felt acknowledged and made the following comments.

> *“It was just what we need, we need to nurture the wangana on the marae. The marae is totally conducive to learning, more than a school room or lecture room.”*
>
> *“Coming to trust the wairua [spiritual] component within yourself, it comes out as confidence.”*
>
> *“Being marae-based meant you automatically think tikanga Maori.”*
>
> *Quotes from Jansen, Jansen, Sheehan, Tapsell, 2004)*

In *Ako: Concepts and Learning in the Maori Tradition* (Pere, 1982), tikanga is described as rules, plans, methods, approaches, customs, habits, rights, authority, and control. Tikanga can apply to all aspects of Maori life, and 'rules' therefore are numerous and diverse. Although aspects of tikanga are common to all Maori, the way in which they are upheld may differ from iwi (tribe) to iwi, hapu (sub-tribe) to hapu, and even whanau (family group) to whanau. Every iwi with its hapu and whanau has a rich heritage with its own set of tikanga.

MacFarlane (2008) uses the term Maoritanga which is not easy to translate directly, it consists of an acknowledgement and pride in one’s identity as a Maori. Maoritanga has a physical base in ethnic identity, but it also has a spiritual and emotional base derived from the ancestral

culture of the Maori. Regardless of the terminology or translation when Maoritanga is upheld and to be Maori is taken as "normal" a Maori word view is reflected and reproduced in the way health care is provided. It is only then that the Maori community have a measure of influence over how health care is delivered and wellness defined. Where this has occurred, the workplace curriculum would naturally connect with the interests and backgrounds of Maori interns.

Theme 2 – Whanau (extended family) and Whakawhanaungatanga (building family like relationships)

In the feedback from course participants the importance of the relationships among course participants and tutors was a frequent theme. Access to teachers beyond the course, to Kaumatua and Kuia (elder men and women) was important. Participants felt that staying on the marae built a particular cohesiveness among course participants.

> *Because you are in a course with people from many disciplines, you get to see what they do, what their issues are, as well as their experiences. [This] gives you a better overview of what is out there. It also gives you a sense that we all care about the health of Maori.*
>
> *You often feel isolated and in competition with other Maori, so it is nice to feel like more of a family all playing a part in working together towards better health for Maori.*
>
> *Quotes from Jansen, Jansen, Sheehan & Tapsell, 2004)*

Whanau is loosely translated as extended family but can be translated as to give birth (Ryan 2005). Traditionally the whanau was the place where initial socialisation, identity development, teaching and learning occurred. More than an extended family unit, whanau was based on kinship entwined to iwi, hapu, and waka (that is tribe, sub-tribe and canoe on which your ancestors arrived in Aotearoa) and provided a safe environment with obligations and responsibilities (Durie, 1994). Today the concept extends beyond family to signify a social group who support and assist each other. Health teams working together and the clinical teaching group adopt the word whanau when referring to each other once they have developed a close supportive network. Struggles, problems and work are shared and members support each other and help each other complete tasks and complete work. The concept of whanau is

used widely by many groups and organisations to provide a management framework (Walker 1988). The department of social welfare used ‘whanau decision making’ in social work (Bradley 1993). This meant social workers were expected to share ideas to compliment a goal or objective that they were working toward. (Prchal, Taylor & Beddoe, 1989)

Early literature conceived of the whanau as where initial teaching traditions and learning of tikanga (things Maori) took place (Firth 1972, Papakura 1986, Te Rangi Hiroa, 1982). The older generation guided the younger to establish a sense of one’s identity. The whanau provided its own workforce for planting and gathering food, marae work, social events (Walker, 1999). The concept of whanua has also been used to provide a more traditionally focused approach to Maori health. Mason Durie (1995) introduced a health model named “Te Whare Tapa Wha.” This module proposes four dimensions of health of which one is taha whanau. Models such as Te Wheke (Pere, 1984) Nga Putake (cited in Durie, 1995) also used the concept of whanau.

Maori educators Simpson-Almond (1998) and Tangere (1997) highlight differences between Maori and non-Maori. They discuss whanaungatanga and akonga as two key concepts in Maori learning. Whanaungatanga are ancestral, traditional and spiritual ties placing an emphasis on elder and community participation. Akonga is teaching and learning with an emphasis placed on doing tasks in the proper setting and learning with peer groups. The concept of tuakana-teina applies with akonga, as the situation where the older more experienced learner takes responsibility to teach the younger, both learn together and from each other.

The concept of whanau offers an environment in which belonging; participating, learning and meaning can be shared and nurtured. It is a cultural concept linked to learning as well as Maori health and as such provides a perspective that complements a social learning perspective and offers an important contribution to this thesis. Smith articulates the concept of whanau in terms of its relevance to mainstream understanding of knowledge pedagogy, (Smith 1995).

Whanau concept of knowledge:

- belonging to the whole group or whanau, rather than being a private individual
- is for the ultimate benefit of the total group
- can be shared for all to gain
- is not essentially a credential for capital gain.

Whanau concept of pedagogy

- comprises core values (whauaungatanga) that are taken as 'givens'
- incorporates tuakana-teina as part of pedagogical framework
- requires that those with knowledge assist those needing and wanting to learn
- mixes local wisdom with global knowledge – not simply a retreat to the past

Linked to whanau is the concept of Manakitanga (a context of caring relationships), enhancing the overall well-being of the learner. Students and teachers were seen as interconnected, interchangeable and complementary roles and there was a sense of belonging to and relating to each other. Participants cleaned, cooked, ate and slept together. During delivery of the GCCT-Maori daily activities and teaching become intertwined and the spiritual and cultural views of each person are nurtured and encouraged. (Jansen, Jansen, Sheehan & Tapsell, 2002.) Manakitanga is a stronger than simply 'relating t", it is also a whanau concept.

Effective curriculum and pedagogy for Maori are likely to be found in culturally safe learning environments where both the teacher and students engage in a reciprocal relationship of respect and understanding for each other (MacFarlane et al, 2005). Encapsulated is a sense of those who have gone before, other people in our lives and relationships, signs, symbols and artifacts that are the language of the culture and a sense of place.

> *While western science and education tend to emphasis compartmentalised knowledge which is often de-contextualised and taught in detached settings of classroom or laboratory, indigenous people have traditionally acquired their knowledge through direct experience in the natural world. For them the particulars come to be understood in relation to the whole, and the "laws" are continually tested in the context of everyday survival.*
>
> *(Brarnhardt and Kawagley, 2005, p 10)*

Theme three - Rangatiratanga - (Taking responsibly and control for one's own learning)

Rangatiratanga is supported by a powerful collective identity. Ko au ko koe, ko koe ko au (I am you, and you are me). This is enacted by striving for individual excellence while at the same time providing and caring for the community, and receiving the respect of the community. A number of participants in the project expressed a sense of hope and greater self-belief.

[The course has] given me self belief and because of that I have had a lot more faith about what I could achieve.

A course like this gives you a sense of hope.

(Quotes from Jansen, Jansen, Sheehan & Tapsell, 2004)

This sense of inner agency came from being accorded the respect of others and by being given manageable amounts of responsibility and choice. The participants valued the group activities and the emphasis on consensus and common goals. This was achieved through a combination of thinking, problem-solving and commitment to supporting the group (Tataritanga). This does not mean that the collective subsumes the individual. To the contrary one's individual identity is shaped and formed by one's group identity. A Maori community expects that its talented individuals will persue their strengths and use these for the betterment of the whole community. In European cultures the self is largely constructed within the context of individualism and individual achievement runs contrary to Maori preferred values and practices (MacFarlane, 2008).

Theme four – Whaiwahitanga (inclusion: participating and contributing)

Whaiwahitanga suggests students need a sense belonging and ownership of their work place and that this comes through active engagement and participation in activities that have authentic meaning for them. Within Maori culture the marae (traditional land and meeting house) is your rightful place to stand, affords the individuals rights to attend, to participate in the cultural events of that place. (Because you have whakapapa or genealogy). In the context of the GCCT- Maori it was of the utmost importance. It provided the ritual associated with meeting, the removal of tapu (sacred) and the coming together of host and guest on the marae. Each time we visited a marae the group connected and reconnected with their hosts establishing kinship links, common acquaintances and knowledge of families (Jansen, Jansen, Sheehan, & Tapsell, 2002).

The marae allowed participants to attaining a sense of place and belonging. The processes built social and emotional ties that were enhanced by attention to whakapapa (genealogy) and whanaungatanga, social bonds where formed by the commitment to shared goals and the reciprocal relationship with the teachers resulting in active involvement as opposed to disengagement or passivity.

Table 1: Themes within a Maori world view

Themes	**Descriptions**
Tikanga (Maori customs and traditions)	A spiritual and emotional base. Pride in being Maori.
Whanau (extended family) and Whakawhanaungatanga (building family like relationships) And ***Manakitanga*** (a context of caring relationships) Enhancing the overall well being of the leaner. Stronger than relating to this is also a whanau concept.	A sense of belong to and relating to each other. Incapsulated is a sense of those who have gone before, other people in our lives and relationships, signs symbols and artifacts that are the language of the culture and a sense of place.
Rangatiratanga (taking responsiblility and control for one's own learning). A combination of thinking, problem-solving and commitment to supporting the group.	A sense of inner agency that comes from being accorded the respect of others and by them giving us manageable amounts of responsibility and choice. One's individual identity is shaped and formed by one's group identity.
Whaiwahitanga (inclusion: participating and contributing).	Powerful collective identity. Ko au ko koe, ko koe ko au – I am you,and you are me. Striving for individual excellence while at the same time providing and caring for the community, and receiving the respect of the community.

The bicultural project with Maori clinical educators showed that a blended approach to the education of Maori clinical supervisors can work and the analysis in this section of the key themes that emerged are supported and explained by the work of Maori scholars. This project provides an approach that Maori educators and clinicians can consider in order going beyond the framework developed in this thesis to maximise the benefits of bicultural supervision for those who seek and require that we listen to the cultural dimensions of practice.

The core principles that guided curriculum development of the GCCT-Maori remain applicable when considering the needs of the Maori workforce.

- Planning, recruitment, delivery, assessment and evaluation must be culturally appropriate, and collaborative involving the communities that health workforce engages.

- Retention requires a learning environment that is appropriate and attractive to Maori health professionals.

- Clinical workplaces must provide opportunities for networking that ensure an enhanced understanding between Maori health professionals working with Maori, and the communities they serve

- Where we teach, how we teach and who teaches must expose Maori health professionals to knowledge and experiences where they can access and learn from traditional Maori health knowledge as well as international, academic knowledge and skills. The teaching and learning process must reinforce and grow Maori health professionals' knowledge and experience and confidence in Tikanga (The Maori way to do things) and Te Reo (Maori language).

(Sheehan & Jansen, 2006)

In this appendix, understandings gained from delivery of the GCCT-Maori are brought together with the writings of Maori educators to describe those aspects of a Maori world view that will be critical in the consideration of compatibility of any western conceptual learning framework to a Maori world view. It is not the intention of the author to offer a Maori perspective. (That is not appropriate as a pakeha). Rather the intention is to pay attention to issues of culture, to listen to culture, so that the structure for supervision developed will have the potential to be developed by Maori clinical and cultural supervisors as a blended framework to meet the needs of Maori interns and non-Maori placed within Maori health contexts.

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