Pathology, professionalism, portfolios and progress:

a phenomenological study of professional identity formation in pathology, and the development of an educational model to promote professionalism.

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The ability to interact well and on a professional basis with our clinical colleagues is essential. Pathologists must become highly visible in their practice setting.

The reclusive basement dweller hiding behind the paraffin curtain is a dead duck!

Anonymous, quoted by Richard E Horowitz MD, (1998 p. 432)

Abstract

Community-driven standards of professionalism must be addressed, worldwide, at all levels of medical education. The imperative to implement robust strategies to ensure that doctors embrace these standards to justify the autonomy afforded to the medical profession has been a key concern of specialist medical colleges in recent years.

Pathologists face unique challenges. Rapid technological change and increasing commercialisation have distanced them further than ever before from patients and other clinicians, resulting in negative stereotypes that impede understanding of professional roles that may have adverse consequences for interdisciplinary communication and patient care.

This study explores the socio-cultural and educational factors impacting on the development of professional identity in pathology specialist training in Australia and New Zealand, with the aim of recommending an educational model for the attainment of professionalism. Theories of social identity and education relating to self-regulated and situated learning informed the study and model.

Textual data from interviews, surveys and discussions were captured over the course of a professional, college-led intervention that included a new curriculum addressing standards of professionalism in pathology, and an associated portfolio designed as a formative assessment tool. Based on these texts, hermeneutic phenomenological strategies were used to explore the experiences of pathology trainees, their supervisors, educators and clinicians.

A pathologist's professional identity is a self-constructed schema involving value orientations and commitment to goals that reflect beliefs about what it means to be a *good* pathologist. For many, these values do not correspond to the ideals of professionalism constructed by the community at large.

In the face of many social and political pressures, pathologists have developed an identity that conforms to a stereotype in which technical knowledge and skills are strong values that may be detached from the need for competence in the broader, non-technical areas.

This identity may be partly founded in career selection, but is perpetuated through interdisciplinary discourse, internalisation, role modelling, work practice and a curriculum and assessment structure that de-emphasises non-technical roles. Trainees are strongly influenced by the values displayed and feedback provided by supervisors who themselves may be subject to the influences of a negative culture. Conflicts between goals and values in technical and non-technical aspects of training can be de-motivating and may constrain the development of a reflective identity that embraces professionalism.

Whilst competency-based frameworks such as CanMEDS have been invaluable in drawing attention to the place of non-technical competencies in formal curricula, they do not necessarily take account of the complex and powerful hidden curriculum that lies behind the formal curriculum and exists at the level of role-modelling, stereotyping, work practice and institutional policies.

Developing a model of professionalism fit for the purpose of pathology training has involved deconstruction of the CanMEDS model and self-regulated learning processes to carefully examine their parts. The new model reassembles these elements in the situated learning environment and broader cultural and organisational structures applying to pathology.

It emphasises alignment of goals, values and processes at all levels of the curriculum, both formal and hidden. The curriculum should integrate and operationalise technical and non-technical competencies with concretely-defined outcomes that are meaningful in the

context of pathologists' roles. Learning portfolios should be simple and flexible, requiring of more than tick-boxes to facilitate reflection. Formative assessment and guided self-assessment from supervisors are critical for the trainee to identify learning needs and to support development of capacity for self-regulation. Onerous formal assessments that devalue professionalism should be reviewed. The College and training institutions must demonstrate commitment to professional values through policy and provision of resources.

The approach in this study, which strongly links professional identity development to the attainment of professionalism in medical specialty training, has implications for educators in understanding the many social and educational factors that must be considered in developing curricula for medical professionalism relevant to other disciplines and settings.

Acknowledgements

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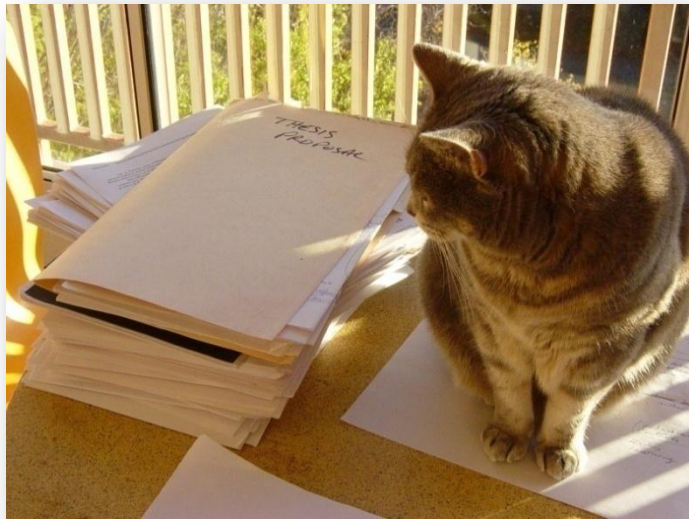
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Vale Bundy: December 1995 to October 2008.

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Foreword

The medical profession's expectation of self-regulation places obligations on medical practitioners to uphold high standards of professionalism. However, the increasing commercialism of medicine is often seen as antithetical to professionalism, and the community is calling for higher levels of accountability (Cruess, S., 2006).

Pathology, a procedural specialty where doctors are mostly hidden from their patients, is particularly vulnerable to being seen as a commercial commodity. In fact pathology has been likened to catering and laundering services (Legg, 2008). Furthermore, pathologists have a poor public image as 'backroom specialists' (Graves, 2007) or doctors who are largely concerned with the dead (Westwell, 2005). This is part of the reason why public funding for pathology services and training has been cut; and costs to patients will inevitably increase.

It is estimated that laboratory testing has an impact on over 70% of medical decisions; hence pathologists have a pivotal role in the delivery of safe patient care (Hilborne et al., 2009). It may be difficult to ensure this in the face of workforce shortages and roles perceived diminished for pathologists as medical practitioners. With the increasing complexity of diagnostic technology and medical research, in the context of commercial pressures pathologists more than ever must visibly exercise leadership in patient care, communicating complex information to clinicians and translating contemporary research into clinical practice.

A personal story provides a point of reflection. As a young child I was in hospital with a mysterious illness. All hinged on the pronouncements of somebody called Dr Sugerman, though I never saw him at my bedside. Some 25 years later, Dr David Alexander Sugerman the pathologist was my first employer when I became a specialist. His initials, DAS, were embroidered on our laboratory gowns and also stood for 'Dedication, Accuracy

and Service': these values have constituted a model for professionalism that has served me well as a pathologist. Even as a child, I knew Dr Sugerman by name as someone who played a key role in my medical care.

Nowadays, patients are unlikely to know the names of their pathologists (except, perhaps, were they to be written on their Medicare accounts). The increasing complexity of our medical system requires new models of professionalism if pathologists are to be 'real' doctors to patients, and to emerge as leaders in the provision of medical services to the community.

The Royal College of Pathologists of Australasia (RCPA) has recognised this need to prepare pathologists for their broader roles: it sees that the qualities of professionalism, leadership and communication must be strongly emphasised at an educational level.

A new curriculum to address professionalism and a formative assessment tool based on a self-regulated learning model were introduced by the RCPA in 2006; but many difficulties emerged during the evaluation of the model. Various experiences were captured in written texts and interviews that this thesis examines through a process of hermeneutic phenomenological enquiry.

The enquiry has led to a deeper understanding of the meanings of professionalism for pathologists, and their implications for educational approaches. Trainees' and supervisors' experiences of engaging with the learning tool provided pedagogical insights to inform a new model that takes account of professional values and motivations for educational change.

I hope this work will have resonance for others exploring issues of self-regulated learning, identity formation and professionalism in medical education.

Aims of this research

The main purpose and overall aim of this thesis is to recommend strategies to provide an educational framework in which to situate the promotion of professionalism in pathology specialist training setting. This requires an understanding of the meanings of professionalism for pathologists, how professionalism is embraced — or not — as part of the pathologist's identity, and the investigation of the socio-cultural, environmental and educational factors that shape this identity.

This overall aim may be broken down as follows:

1. **To define the meanings of professionalism for pathologists by comparing expectations, perceptions and lived experience of training and practice in the medical specialty of pathology;**

2. **To develop a comprehension of the social and environmental factors that influence the development of the professional identities and understandings of the roles of pathologists;**

3. **To illuminate the educational factors that impact on the development of professional identity through self-regulated learning by exploring trainees' and supervisors' use of a formative assessment tool designed to address the standards of professionalism set out in the training curriculum.**

My roles in this research project

The qualitative researcher as an instrument of research will inevitably be subject to personal bias in the interpretation of data. In hermeneutic research, such bias actually becomes a lens through which the data are viewed and is an integral part of the analysis (Gadamer, 1976b). Thus it is essential that the personal involvement and perspectives of the researcher are openly declared.

Throughout this project, my roles as researcher and as an RCPA official, contractor and employee, were dynamically and intricately intertwined. The implications of these roles will be further discussed as part of my methodology, but I briefly describe them here for orientation purposes.

I am a medically qualified pathologist and a Fellow of the RCPA (FRCPA) with over 20 years experience in clinical pathology practice. I am currently employed as Director, Education for the RCPA. At the outset of the project I had an honorary appointment as Registrar to the Board of Censors (BOC) of the RCPA. This is a key role in the College, providing a link between College members and the major board of the College responsible for assessment and certification of pathologists. The role carries the responsibility for ensuring that the policies of the BOC are implemented.

When the curriculum project to address professionalism in pathology training was developed in consultation with the University of Sydney, I enrolled as a research student and joined the team responsible for conducting a pilot study and evaluation of a formative assessment tool to support the curriculum. Whilst continuing as Registrar and researcher, I was contracted to the College in 2006 to explain and demonstrate the project in a series of workshops for trainees and supervisors throughout Australia and New Zealand. The curriculum and assessment tools were subsequently modified, pilot tested and presented in

workshops in 2007. Interviews following the pilot study and feedback from the workshops provided the textual data for my analysis.

At the end of 2007 I had completed my contract, resigned my position as Registrar and was appointed to my current salaried position. I have completed my thesis whilst working in this role.

My changing roles throughout the research project have provided me with the challenge to remain aware of my evolving perspectives and biases as I interacted with the data over a four-year period. However this dynamic interaction was also the basis of ongoing reflection that shaped shifting perspectives; it is part of a lived experience shared with my participants, and reflectively examined through a hermeneutic phenomenological process.

1 Introduction

1.1 The research topic

The overall purpose of this project was to develop an educational framework in which to situate the promotion of professionalism in pathology, providing a model to motivate learning that offered a strong framework to facilitate reflection, feedback and assessment, and taking account of the social and educational factors that impact on that learning.

There is an expectation that all medical specialists will be able to self-assess and reflect on their learning and performance as a prerequisite for practising in the self-regulated profession of medicine (Eva & Regehr, 2005). However, not only is their capacity to do so questioned, but the community is calling for greater accountability from doctors as traditional values of medical professionalism are seen as being eroded by the growing commercialism of medicine (Cruess, S., 2006). Increasing automation and commercialisation of pathology and physical remoteness from patient care pose particular challenges with respect to perceptions and realities of medical professionalism.

The call for accountability is reflected in the standards applied by the Australian Medical Council when accrediting the training programs of specialist colleges (Australian Medical Council, 2008), and in the requirements of other bodies concerned with medical specialist training worldwide. Therefore in recent years specialist medical colleges have been very active in reviewing their curricula, and there is a great need to develop suitable educational models. The experience of the RCPA in the evaluation of a proposed model provided the context and the textual material used in this research.

Professionalism is constructed at the level of the health care and general communities. There are well-established definitions of medical professionalism (Cruess & Cruess, 2000; Swick, 2000) and curricular structures to support them (ACGME, 2007; Frank, J. E., 2005),

and there is widespread agreement that medical professionalism can and must be taught and assessed (Cruess, R., 2006).

However, a doctor will have a professional identity constructed in relation to membership of a particular professional group, and will develop conceptions of professionalism that will not necessarily correspond with the meta-narrative of that pertaining to all medical specialist groups. A one-size-fits-all approach, that is to say, may not suit every situation in medical training.

Exploring conceptions and defining the meanings of professionalism in the particular cultural context of pathology training was the first aim of this research: such understanding is necessary for the development of a relevant curriculum.

Since professionalism is highly value-laden and influenced by the social context (Martimianakis et al., 2009), my second aim involved exploration of the socio-cultural context in which the professional identity of pathologists develops. I sought to explain how professionalism is perceived from the perspective of pathologists and others in relation to identity theories.

In pursuit of my third aim, I reviewed some pertinent educational theories and studied the experiences of pathology trainees engaging in a self-regulated approach to developing professionalism. I have attempted to explain the strengths and limitations of this model with particular respect to the values underlying the motivation to engage in learning, and how this relates to identity at personal and professional levels.

Traditional apprenticeship models in postgraduate medical training emphasise the learning of professional roles by modelling the practice of the 'apprentice master', predicated on the sometimes erroneous assumption that the master embodies the ideal. More recently, competency-based models have emphasised self-regulation and the autonomy of the learner.

However, some have argued for more distributed models of learning, balanced with the development of team competence (Swanwick, 2005).

Probably no single theory will fit the complex and dynamic forms of learning that occur in the medical workplace, and there is a need to draw upon a range of theories to develop models fit for the purpose and to explore new paradigms to explain the complexity (Bleakley, 2006).

The model and recommendations arising from this thesis reflect the fact that pathology education and training is a complex system. As a researcher I have tried to tease out the elements of this system and to describe their inter-relationships: such elements include not only the learners, the formal curriculum and the teaching and assessment methods, but also a powerful hidden curriculum, or cultural milieu, comprising many non-explicit elements.

Conflicts between these elements make it difficult for the trainee to reflect on what it means to embrace professionalism as a pathologist: my recommendations are therefore aimed at achieving alignment between these elements as far as possible. They involve not only the transformation of the individual learner but the transformation of the professional and educational culture.

Though the specialty of pathology has its own unique challenges, the principles arising from this research suggest that similar complexities exist in other specialties that may warrant exploration at the level of identity and experience.

1.2 Overview and structure of this thesis

The overall structure of this thesis is represented as a mind map (Figure 1). Mind maps are presented throughout this thesis to provide visual roadmaps for the reader, illustrating the organisation of the thesis and the development of themes. These mind maps are typically constructed in a radiating tree-like pattern with the main theme or topic at the centre. Branches representing secondary themes are added in a clockwise sequence from the top right.

The alignment between research aims, questions, literature review, research findings, recommendations and conclusions is presented in Appendix 1.
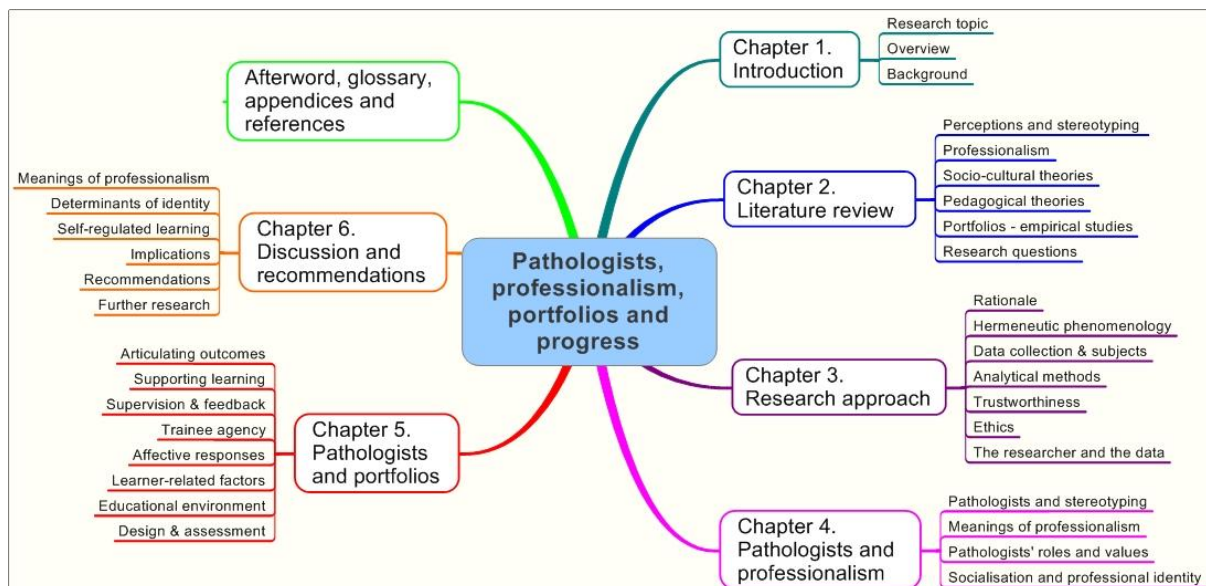
Figure 1. Mind map showing structure of thesis

This first chapter provides an overview of the thesis, introduces the research topic and provides some contextual background to orient the reader.

Chapter 2 presents a review of popular sources, grey and refereed literature pertaining to my research aims. It explores the meanings of professionalism in pathology through the examination of popular stereotypes, the perceptions of medical students and health professionals, and the ideals that pathologists articulate for themselves in published curricula

and commentary. I seek to explain how professional identity develops in the light of contemporary constructs of medical professionalism and social identity theories. The educational implications are considered from the perspectives of theories derived from the socio-cognitive and socio-cultural frameworks. A brief review of some empirical studies involving the use of portfolios, particularly in the medical postgraduate setting, illustrates how these theories relate to practice, and explains benefits and challenges of this approach. I conclude Chapter 2 by presenting my research questions that arise from the review.

In Chapter 3, I explain the rationale for my methodological approach based on hermeneutic phenomenology. I describe my data collection and analysis methods, detail quality and ethics considerations, and conclude with a reflection on how I, as a researcher, have interacted with the participants and data during collection and analysis.

Chapter 4 begins the data analysis during which I focus on the first two aims of the thesis — that is, to explore the meanings of professionalism in pathology and understand the social and environmental factors that influence pathologists' stereotyping and identity formation. This has been achieved by investigating and interpreting the lived experiences of pathologists and trainees through a lens derived from socialisation theories, primarily relating to social identity (Stets & Burke, 2000; Turner et al., 1987) and, to a lesser extent, interprofessional learning (Allport, 1979).

Chapter 5 continues the analysis from an educational theory perspective. The analysis focuses on the third of the research aims — the description of how my subjects engage with self-regulated learning in their workplace training experience, and the educational factors that promote or hinder this engagement and the internalisation of professional values. I examine some of the potential benefits, challenges and limitations of such an approach, and consider how strategies derived from other models may address some of those challenges.

In Chapter 6 I integrate my findings and discuss them in relation to theory and to previously published studies. I consider the implications for development of an educational framework in which to situate the promotion of professionalism in pathology, and list my recommendations.

The thesis concludes with an examination of the strengths and limitations of the study and suggestions for further research.

Finally, an Afterword offers a reflective account of my rewarding learning journey as a developing educational researcher and practitioner.

1.3 Background and context

To situate this research I begin by describing the community, workplace and educational contexts of pathology training and practice in Australia and New Zealand, where this research was conducted; for the settings in which my participants live and work contribute to the development of social, professional and personal identities.

1.3.1 Pathology services in Australasia

This information relates specifically to Australia, but is similar to the situation in New Zealand. It draws partly from my own knowledge and partly on statistical data extracted from the RCPA database.

Pathology plays a critical role in more than 70% of medical diagnoses and in guiding clinical treatment (Hilborne et al., 2009); and its laboratories may be owned by governments, pathologists, non-profit organisations or shareholders in public companies. Three main national private organisations are responsible for about 80% of community pathology, whilst in each State there may be just one or a few publicly-funded pathology networks that service mostly public hospitals. It is estimated that the volume split between the private and public sectors is about 60:40 (Legg, 2008).

Public laboratories tend to do more complex hospital-based work, while private laboratories do work based more (but not exclusively) within community settings. Most pathology laboratories are housed in large centralised facilities in capital cities, but often encompass a network of smaller regional laboratories. Laboratories are generally divided into different service departments concerned with different branches of pathology such as anatomical pathology, haematology, microbiology, chemical pathology and others. Funding for pathology testing in Australia is primarily through Medicare, with patient fee contribution.

Most laboratories have non-medical Business Managers, but pathologists are involved in day-to-day management to varying degrees.

1.3.2   Workforce and political issues

In August 2009 there were approximately 1,660 Fellows of the RCPA resident in Australia or New Zealand.

There is a significant shortfall in the required number of pathologists in both countries, particularly in anatomical pathology, and this has the potential for serious healthcare consequences (Graves, 2007). As Chief Executive Officer of the RCPA, Graves reported that as at July 2008 there were more than 130 vacant positions for pathologists in Australia. More than 20% of practicing pathologists in Australia and New Zealand were over 60 years of age and 10% were over 65. The Australian Medical Workforce Advisory committee (2003) recommended that an additional 100 training positions for pathology registrars be funded each year for five years to address this shortfall, but during that period only 95 new positions were created. The RCPA has been very active in lobbying governments to fund more training positions, leading to some recent increases in funding for training that have resulted in a total of 140 new positions. Funding for pathology services has not increased.

The workforce shortage is not unique to Australia and New Zealand, existing also in many other countries in North America (Legg, 2008) and Europe (Ruiter et al., 2004). This means that the problem in Australia and New Zealand is not readily remediable by importing overseas-trained specialists. Also a shortage of scientific staff limits the amount of delegation possible: there is a risk that tired, overworked pathologists will make errors (Graves, 2007).

The shortfall has been blamed on government budget cuts over the past ten years and is believed, at least in part, to be related to the poor or obscure public profile of pathology (Graves, 2007; Legg, 2008). Graves writes:

> Despite the critical role pathologists and pathology play in medicine, very few people understand what pathology is all about. Considered the backroom specialty of medicine, pathologists are rarely directly seen by patients and are rarely acknowledged by health administrators and politicians as the important medical specialists they are.
>
> Unfortunately, unless a medical specialty is hitting the headlines in some way…politicians don't listen and funding does not follow. As a consequence, the RCPA decided to create sorry headlines of its own. By increasing awareness, the RCPA hopes support will be given by governments to ensure the future of the profession.
>
> The RCPA acknowledges that this will not occur overnight, but hopes that slowly and surely the image of pathologists dealing only with dead people or automated blood tests will change.

Graves refers to the stereotypic image of pathologists as 'backroom' doctors, hidden from the public eye, misunderstood, seen to be concerned with the dead and providing a technical commodity service: the way in which this stereotype underlies professional identity is a key theme of my research.

The frequency with which pathologists use the term 'the workforce crisis' in common parlance attests to the internalisation of pressures that make the profession of pathology under-recognised and hence under-funded. Pathologists perceive themselves as a marginalised group as far as the rest of the medical profession and the community is concerned. They consider themselves an 'endangered species'. A quarterly magazine, *PathWa*y, published by the RCPA, was an attempt to promote the image of pathology to the health professions and the general community. The front cover of one issue (RCPA, 2006), shown in Figure 2, provides a dramatic point of reflection.
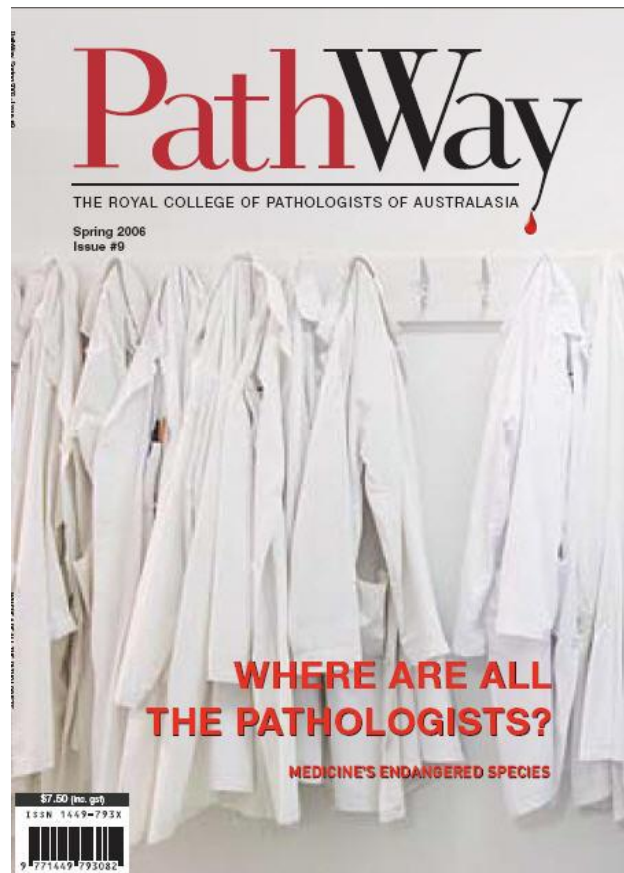
Figure 2. Where are all the pathologists?

Front cover from *Pathway* magazine (RCPA, 2006)

Like the RCPA, the Royal College of Pathologists (RCPath), UK, is keen to promote the importance of pathology, but acknowledges and perhaps unintentionally highlights its obscurity by defining pathology on their website (http://www.rcpath.org/, accessed 14th October 2009) as:

> 'The hidden science that every day saves lives by helping doctors to make the right decisions'.

Perhaps the hidden nature of the specialty and the internalised social and political pressures and stereotyping at least partly shape the hidden curriculum (Hafferty, 1998; Hafferty & Franks, 1994) that in turn impacts on the professional identity of pathologists.

1.4 The Royal College of Pathologists of Australasia

1.4.1 Role and governance

The following information is compiled from personal knowledge, a variety of internal RCPA documents and data extracted from the members' database. Some information is available on the RCPA website (http://www.rcpa.edu.au). The RCPA, also referred to as 'the College', is involved in the examination and certification of specialist pathologists as well as their ongoing professional development. Its training program aims to produce newly qualified pathologists who can practise safely, relatively unsupervised, at the specialist level. As well, the RCPA maintains dialogue with a number of medical organisations, other medical colleges, universities, government bodies and the community on a wide range of issues.

The management of the College is overseen by a Chief Executive Officer. The College employs about 25 full-time equivalent staff — including myself as Director, Education. It is governed by a Council comprising an elected President and other senior office bearers, State and regional councillors, and representatives of major committees. Members of the Council are pathologists who serve in an honorary capacity.

One of the major committees is the Board of Censors (BOC). It is responsible for the processes of laboratory accreditation, training accreditation and assessment. The BOC consists of a Chairman, Chief Examiners in each discipline, a New Zealand representative and the Registrar, who is the point of contact for the BOC.

During the first half of this study, I held the role of BOC Registrar.

1.4.2 Education and training

The College oversees a minimum five-year training program leading to Fellowship of the RCPA (FRCPA). The training is undertaken in laboratories accredited by the RCPA, mainly in public hospitals but also in private laboratories, and occasionally in research institutions.

There are approximately 600 doctors training with the College in Australia and New Zealand. The College also trains some pathologists in South-East Asia and Saudi Arabia. Members may train and practise in any one of nine disciplines, including anatomical pathology, haematology, microbiology, chemical pathology, immunology, genetics, forensic pathology, general pathology and clinical pathology.

Trainees may be registered in joint training programs with the Royal Australasian College of Physicians (RACP) under the Joint Specialty Advisory Committees (JSACs) and are commonly referred to as 'joint trainees'. Joint programs include clinical/laboratory haematology, microbiology/infectious diseases, clinical/laboratory immunology and chemical pathology/endocrinology.

Registered medical practitioners may register for training after completing a minimum of one year's clinical work. Each trainee must be supervised by a suitably qualified person who is normally an FRCPA.

The RCPA also conducts scientific meetings, workshops, seminars, short courses and a continuing professional development program (CPDP) for Fellows.

1.4.3   Snapshot of trainees

Data compiled from the RCPA database in February 2009 indicated that approximately half the trainees in Australia and New Zealand are in anatomical pathology; haematology is the second largest discipline, followed by others as illustrated in Figure 3.

The figure also shows the number of supervisors for each discipline. A critical shortage of pathologists in anatomical pathology means that the trainee:supervisor ratio of 2:1 for this discipline is the least favourable. This exacerbates the workload stress for supervisors in anatomical pathology and limits the one-on-one time that can be spent with the trainee.

There is also a significant shortage of haematologists, but in other disciplines the trainee:supervisor ratios are closer to 1:1.

In 2004, the vast majority of trainees came from traditional undergraduate medical programs as shown in Figure 4, but this is changing as more universities move to problem-based learning and graduate medical programs (no more recent data are available).

Trainees vary considerably regarding the amount of their clinical experience prior to registering for training with the RCPA. The minimum requirement is a medical degree and a year of clinical experience, although more exposure to clinical medicine is highly recommended.

Joint RACP/RCPA trainees commence laboratory training as advanced trainees who have already completed basic training with the RACP. Of those registering for joint training, 90% have had four or more years of clinical training. In contrast, of RCPA-only trainees, 74% have had four or fewer years of clinical experience, as shown in Figure 5.
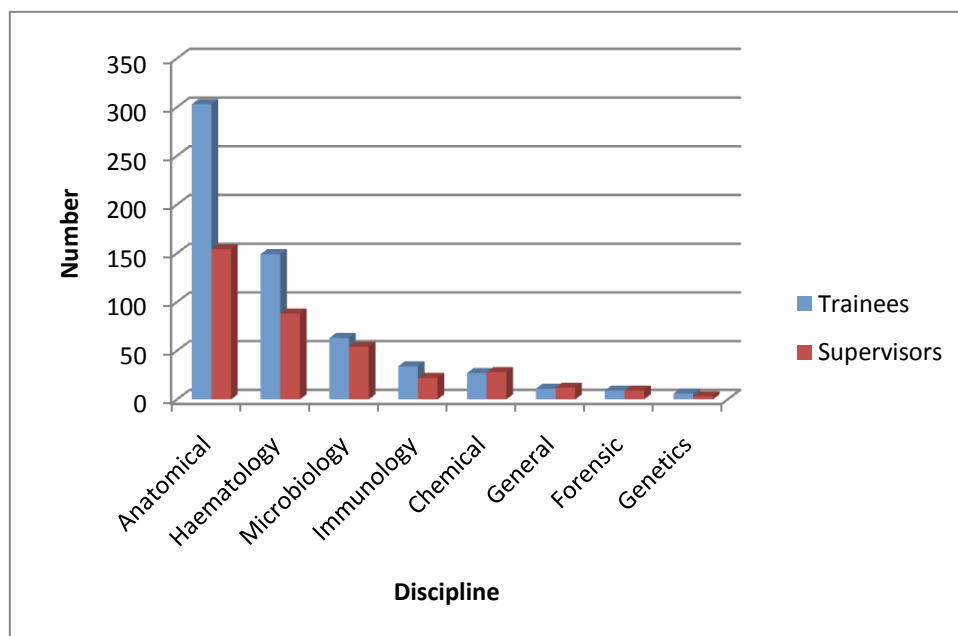
Figure 3. Trainees and supervisors by discipline

Compiled by Wendy Pryor from RCPA database, February 2009
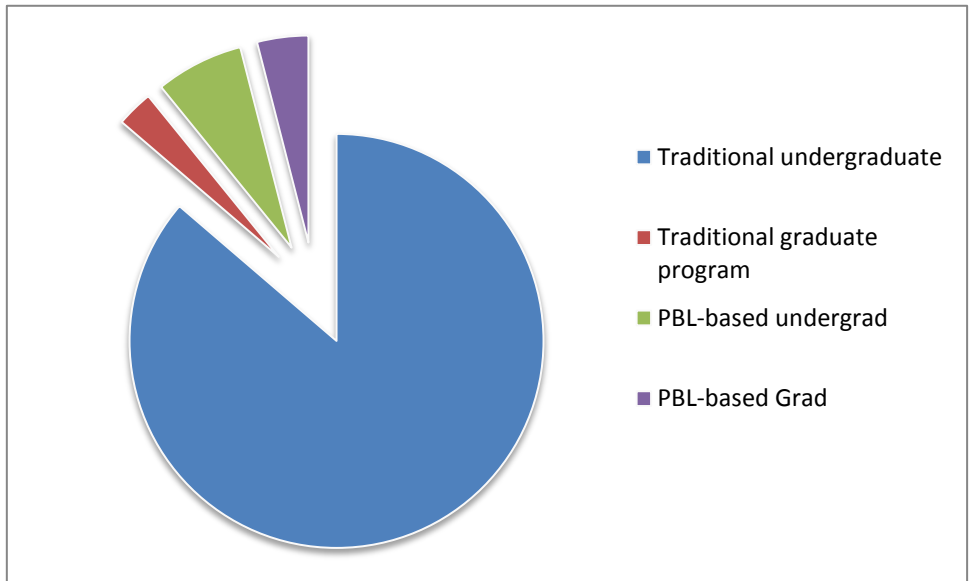
Figure 4. Type of medical degree completed by trainee

Compiled by Wendy Pryor from RCPA internal survey 2004
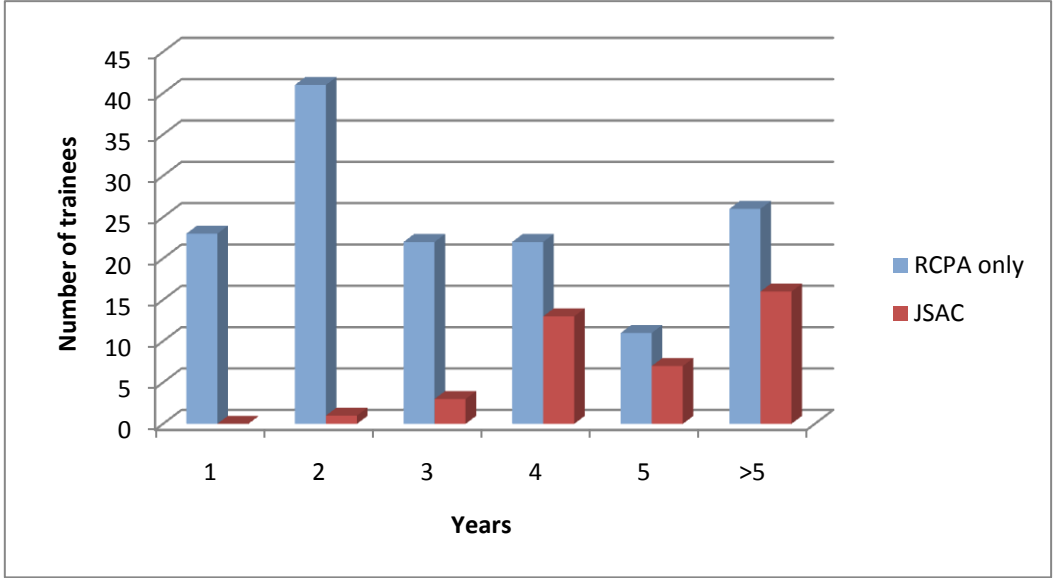
Figure 5. Years of clinical experience before pathology training

Compiled by Wendy Pryor from RCPA internal survey, 2004

1.4.4 Assessment

Most assessment of RCPA trainees has been through formal summative examinations, with little emphasis on workplace-based assessment at the time of this study. Exact requirements vary according to the discipline, but all involve multiple written, practical and oral components. The examinations focus heavily on technical knowledge and diagnostic skills. In some disciplines, candidates must also submit casebooks, projects or autopsy assessments. Communication skills are assessed to a limited extent in practical and oral examinations. Attempts to address professionalism in recent years have resulted in an increase in exam questions relating to laboratory management, but these essentially assess the cognitive domains.

An annual supervisor's report documents performance in some aspects of professionalism, but this is not a properly standardised assessment, being carried out with varying degrees of enthusiasm and care. Though feedback to trainees may be offered in the context of these reports, the extent to which this occurs varies considerably between sites and supervisors.

In general, formative assessments are conducted on an ad hoc basis at individual training sites: at the commencement of this project there had been no specific RCPA requirements or guidelines for formative assessment. The RCPA *Learning Diary* was introduced as a required formative assessment to address this deficiency.

1.4.5 The Generic Curriculum and Learning Diary project

The need for the RCPA to enhance training beyond disciplinary knowledge and skills to include management, communication and professional values was documented in an educational needs analysis conducted in 1999 (RCPA internal document).

A subsequent educational review at the RCPA (Clarke, 2003) revealed that qualities of professionalism and leadership found very little place in the average trainee's learning

experience and it was recommended that the College must proactively implement educational strategies to address these issues. A *Generic Curriculum* (Appendix 4), based on the CanMEDS framework (Frank, J. E., 2005) was developed in 2004. A *Learning Diary* (Appendix 3), as a portfolio-type formative assessment tool to in turn address the curriculum was developed in consultation with the Centre for Innovation in Health Professional Education (CIPHE) at the University of Sydney.

The aims of the project were to maximise learning opportunities in the workplace by:

- Articulating outcomes for previously neglected non-technical aspects of pathology;

- Supporting processes for reflection and self-regulated learning; and

- Providing a structure for formative assessment.

The steps involved in completing the *Learning Diary* (Figure 6) were based the cyclical processes of self-regulated learning (White & Gruppen, 2007; Zimmerman & Campillo, 2003).
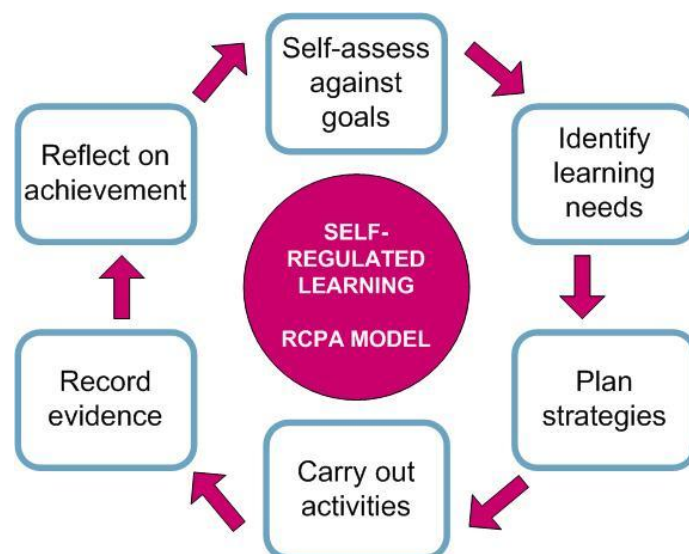
Figure 6. Processes of the RCPA Learning Diary

The *Generic Curriculum* and *Learning Diary* were introduced at workshops for supervisors and trainees during 2006 and 2007. The *Learning Diary* was subsequently modified (Appendix 5), and pilot tested in late 2006. Surveys and interviews conducted in the course of these activities provided the texts that were analysed in this project.

2 Literature review

This chapter presents a review of both popular and academic literature pertaining to my research aims; the structure of the review is presented in Figure 7.

The review provides an in-depth look at pathologists and how they are stereotyped by the community and by health professionals. It is apparent that there are inconsistencies regarding expectations and realities in relation to professionalism in pathology in the eyes of the general and health care communities and pathologists; and this may have implications for patient care, pathology training and the development of professional identity.

In relation to modern conceptions of professionalism that define the values upon which professional identity is (ideally) founded, I describe some of the curricular frameworks applied to medical specialist training worldwide. This is followed by an exposition of the values that pathologists have held for themselves in relation to these frameworks, and how they fulfil their professional roles.

Underpinning this research is a selection of pertinent theories relating to stereotyping and identity formation, and some education theories: they are outlined to provide a basis for explaining and understanding the phenomena described in my analysis.

Finally, a brief review of some case studies relating to portfolio use outlines some of the ways that formative assessments based on self-regulated models have been employed to address professionalism in postgraduate medical settings. I describe the benefits and challenges that researchers have experienced in practice, and apply theories to explain why difficulties occur and how they may be resolved.

A summary of what is known and what remains to be explored in relation to my research aims leads to a definition of my research questions.
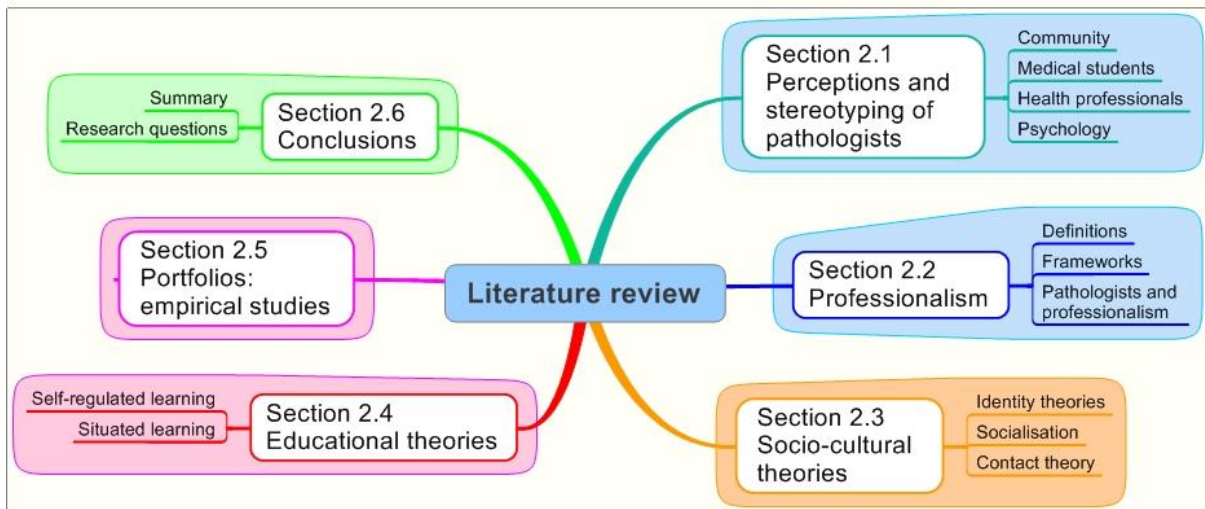
Figure 7. Structure of the literature review

Blue, yellow and pink shading relate to the first, second and third research aims respectively.

2.1 Perceptions and stereotyping of pathologists

Sections 2.1 and 2.2 relate to the first of my research aims:

To define the meanings of professionalism for pathologists by comparing expectations, perceptions and lived experience of training and practice in the medical specialty of pathology.

There are published standards and curriculum frameworks (ACGME, 2009; Frank, J. E., 2005), as described in section 2.2.2, designed to embody the expectations of the community and health professionals about the ideal qualities, attitudes and behaviours of medical specialists. However, these groups may question how medical specialists actually measure up to these ideals.

A number of health professions and medical specialties are subject to stereotyping (Harris, C., 1981; Woolfe, 1987). Because stereotyping has a significant impact on professional identity formation and in turn shapes values and motivations adopted by professionals (Öhlén, 1998), it is important to explore the meanings of these stereotypes and

the social contexts in which they arise. Conflicts between formalised explicit expectations and popular perceptions may create tensions for specialists in training.

This section of the review describes how pathologists are perceived or misperceived by members of the community and of health professions. I have drawn upon a wide range of sources and commentary to develop this picture.

2.1.1 Community perceptions

Impressions of medical specialists may be formed by direct or indirect experience, or through portrayals in the media. Very few people outside the health professions interact closely with pathologists, and therefore media portrayals can play a large part in shaping understandings (Gutmann, 1998). Even within the health professions, interaction is often indirect, and impressions may be shaped by popular stereotypes (Gutmann & Salzman, 1999).

Public perceptions frequently derive from popular television programs like *Quincey*, *Silent Witness* and *CSI* (Figure 8). Pathologists are portrayed as those who investigate crime scenes, even though the vast majority, and even forensic pathologists, do not do most of what is seen on the television shows. It is interesting that the figure on the top left shows Quincey, sitting behind a microscope, holding up what is actually a projection slide rather than a microscope slide! This is a graphic example of public ignorance about what pathologists do.

Whilst forensic pathology, in its romanticised form, is one public face of pathology, one Australian forensic pathologist thinks that pathologists actually have a less romantic image. Cited on a medical careers Web page, Duflou (2008) (Figure 9) says:

> The public perception of the forensic pathologist is of a non-communicative elderly doctor performing autopsies on murder victims in a dimly lit, mist filled morgue.
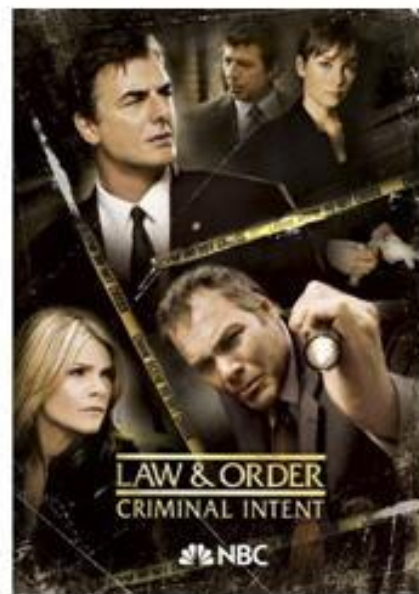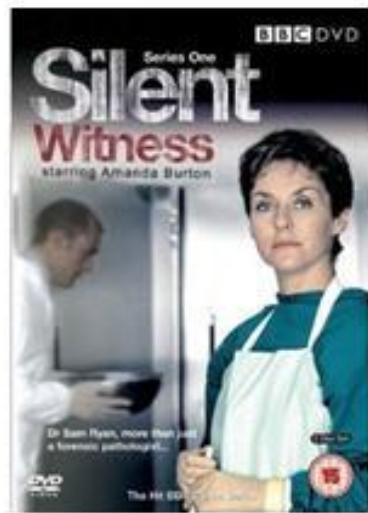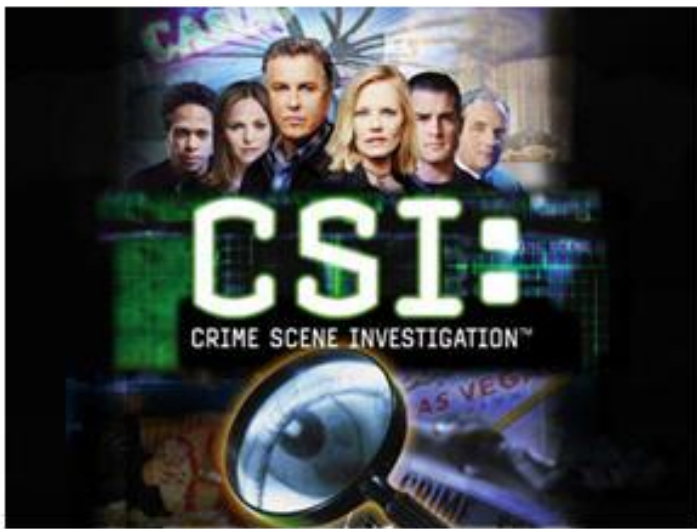
Figure 8. Popular perceptions of pathologists

Montage by Wendy Pryor using images from internet sources

Figure 9. The forensic pathologist.

This forensic pathologist is keen to 'sell' pathology via a medical careers website. He expresses his concerns about the possible negative implications of stereotyping with respect to career choice:

> The public perception of the forensic pathologist is of a non-communicative elderly doctor performing autopsies on murder victims in a dimly lit, mist filled morgue.(Duflou, 2008).

(Photograph and quote from My Medical Career website,

http://www.mymedicalcareer.com.au/, accessed 26th October 2009)

Exciting or not, pathologists are popularly associated with the dead. In a UK survey studying public perceptions of pathology and pathologists, 1,184 adults were interviewed (Westwell, 2005): 60% of them believed that pathology is about determining causes of death; less than a third knew that pathologists diagnose disease; few people associated pathologists with genetic diseases, cancer, infectious diseases or diabetes; 50% knew that pathologists are medically qualified doctors, but only 27% realised that pathologists play a role in the treatment of disease. Laposata (1996) cites an unpublished US study that showed almost half of patients had no idea what pathologists did, and a further 30% thought they only did autopsies.

The RCPA conducted an unpublished survey in Australia in 2008, asking largely the same questions as in Westwell's UK survey (2005), except that written questionnaires were distributed to patients attending pathology collection centres rather than their being interviewed. There were 2,717 responses from adults of all ages. Compared with the UK survey, Australians were less likely to associate pathologists with performing autopsies, determining causes of death and investigating crime. Fewer Australians (23%) knew that pathologists are medically qualified doctors and were more likely to think of them as scientists. The majority associated pathologists with testing blood and tissue. Relatively few people associated pathologists with clinical activities such as running clinics and infection control. Most (71%) were unaware that there was a shortage of pathologists in Australia. The results of the RCPA survey are shown in Figure 10.

To some extent, the differences between the Australian and the UK studies may reflect the setting in which the data were collected: in the former, most of the patients would have been attending for blood tests, which could explain their emphasis on this aspect of pathology. These studies reveal two main public faces of pathology: doctors who deal with death and technicians who collect and process blood samples. Neither image accurately reflects the roles of pathologists.
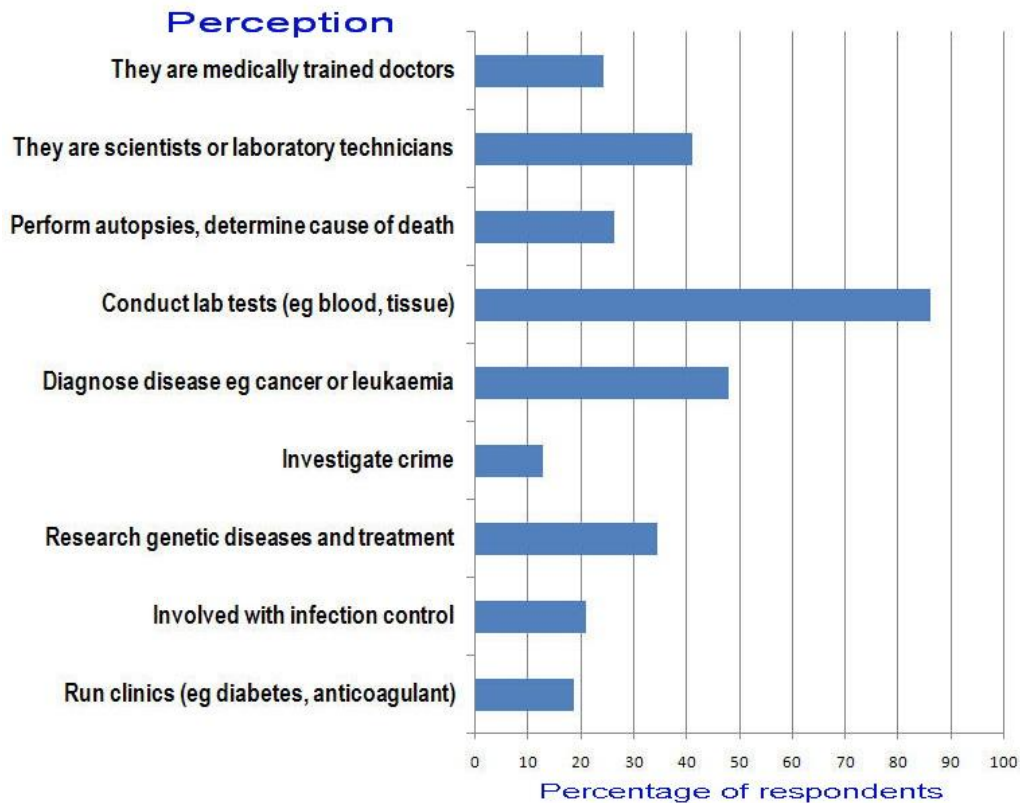
Figure 10. RCPA survey: community perceptions of pathologists

(Unpublished data).

Pathologists themselves are concerned about having a poor public image and about misconceptions concerning their work.

One pathologist reflected on the fact that when president Reagan had colonic cancer, the pathologists involved in his care were not portrayed as members of the medical team, but remained anonymous despite the significance of their work on the president's behalf (Gutmann, 1998). The pathologist was moved to analyse over 500 US newspaper articles mentioning pathologists from 1989 to 1996: approximately half were about forensic pathologists, and included reports of sensational cases as well as charges of incompetence of individual pathologists; a further quarter concerned one individual retired pathologist, Jack Kervorkian, and his involvement with assisted suicides. Thus about three quarters of the articles strongly associated pathologists with death. Ironically, of the articles that celebrated

the achievements of pathologists in life, most were obituaries. Of the remaining miscellaneous articles, a number referred to malpractice, and even those articles offering a positive and human perspective generally had a substantial death-related component, e.g., an accompanying photograph set in a morgue. One report on a pathology conference began:

> A pathologist is a nice, warm person who looks at cold, dead people. Sometimes a pathologist looks at dead tissue from living people. Sometimes he looks at dead people. It's a living. When a pathologist puts on a slide show, there are no pictures from his summer vacation.

Gutmann comments that the writer is portraying the pathologist as a

> pathetic (it's a living), ascetic (no slides of summer vacation) creature, at home in the dark and with death...and emotionally blunted.

This sad picture is not restricted to patients and journalists: the commercial world also associates pathology with death. Google Advertising aims to target audiences by placing advertising on relevant web pages according to keywords defined by the merchant: viewing a medical careers website, http://www.ahealthcareer.co.uk, I noted that pages for clinical specialties advertised products that had some clinical relevance to the specialty — on the obstetrics and gynaecology page, for example, there was an advertisement for pregnancy and childbirth services — but the pathology careers page featured advertisements for decorated coffins and funeral catering!

Another issue underlying poor perceptions of pathology is its commoditisation and the likening of it to a service such as laundry and catering. This was highlighted in a business consultant's report presented to Australian Department of Health and Ageing (Legg, 2008). The report states that the quality of pathology services is under severe threat from shortages that need urgent fixes. The consultants warn of possible serious consequences for safety and efficiency in the system and that there is a 'perception that pathology has declined in its prestige to win funding against other disciplines; and

a lack of understanding of the specialty and its value, which creates a lower standing in the community and the healthcare sector.

The situation continues to deteriorate. Politicians share the same negative conceptions as the general public about pathology. The Australian Commonwealth budget handed down in May 2009 (http://www.budget.gov.au/2009-10, accessed 5 June 2009) included further cuts to pathology funding. These costs will inevitably be passed on to patients. Furthermore, a patient may now take a request to any pathology laboratory rather than the one specified by the referring doctor. This stems from the idea that pathology is a commodity where the patient chooses the service provider rather than being referred from one doctor to another.

2.1.2 Medical student and junior doctor perceptions

Pathology has been described as an 'unloved specialty' (Sullivan, 1993), not attractive to students and junior doctors. Attitudes to pathology and pathologists have been studied amongst medical students more than any other health care group because of implications for career selection.

Furnham (1986) used questionnaire surveys to compare medical students' beliefs about nine different specialties, that included pathology: students believed that pathologists earned less money than other specialists, suggesting low status; and their positive perceptions mainly concerned the scientific and intellectual aspects of pathology, but there were negative perceptions regarding humanistic factors.

Surveyed about attitudes to a career in pathology, a cohort of US medical students expressed strong negative feelings about the lack of patient contact, some concerns about an unpleasant work environment ('gross, smelly') and working with a microscope (Holland & Bosch, 2006). Burton (2005) also notes that medical students often find autopsies unpleasant and distressing — this theme emerged in the course of a phenomenological study of the use of autopsies in medical schools (Burton, J, 2003). Though the study did not concern

perceptions about pathologists themselves, it was interesting to read that one student thought that pathologists might be so desperate to attract students to the profession that they would demonstrate autopsies to students just for this purpose:

> …everything should be developed within a clinical context … and not because the pathologist wants to do it because he hopes that 1⁄1000 students will become a pathologist.

The irony is that for every 1/1000 who might be attracted, many others will be deterred, either because they are frightened by the autopsy or they perceive the work of pathologists to be of little value to actual patients. One of Burton's subjects remarks:

> If pathologists always use the autopsy for teaching material rather than resected specimens then it always looks as though they're doing something after the event that wasn't particularly useful.

Holland and Bosch's subjects (2006) also perceive pathology to be mainly concerned with surgical pathology and autopsy, and they place research and teaching amongst the least important areas of pathologists' work. Holland and Bosch note that those who were interested in pathology as a career did not generally see the lack of patient contact as being a deterrent: they were much more focused on the intellectual aspects.

Burack and Irby et al. (1997) found that medical students see pathologists being less involved in clinical decision-making and having less ability to affect patient care than do other specialists. Procedural and cognitive aspects rather than personal factors were important.

One Australian second year medical student was particularly scathing about pathologists, questioning whether they need to be doctors at all. The student posted the following comment on an online medical students' political discussion forum (2008):

> One of the biggest problems with pathology recruiting is that modern medical students dislike pathology so much. Pathology is incredibly hard and easy to

fail, especially if the student has no science background. Additionally modern medical students are selected for a caring, compassionate nature and a likeable demeanour. Pathology is all about knowledge, not niceness. It's extremely hard work and you hardly ever get to see a patient. Manning a microscope and writing one death sentence after another is hardly attractive to those who want to provide clinical care.

We seriously need to review whether pathologists should have to be medicine graduates at all. Pathology has been strongly de-emphasised in the modern medical curriculum. Why not allow biomedical science graduates to become pathology registrars? Why does a modern pathologist need to be a doctor?

The comment was in response to an editorial (Durack, 2008) citing the previously mentioned report on the Australian pathology workforce crisis (Legg, 2008) in which pathology was compared to laundry and catering services. It shows how the commoditisation of pathology can impact negatively on attitudes and reinforce stereotyping.

Two students responded to the comment saying that it was important for pathologists to be doctors, though one added somewhat cynically, 'even if not selected for caring and compassion'. One pathology trainee, acknowledging the stereotype, also provided a response:

The view of the pathologist as some sort of technician estranged from clinician peers is unfortunately a very commonplace stereotype. The decline of pathology teaching in medical schools has perpetuated it even further, as we have lost one of our best sources of visibility. But it takes just a little scratching beneath the surface to discover that pathologists are not "isolated beings" at all; we make a vital contribution to patient care, and often this is in the form of interactions with clinicians. Good social skills are certainly essential for successful interaction with patients, but they are no less important for the interaction between pathologist and clinician. And of course, many specialist pathologists still have patient contact as well!

This trainee values communication skills as essential to patient care and engages in advocacy on behalf of the pathology profession, yet he is intensely aware of the negative stereotypes that beset the profession. Pathologists themselves strongly disagree that they do

not need to be 'real doctors' (Jenkins, D. et al., 2002). They emphasise the differences between themselves and medical scientists in terms of depth of medical knowledge and clinical understanding required to communicate effectively with clinicians, appreciate the complexity of decisions relating to appropriate testing, and the interpretation of the subtleties of pathology findings in terms of implications for patient care. A scientist may be able to issue an accurate result, but cannot assist the clinician in properly investigating and managing the patient as opposed to simply doing a test and treating the result.

The trainee's belief that negative perceptions relate to the teaching of pathology in medical schools is a common one. Many contend that medical students' negative perceptions are compounded by a worldwide trend towards reduced exposure to explicit pathology teaching in universities, fearing that this may have adverse consequences for the profession, losing its traditional pivotal role in clinical medicine, affecting public perceptions and hampering communication between clinicians and pathologists (Holck et al., 2007). The evidence for or against this is inconclusive.

Whatever the impact of modern curricular change in medical schools, it is clear that the stereotypes pre-date them by decades at least (Gutmann & Salzman, 1999). Those who uncritically ascribe negative attitudes to changing medical curricula and insist on didactic and non-integrated teaching of pathology in medical schools are likely to reinforce the stereotype of the intellectual pathologist who is separated from clinical medicine. The pathologist who offers relevant teaching in the clinical context will better demonstrate professionalism and be much more respected than the one who gives a boring lecture, as illustrated by a comment on an online medical student forum:

> In medical school, we didn't pay any respect to the pathology instructors.
> Most of us never went to class and most of the students thought they were a
> bunch of goofballs. But we showed so much respect to attendings on the

wards, listening intently to ever word, nodding our heads, wanting to impress them. (Medical student, 2005)

2.1.3 Other health professionals' perspectives

The notion that pathologists are wise, but that they deal mostly with the dead, is the premise of a well-known joke about medical stereotypes:

Q: What's the difference between

a physician,

a surgeon,

a psychiatrist, and

a pathologist?

A: The physician knows everything and does nothing.

The surgeon knows nothing and does everything.

The psychiatrist knows nothing and does nothing.

The pathologist knows everything, but always a week too late.

(http://www.rad-i-ology.co.uk/funstuff/Funstuff_jokes.htm accessed 22 Oct 2008)

This echoes Burton's quote above (2003), suggesting that the autopsy can characterise the pathologist as being wise after the fact but of little immediate clinical relevance.

Pathology has been described in a career review in the British Medical Journal (Marshall, 1998) as offering good promotion prospects, a limited amount of being on call and the opportunity to combine science with clinical practice; however, it was noted that the drawback is that the specialty is 'misunderstood by many'. According to Jenkins et al. (2002) this feeling of being misunderstood is central to pathologists' professional identity. Pathologists feel that physicians and surgeons see themselves as more important, having

higher status, and nearly one quarter of pathologists feel isolated from the rest of the medical community.

A commentary on prospects for pathology training in the 21st century (Otis, 2006) points to an:

> unfortunate perception that pathologists are off somewhere at the periphery (with frequent references made to the basement), rarely available to participate in the complex scene of medical practice. This stereotype (whether deserved or not) places the pathologist at a distance rather than at the centre of the action.

An eminent US pathologist, Robert Collins (2006), who was seriously concerned about the implications of this remoteness for patient care, wrote that:

> pathologists are often perceived by their fellow physicians to be insulated from the grit and demands of patient care.

2.1.4 Psychology and career choice

Many factors, including personal interest and lifestyle, are important in medical specialty selection (Harris, M. et al., 2005), though there is some evidence that medical students select a specialty that is perceived to be compatible with their personality and temperament (Burack et al., 1997). Since pathology as a career may attract those who are more intellectually focused and less interested in direct patient contact, one might expect that certain personality factors are salient in a career choice of pathology.

Most studies profiling medical students and doctors with respect to specialty choice do not include large numbers who are interested in pathology. One of the larger studies (Winer, 2000) measured the 2-dimensional Myers-Briggs Type Indicator (MBTI) profiles of 4953 doctors, including 92 pathologists. Winer found that compared with other doctors, pathologists demonstrated a clear tendency towards the NT (Intuition, Thinking) type. *Intuitive* individuals see possibilities, relationships and the meaning of experience, and the

thinking dimension refers to making judgments objectively and impersonally. This pattern is described as 'logical and ingenious', rather than 'sympathetic and friendly'.

A smaller study (Myers & Davis, 1976) reported similar findings, and included the additional dimension of *introversion* — i.e., focusing on the inner world of concepts and ideas — that was common amongst those choosing pathology.

Other studies have found that pathologists score relatively low on *empathy*, i.e., understanding and communicating inner feelings with others (Hojat et al., 2005), and *sociability*, i.e., enjoying social interaction with others (Hojat & Zuckerman, 2008).

Table 1 is compiled from a number of sources (Borges & Savickas, 2002; Hojat & Zuckerman, 2008; Hojat et al., 2005; Stilwell et al., 2000; Winer, 2000) and shows the most distinctive personality features for selected specialties. In it, the left-hand column refers to the type of instrument used to measure the personalities of the subjects; the second column lists the dimensions measured and the third column defines the meanings of those dimensions; and the columns to the right summarise the relative salience of those dimensions as measured for the various specialty groups.

Whilst some general trends are implied, the validity is not established of these measures for assessing personalities of medical students and doctors regarding career choice. Indeed Hojat's instrument could be seen as reductive and even pre-emptive of stereotypes with its failure to address subtleties and variations.

Table 1. Personality features and career choice

Summarised from Stilwell and Wallick et al. (2000); Winer (2000); Borges and Savickas (2002); Hojat and Zuckerman (2008); and Hojat and Zuckerman et al. (2005)

Instrument	Dimension	Description	Career choice			
			Pathology	*Surgery*	*Psychiatry*	*Primary Care*
MBTI	Sensing (S)	Collects information from immediate, real practical fact of life	Low		Low	Low
MBTI	Intuition (N)	Sees possibilities, relationships and the meaning of experience	High		High	High
MBTI	Thinking (T)	Makes judgements objectively and impersonally	High		Low	Low
MBTI	Feeling (F)	Makes judgements subjectively and personality	Low		High	High
MBTI	Introversion (I)	Focus on the inner world of concepts and ideas	High	Low		
MBTI	Extraversion (E)	Focus on the outer world of action, objects and persons	Low	High		
ZKPQ	Impulsive sensation seeking	Acts quickly on impulse	Low	High		Low
ZKPQ	Aggression-hostility	Tends to be verbally aggressive, rude	Low	High		Low
ZKPQ	Sociability	Enjoys interaction with others	Low	High		
ZKPQ	Activity	Likes to be active	Low	High		
JSPE	Empathy	Can understands and communicate inner feelings of patients	Low	Low	High	High
FFM	Extraversion	Being social, active dominant	Low	High		

2.1.5 Summary

Whilst some perceptions about pathologists may be true and others myths, together they build a stereotype of the pathologist as a clever, scientifically oriented person, associated mostly with blood and death, emotionally detached and remote from patient care. I have summarised the perceptions of various groups in Table 2.

Table 2. Perceptions about pathologists by various groups

Group	Perception
Community	Associated with popular forensic television shows, autopsies, cases of death, blood tests 76% of Australians don't know they are doctors A commodity like laundry and catering services
Medical students	Associated with autopsies Unattractive specialty choice Lack of patient contact Focus on intellectual aspects Don't need to be doctors
Other health professionals	Wise but concerned largely with death Remote, isolated from patient care Hard to understand
Psychologists	Intuitive clever thinkers Introverted Unempathetic

2.2 Professionalism

The perceptions and stereotypes presented in the previous section portray a negative image of pathologists regarding medical professionalism. Rather than being seen as caring, compassionate doctors, altruistically dedicated to patient care, they may be seen as commercially-oriented technicians, remote from patient care. Whilst this raises the question as to whether or not pathologists meet community standards of professionalism, it also poses the possibility that generalised models may not be the ideal yardstick for evaluating professionalism in pathology. As a basis for investigating these questions, it is important to have an understanding of how the community and the medical profession define professionalism in relation to pathologists' own conceptions.

2.2.1 What is professionalism?

There has been considerable debate over the years about definitions of professionalism, though there now seems to be some convergence of views.

Historically, the apprenticeship model of training in specialty areas, including pathology, as in many other medical specialties draws much from the medieval guild model (Cruess, S., 2006; Rowbotham, 2009) where practitioners of similar crafts joined together to promote quality workmanship and to be treated fairly by the community. Being a professional simply meant having completed one's training, and 'professionalism' was conceived in terms of inherent character (i.e., beyond the influence of training).

In the past 60 years or so there have been dramatic changes in society and significant challenges to the powers and privileges of the medical profession — in particular, the rise of commercialism (Hafferty & Levinson, 2008). Society has become disappointed with non-physician management of health services and looks to professionals to set and maintain standards (Cruess & Cruess, 2000).

Swick (1998) maintains that there is an inherent clash between business and medicine. The key values of business are profit and competition, whereas the traditional values of medicine are service, advocacy and altruism. In this context, there has been a need to redefine 'professionalism'.

The evolution of modern conceptions of professionalism has been described as a series of unfolding and overlapping waves (Hafferty & Levinson, 2008). These waves are interactive and are shaped by a discourse between commercialism and professionalism. The first four waves are discovery, definition, assessment and institutionalisation, and are described by Hafferty and Levinson as 'nostalgic', emphasising individual motives. The fifth and currently emerging wave is that of shifting the focus from the individual towards modifying underlying social and environmental forces that shape professional identity and behaviour.

The first wave, discovery, emerged in the 1980s, prompted by growing opinion that commercialism was the enemy of medical ethics. I reflect that as a medical student of the late 1970s, I, together with my fellow students, regarded Hippocrates as long dead and out of fashion, and we were beginning to call for a new framework in the form of bioethics courses. Nevertheless we still readily accepted free stethoscopes from drug companies, and the courses commenced later.

The second wave was a call for formal and succinct definitions of professionalism. Bioethical models emerged that embodied not only personal characteristics, but long lists of behaviours, emphasising the responsibility of the individual.

A subsequent, widely-accepted definition, expressed as behaviours (Swick, 2000), was grounded in what doctors do and how they act individually and collectively. The behaviours included subordinating one's own interests; adhering to high ethical and moral

standards; responding to societal needs, evidencing humanistic values; exercising accountability and demonstrating commitment to excellence and scholarship; dealing with complexity and uncertainty; and reflecting on actions.

Whereas US definitions tended to emphasise altruism, the British were less inclined to be subordinate, and emphasised service (Hafferty, 2006a). In my experience of pathology in Australia, the emphasis has always been on service, probably reflecting both the nature of pathology and the Australian character. On the other hand, Hafferty observes, US definitions put comparatively more emphasis on knowledge and technical competence.

Different definitions of professionalism have emerged from the sociology literature. Martimianakis and Maniate et al. (2009) argue in favour of an approach that incorporates political, economic and social dimensions. They point out that that professionalism is extremely value-laden in society and that the culture and values of institutions are a more important determinant of a doctor's professional behaviour than the training received at medical school.

Some authors have pleaded for integration of bioethical and sociological understandings of professionalism (Cruess & Cruess, 2008). Cruess and Johnston et al. (2004) have explicitly rejected the idea that professionalism can be based on a 'list of attributes, characteristics or behavioural patterns'. They maintain that it is dynamic and evolves within the relationship of profession and society, and may be defined as a contract with society (Cruess, S., 2006; Cruess & Cruess, 2000): this means that there are expectations on both sides. Doctors expect autonomy and self-regulation and the trust of their patients, and, in turn, society expects competence, altruism, integrity and promotion of the public good.

'New professionalism' (Epstein et al., 2008) emphasises 'mindfulness' in medical practice, where self-reflection is an essential ingredient of a professional self-identity that leads to expression of core values of 'empathy, compassion and altruism'. In this definition, the authors refer to both humanistic qualities and technical competence.

A definition proposed by Hafferty (2006a) comprises three elements: core knowledge and skills; ethical principles and service and/or altruism. If ethical principles include dedication, core knowledge and skills result in accuracy, and there is emphasis on service, then Dr Sugerman's motto of 'Dedication, Accuracy and Service' (*cf.* Foreword), is not so new in terms of who/what is recognised as a good doctor or pathologist.

The third wave was a call to explicitly assess professionalism, accompanied by debate as to whether professionalism could in fact be taught, let alone assessed. Current opinion is that professionalism can and *must be* taught and assessed, taking into account the social environment in which learning occurs (Cruess, R., 2006; Hafferty, 2006b). Though many tools, including portfolios, have been developed, trialled and refined, there is still a problem when we contemplate how to assess not only the attitudes and behaviour of individual trainees, but also their motives and their learning environments. Hafferty (2006a) writes:

> It makes little sense to assess professionalism of students within learning
> environments that are hostile to its precepts.

The fourth wave has seen the rise of institutional initiatives. For example, the US Accreditation Council for Graduate Medical Education (ACGME) developed and mandated an outcomes-based framework, and the Royal College of Physicians and Surgeons of Canada (RCPSC) developed the role-based CanMEDS, as described in more detail in section 2.2.2. These models seek to extend professionalism beyond the traditional doctor-patient relationship and to place more emphasis on social justice and responsibility to the

community: they are represented as systems-based practice in the ACGME model, and as the role of the Health Advocate in the CanMEDS models.

Institutionalisation involved efforts to develop formal coursework especially at the undergraduate level, and to further reinforce the third wave with the development of assessment tools specifically linked to the new curricula.

Whereas the first four waves focussed on the individual, little attention was focused on how organisations and training institutions can constrain motives and behaviours and whether or not the organisation itself behaves in a professional manner (Hafferty & Levinson, 2008).

Growing awareness of the key importance of the overall learning environment in professional identity development has led to the fifth wave, linking structure and agency. It emphasises the need to change individuals to modify underlying structural and environmental forces that shape social actors and actions.

If professionalism and medical ethics encompass character, cognition, behaviour, motivations and social accountability, then they may be framed for the individual as identity (Hafferty, 2006a). Identity formation for the medical specialist takes place largely in the situated learning environment of the workplace (Lave & Wenger, 1991), and is influenced not only by the explicit curriculum, but also by less obvious yet extremely powerful cultural influences that have been termed the hidden curriculum (Hafferty, 1998, 2006a; Hafferty & Franks, 1994), as explained in section 2.4.2.

It has been recognised that there are complex interactions between individuals and their learning environment, and that settings and structures can help or hinder development of professionalism. Practice and policy may be beyond the control of individuals or even the organisation.

The sixth wave is newly arising and draws upon complexity theory (Hafferty & Levinson, 2008). This framework conceives of identity as not just an individual playing out a role autonomously where goals are clearly defined and motivation is directed toward self-interest: rather, it may be defined in terms of a 'dynamicist' model which embraces learning system in a holistic way — where process, content, internal and external factors interplay in complex ways (Bleakley, 2006).

2.2.2 Frameworks for professionalism in medical specialist training

Various frameworks have been developed around the world to address medical professionalism. This section describes some models applicable to postgraduate training.

The Australian Medical Council (AMC) is responsible for accreditation of all medical training programs in medical schools and medical specialist colleges in Australia. It has published a set of goals and standards for specialist education and training (Australian Medical Council, 2008). The broad goals include producing medical specialists who

> Can practice unsupervised in the relevant medical specialty, providing
> comprehensive, safe and high quality medical care, including in the general
> roles and multifaceted competencies inherent in all medical practice and
> within the ethical standards of the profession and the community they serve.

These goals encompass individual and community responsibility, patient safety, ethical behaviour and professional competence. The goals further specify scientific understanding, leadership, collaborative working and maintenance of competence and performance. Australasian colleges must also comply with the standards of the Medical Council of New Zealand that endorses the AMC standards, adding some culturally specific competencies. Implied in 'unsupervised' is the expectation that medical specialists can self-regulate their practice as professionals and their continuing professional development.

Previously, the AMC endorsed the CanMEDS curriculum framework (Frank, J. E., 2005) to address these education and training goals, suggesting the ACGME model (2009) as an alternative. However, it has now been acknowledged that many frameworks are in existence and that colleges will develop their own models according to their own needs. In the most recently published AMC standards (Australian Medical Council, 2008), CanMEDS is a footnote rather than a recommendation; yet the CanMEDS model provided the domain headings used in the RCPA *Generic Curriculum* and *Learning Diary*.

2.2.2.1 CanMEDS

The CanMEDS framework was developed in the 1990s by the Royal College of Physicians and Surgeons of Canada (RCPSC) in an attempt to reform medical education and ensure that physicians were prepared to thrive in the new health care environment. This competency-based/outcomes-oriented framework has been further developed and adapted, around the world, to various levels of medical education and to other health care professions (Frank, J. & Danoff, 2007).

A diagram was created in 2001 to illustrate the elements and the interconnections of the roles embodied by competent physicians. Medical Expert is the central role, surrounded by and integrated with the roles of Communicator, Collaborator, Health Advocate, Manager, Scholar and Professional. (In accordance with convention, these specific role titles are henceforth capitalised in my text when referring to CanMEDS). The diagram (Figure 11), also known as the CanMEDS 'cloverleaf', 'daisy', or 'flower' was officially trademarked in 2005, having been revised to more accurately reflect the fluidity and overlap amongst the CanMEDS Roles (Frank, J. E., 2005).

The CanMEDS model includes a handbook of assessment tools (Bandiera et al., 2006) that covers a variety of written, oral and workplace-based assessment methods, including a portfolio, aligned to the framework.

The validity of the CanMEDS framework outside Canada and across various medical specialties has been questioned; however, a helpful critique has been offered (Ringsted et al., 2006). The authors surveyed 3,476 doctors in Denmark, including 144 in laboratory specialties, to ascertain perceived importance of the professional roles as defined by CanMEDS as well as ability to perform aspects of them. The overall validity in the Danish context was confirmed and there was a general positive attitude to the CanMEDS roles, but there were significant differences between specialty groups: notably, those in laboratory specialities placed less importance upon the Health Advocate role and felt less confident in performing in it. Validity has not been studied in the Australasian context.

The original CanMEDS model was criticised for the way it framed professionalism in terms of personal characteristics and behaviours. This has since been modified to articulate the social responsibility inherent in being a medical professional:

> As Professionals, physicians are committed to the health and well-being of
> individuals and society through ethical practice, profession-led regulation, and
> high personal standards of behaviour. (Frank, J. E., 2005)

CanMEDS has also been criticised because it can lead to assumptions that organisations, and roles played within them, may be static and will not take account of dynamic broader contextual influences (Martimianakis et al., 2009).

Though the CanMEDS model has been criticised as a conceptual model of professionalism, its striking logo has nevertheless drawn widespread attention to the non-technical domains of medical training worldwide (Frank, J. & Danoff, 2007).

The RCPA *Generic Curriculum* was based on the CanMEDS roles. Essentially the model was used to define domains and to generate a list of competencies articulated in terms relating to pathology practice. Though the Expert role — comprising core knowledge and technical skills — is at the centre of the CanMEDS model, the technical expert elements were not included in the *Generic Curriculum*. These elements were already to be found in the specific curricula for each discipline, and the *Generic Curriculum* was thus, for all the non-technical elements, represented by the flower petals common to all pathology disciplines. The *Learning Diary* was directly structured around the competencies listed in the *Generic Curriculum*. The appropriateness or otherwise of this approach is one area explored in this thesis.

Some Australasian Colleges such as the Australian and New Zealand College of Anaesthetists (ANZCA) and the Royal Australian and New Zealand College of Radiologists (RANZCR) have adopted the CanMEDS model, whilst others such as the Royal Australasian College of Surgeons (RACS) and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) and the RACP have adapted it to varying degrees.
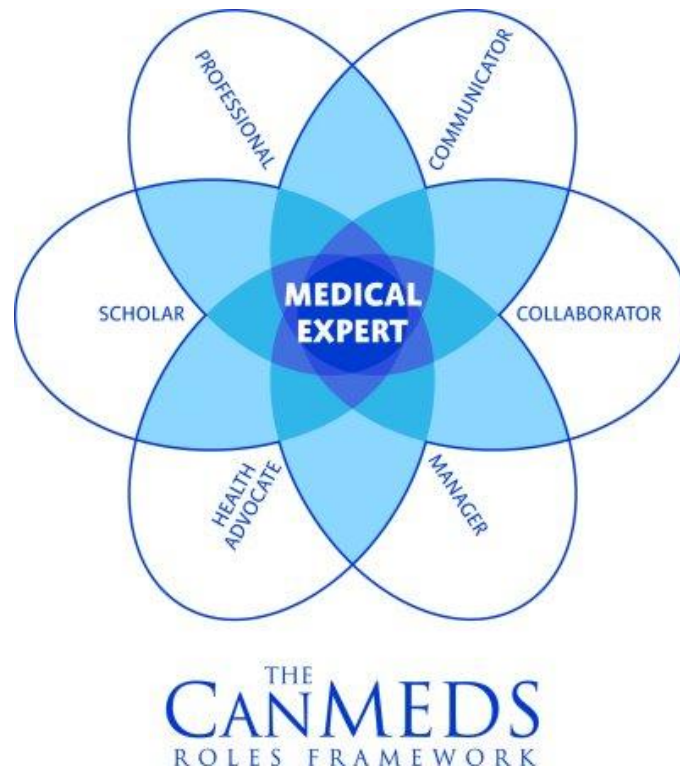
Figure 11. The CanMEDS 'flower' diagram

(Frank, J. E., 2005)

2.2.2.2 *Accreditation Council of Graduate Medical Education (ACGME - US)*

ACGME is a private, non-profit Council that evaluates and accredits medical residency programs in the USA: it has implemented its *Outcome Project* — a long-term initiative aimed at ensuring and improving the quality of graduate medical education — in all specialties across the USA (ACGME, 2009). Through a careful study of existing research on general competencies for physicians, and input on the proposed competencies from various constituencies and stakeholders of graduate medical education, the ACGME identified six general competencies for residents — patient care; medical knowledge; professionalism; systems-based practice; practice-based learning and improvement; and interpersonal and communication skills.

Whilst the CanMEDS model separates the roles of Communicator and Collaborator, the ACGME includes these together in the domain of interpersonal and communication skills.

This avoids a distinction between communicating with patients and communicating with clinicians, and thus may be more suitable for pathology, where most communication is with clinicians rather than patients.

Hafferty (2006a) notes that the American literature relating to professionalism, including the ACGME model, places greater emphasis on technical competence compared with other countries, particularly the UK. Though it does not represent this emphasis diagrammatically in the same way as the CanMEDS model with its central Expert focus, the strength with which technical domains are articulated could support the ACGME model as suitable for pathology.

A number of discipline-specific pathology curricula based on this ACGME model has been published (Association of Directors of Anatomic and Surgical Pathology, 2003; Crain et al., 2005; Folberg et al., 2002; Haller, 2007; Hinshaw, 2006; Nine & Zumwalt, 2005; Perkins, 2007; Wells & Smith, 2007).

A major activity of the *Outcome Project* is the identification and development of the *Assessment Toolbox* (ACGME, 2000), a product of collaboration between the ACGME and the American Board of Medical Specialties (ABMS). The *Assessment Toolbox* includes descriptions and examples of a variety of written, oral and workplace-based assessment instruments to assess the six domains; and includes a portfolio-based approach that has been suggested to support some pathology curricula. (Crain et al., 2005; Smith, B. R. et al., 2006).

2.2.2.3 *The General Medical Council's Good Medical Practice model (UK)*

The General Medical Council (GMC) is the statutory body responsible for regulating the medical profession in the United Kingdom; it registers doctors to practise in the UK and sets out the principles and values upon which good medical practice is founded. This is articulated in its guidance on Good Medical Practice (2006), available from the GMC website

(http://www.gmc-uk.org/). The domains included in this model are good clinical care; maintaining good medical practice; teaching and training; appraising and assessing; relationships with patients; working with colleagues; probity; and health.

Most postgraduate medical curricula in the UK, including those of The Royal College of Pathologists (RCPath), are formulated around this framework: RCPath has recently implemented a variety of workplace-based assessment tools to address these principles.

The framework has a very strong clinical focus and places much emphasis on relationships with patients. The lesser emphasis on technical knowledge and skill that characterises much of the British literature on professionalism (Hafferty, 2006a) may require adaptation in the case of disciplines like pathology and radiology, where patient contact is limited.

2.2.2.4 *Royal Australasian College of Physicians (RACP)*

Many RCPA trainees are in joint programs with the RACP. The *Professional Qualities Curriculum* developed by the RACP (2007) has been adapted from the CanMEDS model, and structured around nine domains comprising communication; quality and safety; teaching and learning; cultural competency; ethics; clinical decision making; leadership and management; health advocacy and the broader context of health. The flower diagram is not used, and this curriculum is published separately from the curricula for each specialty.

2.2.2.5 *Australian Curriculum Framework for Junior Doctors (ACFJD)*

The ACFJD has been developed by the Confederation of Postgraduate Medical Education Councils (CPMEC) to promote the development of medical competencies in the prevocational years and to provide a bridge between the competencies taught in medical schools and those required as a foundation for subsequent specialist training. The ACFJD includes the three primary domains of clinical management, communication and

professionalism; and the latter encompasses *Doctor and Society*, *Professional Behaviour* and *Teaching and Learning*.

Awareness of this model is important as there is currently a strong interest in Australia in the concept of vertical integration. CPMEC is keen to promote mapping of medical school and specialist training curricula to the respective articulation points of this framework. Some common understandings of the meanings of professionalism across the spectrum of medical education would smooth transitions between stages of medical training.

2.2.3   Pathologists and professionalism

The above frameworks, being based on very wide stakeholder consultation, reflect community expectations of medical specialists and provide foundations for developing more specific curricula. The meanings ascribed to the various domains of professionalism will vary between specialties. This review describes some of the meanings recognised by pathologists.

2.2.3.1   *Pathologists as experts*

As mentioned above, the CanMEDS model puts medical expertise at the centre of its logo. This discussion relates to the roles and competencies that would occupy this central area in the original CanMEDS framework. The fact that this was separated out in the RCPA model is a significant point in assessing the impact and appropriateness of the model in practice.

Pathologists see their primary role as providers of diagnostic information, according to a US study of 603 pathologists and 167 trainees (Jenkins, D. et al., 2002). However, pathologists reject public perceptions that they are scientists and believe that they also need to be good clinicians.

There are tensions here for the pathologist who is very focused on diagnostic work, but who is also expected as a medical professional to be oriented towards patient care, even though this may be at a relative distance.

Intellectual and diagnostic challenges, without having to deal directly with patients, are attractions for those who choose a career in pathology, as suggested by a pathology trainee on a medical careers website:

> Pathology is never boring; you get to see a fascinating range of horrible medical conditions, without having to tell patients the bad news. (Smith, R., 2008)

This is not necessarily to say that pathologists don't interact with others or don't put the patient at the centre of their decision-making. On the *Pathologists Are Groovy* website, (College of American Pathologists) some pathologists and trainees discussed why they chose pathology as a career. They cited not only scientific interest, intellectual challenge and lifestyle factors, but also stressed the pivotal role pathologists play in diagnosis and management of patients, being integrally involved with the healthcare team.

One trainee says that he particularly enjoys:

> … being the 'answer man'. Whenever a patient is sick and the reasons are unclear, … I love calling up the attending physician for the patient and explaining what the diagnosis is and how it can explain the patient's symptoms. Correlating the lab test results with the biopsy is a skill that only pathologists have. The trust other physicians have in pathology inspires me to be the best.

This doctor's values and sense of pride are oriented towards his care for sick patients and communication and mutual respect between pathologists and clinicians.

Another pathology trainee claims:

> You are like the doctor for the doctors, the central nervous system for the hospital and the doctor for the most amount of patients.

One pathologist who places great value on applying and communicating knowledge is Canadian pathologist and former director of Education of the Royal College of Physicians and Surgeons of Canada, Professor Nadia Mikhael. It was with dismay that Mikhael read the

previously cited 'unloved specialty' article (Sullivan, 1993) However she responded enthusiastically (1993).

> ...a career in pathology, be it general or specific, is exciting. Pathology is a versatile specialty that may have not been 'found' by many. Certainly those who have found it love it. Pathologists share a fascination with the process of disease and with its scientific meaning, logic, mystery and intellectual challenge. As consultants they apply this knowledge to diagnosis and therapy; as medical scientists they advance our understanding of disease; and as medical educators they impart this understanding to medical colleagues and to undergraduate and postgraduate medical students. No other specialty requires such a broad knowledge of both the basic sciences and clinical medicine or offers such a rich variety of opportunities for career development and practice. In fact pathologists have been Nobel prizewinners.

In this commentary Mikhael encapsulates the science, clinical responsibility, teaching and research that are part of the profession of pathology. She takes the broader view of the responsibilities of the pathologist to the community and the health professions.

Pathologists are indeed proud to be involved in a field at the cutting edge of medical and technological developments. Of nine Australian Nobel prize winners, Sir Macfarlane Burnet and Professor Robin Warren were pathologists, and a number of others included pathology in their training (Griffin, 2006). Immunopathologist Professor Ian Frazer was named Australian of the Year for developing a vaccine for the prevention of cervical cancer.

A number of eminent pathologists interviewed for Pathway magazine (Tan, 2005) expressed excitement about rapid technological change in molecular diagnosis, genomics and proteomics. However, the rapidly changing technological and health care landscape requires pathologists to be more than diagnostic experts. Technical expertise is but one facet of the broad scope of professionalism that doctors need to address in today's rapidly changing health system.

More than ever pathologists must take leadership roles in research and clinical care and aspire to Mikhaels's vision of the broadly competent pathology professional. Pathologists face challenges in management of change, changing ethical considerations, the need to remain up to date, communicate effectively and advocate on behalf of the profession and to be accountable for their actions.

Being a pathology expert involves much more than technical expertise. It involves responsibility to both patients and clinicians, and the importance of communicating well with them. But do all pathologists internalise these values? — and to what extent? This is a question addressed in my analysis; published literature in some specific areas as follows provides some background.

2.2.3.2 *Pathologists and their interpersonal roles*

> The doctor who fails to have a placebo effect on his patients should become a
> pathologist or an anaesthetist... In simple English, if the patient does not feel
> better for your consultation you are in the wrong game. (Blau, 1985)

This physician writing to the Lancet implies that pathology is a game for unempathetic non-communicative doctors who are unable to make patients feel better.

This is a stereotype premised on the idea that communication is about doctors talking to patients. However, whilst pathologists do not often interact directly with their patients, they must communicate at many levels with clinicians and the laboratory team: these roles are no less important than doctor-patient relationships.

In the CanMEDS model (Frank, J. E., 2005) the Communicator role is expressed almost entirely in terms of doctor-patient interaction. The levels of communication applicable to pathologists are reflected more in the Collaborator role of the CanMEDS model.

> As Collaborators, physicians effectively work within a healthcare team to
> achieve optimal patient care.

Operationalising communication in terms of direct doctor-patient relationships could actually be alienating for pathologists and reinforce negative stereotypes.

Robert Collins, an eminent US pathologist, reflects on a long career in pathology (Collins, 2006): he emphasised the critical role of collaboration with clinicians, fearing that lack of communication may have seriously damaging consequences for the practice of pathology and for patient care.

> The most essential information in many cases—the diagnosis—is often established without actual discussion of the primary diagnostic data with the responsible clinician. This practice is perhaps the most damaging legacy of the 20th century in its implications for patient care, and it represents a serious impediment to the proper practice of pathology in the 21st century. This legacy may be attributed to withering of personal communication in complex medical centres.

Barriers to pathologist-clinician interaction include physical separation from clinical areas, and the fact that much information is transmitted electronically (Collins, 2006). On the other hand, harnessing the power of electronic communication to handle and sort huge amounts of data and transmit results rapidly, if appropriately handled, can do much to enhance patient safety (Hilborne et al., 2009) and collaborative decision-making (Henricks et al., 2003). Issues of urgency, accuracy, confidentiality, patient safety and risk management revolve around effective communications strategies (LiVolsi & Leung, 2006).

Barriers to communication, suggests Collins (2006), can also be overcome by pathologists taking an active role in patient care in multidisciplinary meetings. Most opportunities (68%) for prevention of error in medical testing occur in the pre-analytical phase that involves test ordering, specimen collection and transport; and in the post-analytical phase (19%) where results are communicated to and actioned by clinicians (Hilborne et al., 2009). It is in these phases that the pathologist is most engaged in interaction with the whole

health care team. Embracing the power of multidisciplinary teams, argues Hilborne, is one of the most critical ways in which pathologists can promote patient safety; such interaction would promote mutual understanding of roles, which is more helpful than applying oversimplified stereotypes.

Communication skills, aside from technical competence, are seen by pathology employers as the most important characteristics of pathologists with respect to recruitment: Brimhall (2007) conducted a survey of 216 pathologists and pathology managers to determine the importance of aspects of laboratory management. Communication skills had the highest ranking of all characteristics, with 99% rating them as very important or essential. The College of American Pathologists also conducted a survey of 559 potential pathology employers and found that the most important characteristics for selecting new employees were medical knowledge and communication skills (Kass et al., 2007).

Horowitz (2004; , 2006) has conducted three surveys over ten years in which he asked community hospital pathologists what they want, need or look for in employing pathologists and what skills and knowledge a newly-qualified pathologist should have for community practice. Whilst there was strong emphasis on discipline specific knowledge and skills, Horowitz concluded that:

> The principle attribute that determines the success in the practice of
> pathology, however, is skill in communication and interpersonal relations, and
> this remains the major deficiency of the fledgling pathologist.

Despite clear recognition of the paramount importance of good communication, the extent to which this is realised in training has been questioned: in Brimhall's study (2007), nearly all respondents considered it inadequate within their training. Horowitz (2006) quotes one pathologist in saying that:

There are major deficiencies in both written and spoken communication – among American graduates not international medical graduates. They do not know how to spell or speak and have no style. New pathologists are judged not by the accuracy of their diagnoses (everyone expects their diagnoses to be correct) but by their ability to communicate. The best diagnosis is of no value if it [is] not communicated properly.

To what extent this applies to pathologists in Australia has not been publicly documented. However, Australian pathologists and trainees are often painfully aware of the way in which they are stereotyped as non-communicators, and feel the need to publicly defend themselves. One trainee has written on a medical careers website:

It can be annoying when people assume you've chosen pathology because you don't like patients or people. One of the best parts of the job is the close interaction we have with our laboratory and clinical colleagues. (Smith, R., 2008)

Duflou (2008), a forensic pathologist writing for the same website, was countering the popular notion of the uncommunicative pathologist when he wrote:

Forensic pathology involves extensive communication, both verbal and written, with fellow medical practitioners, family members, death investigators, coroners, the courts and members of the public. Our day is divided between autopsies, histology, and report writing, and to a lesser extent court appearances, death scene examinations, family conferences, research and teaching. As opposed to many branches of clinical medicine where many patients are seen for a few minutes each, the investigation of a case in forensic pathology usually takes many hours, and on occasion days at a time, allowing a thorough and in-depth investigation of the death.

Canadian pathologist Nadia Mikhael visited Australia and specifically the RCPA, in 2005, to discuss the CanMEDS model; and she was interviewed by the RCPA's *Pathway* magazine (Harman, 2005). She emphasised how important it is to teach pathologists about communication and professionalism because of their importance to practice:

> To be a good pathologist, I have to communicate well, both in writing and orally, to my surgeons, to my technologist, and to my pathology trainees and those of other specialties…..If you don't do it well, it doesn't matter whether you are able to diagnose benign and malignant….. If you criticise the surgeons or you don't work in partnership with other disciplines, you're unprofessional! They won't trust you and won't respect you.

Whilst pathologists may appreciate the importance of good communication, unfortunately it appears that major rifts in understanding are all too common. Powsner and Costa et al. (2000), in a paper entitled *Clinicians are from Mars and pathologists are from Venus*, expresses concern that pathologists have paid little attention to how clinicians comprehend pathology reports. Powsner states that:

> Medical specialists may use language that is obscure to practitioners outside their specialty. Among the specialists, the language of diagnostic anatomical pathology is arguably the furthest from daily medical discourse.

In this study of surgeons' comprehension of pathology reports, the authors found that reports were misinterpreted 30% of the time: the misunderstandings were not always minor, so this could have serious implications for patient care.

Heffner (2008) provides a narrative relating to this miscommunication, extending the metaphor to describe pathologists as from Mercury and clinicians as from Uranus, where the difference is extreme, and there is sometimes a 'gulf in understanding that is flabbergastingly wide'. What is perfectly clear to the pathologist may be quite opaque to the clinician. Heffner cites the additive effect noted by Murphy (2007), that pathologists are being increasingly seen as high-level laboratory technologists rather than as consulting members of the medical team, 'paid more for information than for judgment'.

Labelling pathology as a game for non-communicators on the basis of limited patient interaction is not helpful for pathologists, clinicians or patients. In fact, it is essential to

understand the different nature and meanings of communication for pathologists so that they can be operationalised in a contextually relevant and clinically meaningful way.

2.2.3.3 *Pathologists as managers*

Pathologists are typically engaged in a significant amount of day to day administration and quality assurance activities in the laboratory (The Ryder Self Group, 2007).

There are many published curricula detailing the management skills required of pathologists (Alexander, 2007; Crain et al., 2005; Genzen & Krasowski, 2007; Haller, 2007; Perkins, 2007; Wells & Smith, 2007): the emphasis is mainly on technical aspects of management specific to pathology. These include quality, safety, risk, information, resource, financial, business and staff management as well as knowledge of government regulations and statutory requirements for laboratory supervision and accreditation.

Effective quality management in the laboratory is critical to patient safety (Hilborne et al., 2009). Even errors that appear trivial may result in delayed communication of patient results or lead to misdiagnosis or critical medication errors; and in some cases the results can be catastrophic.

Despite the recognition that pathologists are significantly engaged in management, there is evidence that, at least in North America, training in this area needs improvement. A survey of 75 community hospital pathologists indicated that 96% of them hiring new trainees considered skills in management and informatics essential or useful (Horowitz, R. E., 2004). However, of Program Directors 64.5% felt that management training should be expanded. Horowitz stresses the need for training to address general management principles like leadership; interfacing with individuals, groups and services at many levels; laboratory operations and financial management; quality assurance and accreditation; government regulations; laboratory safety; informatics; and risk management.

Pathology *is* a business, and, particularly in the private sector, it is one of the more profit-driven of the medical specialties. Swick (1998) warns that there is a fundamental clash between business and medicine. The development of business models of pathology in the US has been described as posing major financial challenges for the pathologist (Murphy, 2003). Many pathologists are employed by commercial organisations and may find themselves divided between loyalty to the company and responsibilities to the patient. Pathologists must pay particular attention to exercising leadership in the business of pathology.

It is significant to note that the meaning of management to a pathologist is quite different to the meaning of management to a clinician: e.g., the RACP *Professional Qualities Curriculum* (2007) defines management primarily in terms of self-management and leadership; and the CanMEDS definition emphasises the more human interactive aspects of leadership and teamwork as well as managing one's personal life.

Whilst the technical aspects of laboratory management are highly relevant for pathologists and critical to patient safety, Horowitz's conception (2004) goes well beyond the technical domain: it includes interfaces at personal and broader health care levels and is situated within the general framework of patient safety. This context may not always be appreciated by pathologists.

2.2.3.4 *Pathologists, professionalism and ethics*

The Royal College of Pathologists (UK) endorses the Royal College of Physicians' definition of medical professionalism:

> Medical professionalism signifies a set of values, behaviours and relationships that underpins the trust the public has in doctors.

This is consistent with contemporary definitions, described in section 2.2.1, that include values, relationships and responsibility to the community as a basis for self-regulation.

Gorstein (2002), editor of *Human Pathology* journal, emphasises the breadth and integral nature of professionalism in a pathologist's work:

> The basic competencies of professionalism are integral to every pathology report, in feedback to our colleagues and the institutions within which many pathologists work.

Again, this definition refers to the broader health care environment and to the concept that professionalism underpins all areas of practice and behaviour.

The American Boards of Internal Medicine (1994) in defining professionalism for the medical professions, points out that professionalism in pathology is based on the same tenets as medical professionalism in general, but it has additional specific dimensions, e.g. business ethics and handling of human tissues.

Prior to a study in 2008 (Saarni et al.), there had been little attempt to examine the relative importance of ethical issues between the medical specialties. These authors surveyed over 14,000 medical specialists to examine the frequency and reasons for problematic ethical decisions that they faced, and found that pathologists reported the lowest frequency of problems. However, the questions in the survey focused on patient-related scenarios, so it would be expected that specialists having little direct interaction with patients would be less likely to report these problems. Ethical and professional issues are likely to be different rather than less significant compared to clinical specialists.

Noting the lack of studies addressing the specific professional and ethical issues in pathology, Domen (2002) undertook a mail survey, to which 53 members of the Association of Pathology Chairs (USA) responded, to rank the importance of ethical issues in pathology as summarised in Table 3. There were significant concerns that these ethical issues were under-recognised and not adequately taught.

Forensic and anatomical pathologists have specific concerns relating to autopsies and the use of human tissue (Davis, G. & Peterson, 1996) with some controversies (e.g., the Alder Hey affair in the UK) being well-publicised and having damaging consequences for the pathology profession (Burton, JL & Wells, 2001). A comprehensive set of guidelines for a neuropathology curriculum has published (Crain et al., 2005), where specific reference is made to 'the sanctity of the human body in the context of autopsies, the operating room, and the laboratory'.

Table 3. Ethical issues in pathology
Adapted from Domen (2002).
The issues are listed in order of frequency of mention by participants in the study.

Ethical issue	Components
Tissue for research	Informed consent
Professionalism	Conflict of interest Collegial and interpersonal interactions Honesty Reporting/recognising medical errors
Patient data	Confidentiality Privacy
Medico-legal issues	Compliance Billing Coding
Other	Transfusion medicine issues Human experimentation Availability of services Processing on infected tissues Resident exposure to high-risk autopsies Re-establishing the autopsy as a medical standard

Developments in molecular genetics have opened up a whole new arena of ethical questions relating to research (Sobel, 1999) and genetic predisposition testing of patients (Ross, 1998). Recent years have seen dramatic advances in genetic knowledge and an explosion in the amount of testing carried out (Suthers, 2008). The tests may be used for a wide range of clinical purposes such as medical screening, diagnosis and risk assessment. Sobel notes that there is a risk that genetic information and its implications will be misunderstood by health professionals, patients and families, and others in the community who have access to the information. There is a risk of aggressive marketing and misuse of genetic testing and information. Technological change in pathology is occurring particularly rapidly in pathology and such change brings new challenges. A model of professionalism for pathology must provide for this dynamic context.

There are some additional risk management concerns for pathologists compared with those of their clinical colleagues — open disclosure is one of the most testing aspects of professionalism for doctors. Allen (2008) notes that the principle of open disclosure with

patients and families applies differently to pathologists since they seldom interact directly with these groups. If one accepts the principle that patients are least likely to sue doctors who they like and respect, then the pathologist is at a disadvantage, since they rarely have the opportunity to get to know the patient (Davis, G. & Peterson, 1996).

The litigation risk for pathologists in Australia is currently very low, but the possibility for error is high (Phillips Fox Lawyers, 2006): lack of transparency may mean risk for patients. The likelihood of litigation may increase with greater public awareness and expectations of accountability; and pathologists must be very mindful about being open with their clinical colleagues regarding error (Baron, 2007). Specific approaches to teaching risk management in pathology are required, taking into account a highly complex variety of professional and managerial relationships and the potential for both individual and shared responsibility for error.

Jenkins and Philips et al. (2002) refer to the fact that mistakes by pathologists are frequent and can have important and possibly fatal consequences for patients. The extent to which this fact actually translates into awareness and defensive practice on the part of pathologists has not been evaluated. The issue of accountability for mistakes and their consequences has been graphically illustrated by medical artist Jose Perez (Figure 12). The artist appreciates that the pathologist is as much concerned with the living patient and is as accountable for his or her professional conduct and potential medical errors as any other as any other medical practitioner. The dead can testify against the pathologist's errors as well as the clinician's with the living patient.

Figure 12. 'The Pathologist' by J.S. Perez

Oil on Canvas, 24" x 30", 61.5cm x 77cm

http://www.nlm.nih.gov/exhibition/perez/pathologist.html, accessed 12 Dec 2007

Physician and art collector Spence (1998) provides the following commentary:

   The pathologist usually has the last word in medicine, because he does the autopsy. He tells everyone else what the correct diagnosis should have been and why the treatments didn't work. He can also be the ace in the hole for a malpractice defense attorney, and the secret weapon of the plaintiff's attorney. In this painting, the tables seem to have been turned on the pathologist. Death has come back to tell the pathologist what was done incorrectly. As Death straddles the Jungian snake amid a horde of rats on the morgue floor -- symbolic of the carriers of the disease that caused the plagues of earlier times -- he points an accusatory finger at the doctor and his assistants.

   The assistants may know about many more mistakes, judging from their fear of the defiant skeleton. Even the witch doctor looks a little frazzled as he tries to use his magic to shift the blame to someone else. Notice the autopsy knife, which the pathologist has dropped on the floor in fright. What fresh mistakes have been made on the body on the morgue table? Is the pathologist trying to bring this fellow back to life with all those strange contraptions? Is this what Death is chiding him about?

2.2.3.5 *Pathologists in the wider community*

The RCPA in its position statement on the role of the pathologist describes the Health Advocate role as identifying the important determinants of health which affect patients, and contributing to the improvement of the health of patients and the community.

A recent address (Landgren, 2008) to trainees regarding the professional practice of pathology and the pathologist as Health Advocate saw Landgren focus on the patient's need for access to appropriate, timely, affordable, quality diagnostic testing, preventative programs and new technology. The pathologist must ensure that the clinician receives the right advice to support patient investigation and management. Landgren also emphasised the importance of education, research and regulation of standards of pathology practice as part of the pathologist's responsibility to the community.

The concept of health advocacy is poorly understood by health professionals generally. Canadian research on the CanMEDS Health Advocate role has revealed poor understanding of the definition of the role and a blurred distinction between it and the role of Professional: the importance of the role was not questioned, but there was a need for clarity. Health advocacy comprises many elements: these cross-map to the various CanMEDS roles in a broad manner (2005).

Pathologists have been found to have particular difficulty in appreciating the importance of the Health Advocate role and are significantly less confident about performing it when compared with other medical specialists (Ringsted et al., 2006).

At the most fundamental level, advocacy applies to the individual patient, and the role becomes more complex when dealing with the community and ultimately that of our wider society (Flynn & Verma, 2008). In a political environment where the pathology profession is so much under threat because of its poor public image, some pathologists at least must be

able to operate at the higher levels of advocacy. This may involve negotiating with politicians or having a media presence that is more indicative of reality than are the mythical portrayals on the television.

However, all pathologists should have the capacity to be advocates for patients and the profession at the local and daily practice level. The persistence of negative stereotypes and failure to raise the profile of the professional suggests stronger effort be made.

The need to participate in the wider community of medicine has been compellingly expressed thus:

> The ability to interact well and on a professional basis with our clinical colleagues is essential. Pathologists must become highly visible in their practice setting. The reclusive basement dweller hiding behind the paraffin curtain is a dead duck! (Horowitz, R., 1998):

2.2.3.6 *Pathologists as learners and teachers*

Postgraduate medical learning occurs in complex workplace settings and has been traditionally conceived of as an apprenticeship in which the new trainee progresses from relative novice to relative expert under the watchful direction of the master (Wells & Smith, 2007). In anatomical pathology, and to a lesser extent haematology, trainees sit beside and learn directly from their 'master(s)' at a double-head microscope; and group learning often takes place around a multi-head microscope (Figure 13). Though this may appear to be a non-interactive setting for those accustomed to clinical teaching in problem-based learning groups and at the bedside, there is actually much potential in this setting for interactive discussion focused on authentic clinical cases (Sandmeier et al., 2009).

A strong informal curriculum, i.e., the unscripted and unplanned interactions between teachers and learners, can develop around the multi-head microscope; but however valuable this form of learning may be, it does not lend itself to interaction with clinicians. A variety of

learning experiences is therefore necessary to encourage interactions at a broader level. Unfortunately, external interactions (personal communication) are often lacking, and I have found in my own surveys of RCPA trainees that learning around the microscope is valued vastly more than external clinical meetings.

Figure 13. Pathology trainees at the multi-head microscope

Many published pathology curricula (Alexander, 2007; Crain et al., 2005; Gurbuxani & Miller, 2007; Perkins, 2007) emphasise practice-based learning and improvement, the need to acquire skills and habits of remaining up-to-date, and to incorporate this knowledge into practice.

Recent rapid developments in technological aspects of pathology mean that pathologists must have excellent skills in learning and critically evaluating the literature in order to keep abreast of change. Murphy (2007) points out that though light microscopy is still the mainstay of diagnosis in anatomical pathology, technological advances in genomics, proteomics and metabolomics make it increasingly important that pathologists are able to accurately assess the relevant literature:

> Relatively uninformed acceptance of poorly understood techniques alters the
> role of the pathologist from an expert who can make independent judgements
> to an information specialist who must rely on the judgements of

others…(There is) too much literature and much is controversial – not even specialists can keep up…Pathologists must be aware of the pitfalls associated with statistics if they are to learn from the literature: but like new technology, it is the rare practitioner or reviewer who is fully conversant with the subject.

As in most medical specialties, reflective learning practice is unfamiliar to many (Sandars, 2009). Some attitudes can be inferred from the RCPA experience with its Continuing Professional Development Program (CPDP) (Clarke, 2000): members were offered a learning diary approach modelled on the Canadian Maintenance of Competence Program (MOCOMP), embodying the principles of self-directed learning, reflection on practice, individual learning needs and interests and learning outcomes relevant to everyday professional practice.

Users found it cumbersome, and despite subsequent simplification to a well-described means of recording reflection, it did not produce favourable responses. The diary was abandoned, and now a simple paper-based recording of hours spent on activities is used. In my experience, a common complaint of pathologists is that they lack time and encouragement to spend on CPD activities, let alone on reflection.

Pathologists spend an average of about five hours per week teaching (The Ryder Self Group, 2007), though some do much more. Whilst they value teaching and research, Jenkins and Philips et al. (2002) found that for most pathologists these roles are seen as much less important than their clinical diagnostic functions.

2.3   Socio-cultural theories underpinning concepts of professional identity

Thus far, I have concentrated on the first aim of my thesis by describing how pathologists are seen by others and by themselves in the context of traditional and contemporary conceptions of professionalism. I have described how some of the domains of professionalism have particular meanings for pathologists and how these may differ from those of other specialty

groups. All this provides the context for exploring my second aim — to develop a comprehension of the social and environmental factors that influence the development of pathologists' professional identities, and how they do or do not embrace professionalism as part of their identity.

The formation of identity at many levels has been the subject of substantial research, and a number of theories has emerged. This section describes some of those theories and postulates how they may apply to pathologists and trainees, with respect particularly to professional identity.

2.3.1   Identity theories and stereotyping

Social theorists have derived theories of identity to explain the attitudes and behaviour of members of negatively stereotyped groups and to study how individuals develop and act out role identities in various cultural settings, which are highly influential in determining attitudes, behaviour and professional identity (Hafferty, 2006b).

Identity theory maintains that that:

> Identities are the meanings that individuals hold for themselves – what it
> means to be who they are. These identities have bases in being members of
> groups (social identity), having certain roles (role identities) or being the
> unique biological entities that they are (personal identities). (Burke, 2003).

In my journey as a researcher, my understanding of the formation of identities has evolved in parallel with reflection on my own set of established and developing identities. Many factors have influenced the formation of the identities that have been most salient to me at any particular point. I have a social identity as a pathologist that has a major influence on the way I interact and identify with my pathologist participants; I have an emerging social identity as a medical educationalist and am constantly challenged as I manoeuvre through the sometimes conflicting values of the two groups. I have role identities that have evolved, co-

existed and entangled themselves throughout this project, being a researcher, a service provider to the RCPA in various capacities, and a developing leader in pathology education. I also have a set of personal identities and values relating to my personal, work and research lives. All of these, together with the environments in which I live and work, impact on my goals, motivations and behaviour in complex and dynamic ways. Recognition of and reflection upon these identities throughout the research process is very much part of the hermeneutic process and provides the opportunity to explore phenomena through different personal and theoretical lenses.

The possible relevance to my research question of social identity theory evolved as I reflected upon the negative stereotypes described in the literature review and upon personal observations and experiences as a pathologist over a long period of practice and my political and administrative involvement with the College. In accordance with the previously cited RCPA survey (section 2.1.1), I have found that many people assume, when I introduce myself as a pathologist, that I am a scientist or a blood collector. If I say that I am a doctor, people find it hard to understand that I don't see patients. In teaching medical students, I have encountered many negative perceptions about my specialty. I am acutely aware of the political struggles of the RCPA in achieving adequate government recognition and funding for pathology testing and education. Like Duflou (2008) and Smith (2008) I am very much aware of the stereotypes about pathologists that abound in the community and amongst health professionals.

Social identity is commonly defined as 'a person's sense of self derived from perceived membership in social groups'(Chen & Li, 2009).

Social identity theory has been influentially applied in a broad range of contexts to explain many events of political history, discrimination and prejudice on the basis of race,

religion and gender, and interactions between groups in many different settings including work environments and education.

Henri Tajfel, a British social psychologist, co-developed social identity theory with his student John Turner. Tajfel conceived his theory following his survival of the Holocaust as an attempt to explain prejudice and nationalism. He is best known for minimal group experiments where subjects are assigned to groups which are based on trivial and meaningless criteria. Group members were found to identify with and favour their own groups, called 'ingroups', at the expense of other groups or 'outgroups' (Tajfel et al., 1971). Tajfel further developed the theory with Turner (1986), proposing that people tend to categorise themselves into one or more ingroups, deriving their identity from the group and forming boundaries with other groups. This group identification promotes self-esteem within the group and leads to greater commitment to the group, even if the group's status is low.

There are three major components of social identity theory:

- Categorisation: putting others or ourselves into categories, e.g., labelling a person as 'a pathologist' as a way of defining the person. Categorisation also defines meanings and expectations associated with that category: someone who categorises her/himself as 'a pathologist' is emphasising similarities with other pathologists, and there are expected standards and behaviours applicable to the category (Turner et al., 1987).

- Identification: the way in which we define our self-image through association with a group — ingroups being the ones with which we identify and outgroups those with which we do not.

- Comparison: we compare our own groups to others and create favourable biases towards our own. For example, pathologists may believe that they are more

skilled and knowledgeable than other doctors, and physicians may believe that they are more altruistic than pathologists.

When the identity is associated with positive attributes, group members will perform better than if the identity is associated with negative attributes, as shown in an experiment involving a group of Asian girls who were given a maths test: they were asked to complete questionnaires before attempting the test, and those who completed questionnaires that emphasised their Asian identity performed better than those whose questionnaires emphasised their female identity (Shih et al., 1999). Beliefs that Asians are good at maths and girls are not are powerful stereotypes: though the two identities may coexist, one or other may be salient and will most influence performance.

Pathologists are positively stereotyped with respect to intellectual cleverness but negatively stereotyped with respect to communication skills. Thus it may be predicted that pathology trainees are likely to expend considerable effort when asked to execute a task requiring intellectual cleverness, such as passing an examination, and will derive considerable self-esteem from success. However they may be less motivated when the task calls for skills where the group norms are in accordance with negative professional stereotypes like those of non-technical domains including communication.

One way in which members of low social status groups can achieve a more positive identity is by making downward comparisons with other groups, emphasising only those dimensions that make the ingroup look good and downplaying any factors making it look bad. This consequence of social comparison is what Stets and Burke (2000) call the application of the 'selective accentuation effect', whereby self-esteem is enhanced by emphasising attributes through which the ingroup is judged positively. Thus it can be predicted that pathologists may emphasise their intellectual and diagnostic skills — at which

they are very good and for which they are admired by others — but downplay the humanistic aspects of professionalism in accordance with negative stereotypic characteristics.

Categorisations, comparisons and stereotyping are common in medical professional settings; medical students maintain very strong stereotypes regarding members of different specialty groups (Harris, C., 1981): in fact, the stereotypes embodied in the joke in section 2.1.3 ring true in the minds of medical students! For example, surgeons are strongly characterised as domineering, arrogant and aggressive but disinterested in people and intellectual problems, i.e. 'the surgeon knows nothing and does everything'. Psychiatrists are regarded as confused, indecisive and emotionally unstable, i.e. 'the psychiatrist knows nothing and does nothing'. Physicians in Harris' study were less distinctly stereotyped than the joke implied; he concluded that general practitioners were in fact not as portrayed in that joke, for they are positively stereotyped as being friendly and deeply interested in people. I can only conclude that pathologists are so obscure that Harris did not even ask the students about them.

Harris found that the stereotypes were stable over time, suggesting that either they 'were impervious to reality or reflected it'. Social psychologists recognise these two possibilities with respect to stereotyping (Hilton & Hippel, 1996). In the first case, the stereotypes are mental representations of real differences between groups — that is, they accurately reflect reality, though they may be formulaic and oversimplified — whereas in other cases, they may be fixed erroneous perceptions. In the former case, the stereotype is a convenient classification that may simply cause perceivers to gloss over or fail to notice individual differences within the group. The latter type of stereotyping is potentially much more damaging and can lead to serious prejudice and discrimination. My review of the literature and my personal experience suggests that there is at least some truth in the

stereotypes surrounding pathologists: though perceptions may be distorted and over-simplified, they are not altogether erroneous.

There is further evidence that stereotyping amongst medical specialty groups represents exaggerations of reality (Woolfe, 1987). For example, surgeons place less importance on interpersonal relationships than do psychiatrists as a reason for choosing their career, but psychiatrists have exaggerated perceptions of the lack of importance of personal relationships to surgeons compared with surgeons' perceptions of themselves. Similarly, for psychiatrists, lifestyle factors were more important than for surgeons, but surgeons stereotyped psychiatrists by exaggerating the importance of this factor.

Stereotypes can be exaggerated as a result of misunderstanding of roles. A study of medical and dental students in a partly shared curriculum parallels in many ways the experience of pathologists working alongside clinical colleagues (Ajjawi et al., 2009). Ajjawi draws upon social identity theory to explain how the dental students were stereotyped and classed as an outgroup by medical students and staff on the basis of a lack understanding about the role of dentists in providing patient care. The dental students' self esteem was adversely affected by the notion that they were 'not as good' as the medical students and were less well thought of by the public and the wider health care community. Such perceptions were linked to a negative social identity in much the same way that pathologists have a negative identity based on a perceived lack of involvement in patient care. One possible corollary: it may be perceived that whilst medical students are guided by altruism and other lofty ideals of professionalism, dental students are guided by economic motives. This is analogous to the situation wherein pathologists are seen to be separated from patient care; for as proceduralists, they may be seen to be more driven by economic factors.

Negative identity was reinforced in the case of the dental students because some of their teaching occurred away from the main hospital. Geographic separation is also a factor for pathologists who are located in the laboratory away from the centre of clinical action. Educational factors such as curriculum overload further exacerbated the situation for the dental students. Similarly, pathology trainees have an extremely crowded and technically demanding curriculum.

Stereotyping has potential consequences. Stereotypic roles are played out in medical organisations and can impact adversely on communications and understandings of professional roles (Preston et al., 1996). Gutmann, a pathologist, and Salzman, a physician (1999) warn of potentially adverse consequences for doctor-doctor relationships in their commentary on the aforementioned joke about differences between specialists: they suggest that such stereotypes may impair developing relationships between students and their teachers, compromise collegial attitudes and team-working and deter students from pursuing a particular career. They present anecdotal evidence that negative stereotypes are commonly expressed by faculty and residents and that this has a great impact on students' attitudes to those specialties.

For those who are targets of negative stereotyping there is a number of possible implications. Identification with a negative ingroup trait can be used in the short term as a buffer to protect self-esteem (Burkley & Blanton, 2007). Women might excuse failure in a maths test by endorsing the negative stereotype that women are not good at maths. In this case, the authors regard this protective mechanism as advantageous, however such excuse-making behaviour would be highly inappropriate if used to justify unprofessional behaviour on the basis that it was in accordance with a negative stereotype. A negative stereotype may also be endorsed by individuals over the long term and manifested across a variety of

situations. Burkley describes this as chronic internalisation which can result in decreased self-esteem and motivation.

Another potentially damaging possibility is that of self-handicapping, where a person may create an excuse in anticipation of unsuccessful performance.

In summary, my review of the literature has shown that pathologists are a marginalised outgroup of the medical profession, stereotyped positively in terms of their knowledge and technical expertise but negatively in terms of remoteness from patient care. This medical stereotype is one side of the social identity of the pathologist, relating primarily to how s/he is perceived by others. This raises some questions regarding the implications for how pathologists see themselves as professionals, and how they define the goals and values fundamental to their self-constructed professional identity.

2.3.2 Socialisation and professional identity formation

Professionalism has been framed in terms of identity (section 2.2.1) and involves not just *acting* professionally, but *being* a professional. Behaviour alone does not define professionalism, as one can act that way without being possessed of internalised core values that are part of one's professional identity.

2.3.2.1 *The meanings of professional identity*

Professional identity has been variously defined in the medical literature as pertaining to:

- One's own construction of self and one's self-perceived construction by others (Lingard et al., 2002);

- The commonality of a profession and how the individual utilises this commonality in practice (Öhlén, 1998);

- An individual's value orientations and commitment to professional goals that include the cognitive knowledge and skills domains, but also practices that are authentically caring (Hafferty, 2006b);

- 'A set of beliefs and values regarding what it means to be a good physician' (Coulehan, 2005);

- Commitment to a specialty choice (Niemi, 1997); and

- The identity of a profession or specialty as a group (Miller, 1998).

From these ideas I have constructed my own working definition of a pathologist's professional identity for the purpose of this analysis. It is a pathologist's (or trainee's) self-construction comprising value orientations and commitment to goals, reflecting both group norms and the individual's beliefs about what it means to be a good pathologist.

The meanings of professional identity have been explored in the context of nursing using a narrative approach and hermeneutic strategies (Fagermoen, 1997), which focused on how the perception of roles shapes professional identity in nursing. Analysis of interviews confirmed that identity involved not just *acting as* but actually *being* a nurse, and that it forms a basic frame of reference influencing goals and values that guide thinking, actions and interactions. Internalisation of values, norms and ethical standards are fundamental to the socialisation process. Two themes emerged as the foundations upon which professional identity is built: moral values (other-oriented) and work values (self-oriented). Self-oriented values may be intrinsic, such as intellectual stimulation and achievement, or extrinsic such as collegiality, leadership and reward structure. The most prominent other-oriented moral values for nurses were humanistic values like human dignity and altruism, consistent with their working in close and continuous relationships with patients.

Coulehan (2005) distinguishes three types of professional identity:

1. **Technical** identity is where the doctor abandons traditional values, becoming cynical about duty and integrity and narrowing the sphere of responsibility to the technical arena;

2. **Non-reflective** identity means that the doctor espouses and consciously adheres to traditional medical values whilst subconsciously basing behaviour — or some of it — on opposing values, thus being self-deluded and detached;

- **Compassionate and responsive** identity allows the doctor to overcome conflicts between tacit and explicit socialisation, internalise the virtues and values professed and manifest these in behaviour.

Coulehan claims that a large percentage of medical graduates can be classed as having a non-reflective professional identity, maintaining that this outcome is most likely where there are conflicting values in the learning environment. Doctors may internalise beliefs that certain unvirtuous behaviours are virtuous, since that is 'the way things are in medicine' — i.e., it is the cultural norm.

This model is helpful in that it alerts us to the prevalence on non-reflective identity and the influence of conflicting values upon the extent to which professionalism is embraced as part of identity. However, Coulehan seems to downplay the importance of technical competence, and uses the word 'technical' in a negative sense to imply abandonment of traditional values and lack of humanism. This implies a dichotomy between technical and humanistic qualities rather than portraying both as integral to professionalism. The unhelpful use of the word 'technical' appears to be linked to Coulehan's stereotypic image of technical specialties' being detached and oriented towards a good lifestyle and high income. Cruess (2006), on the other hand, maintains that a cognitive/technical base is fundamental to, though insufficient for, the teaching of professionalism.

Pathologists are necessarily oriented to cognitive work values like knowledge and technical skill in providing a diagnosis, yet at the same time they see themselves as clinicians (Jenkins, D. et al., 2002). These authors found that whilst it may be a challenge for pathologists to maintain patient orientation when not working closely with patients, pathologists are adamant that they are not merely technicians. Most are comfortable with offering a clinical opinion and believe that understanding clinical data is essential to making a diagnosis. Ninety percent of those in the study disagreed with the proposition that they are members of a scientific elite rather than clinicians, giving rise to an identity quite distinct from that of scientists and in keeping with their professional roles in clinical diagnosis and management.

2.3.2.2 *How professional identity may develop in pathologists*

Several theories exist to explain the formation of personal and professional identity. Most acknowledge the influence of socialisation (Merton et al., 1957) that has been defined as the

> process by which people acquire the values and attitudes, the interests, skills
> and knowledge – in short, the culture – current in the groups of which they
> are, or seek to become, a member.

Value orientations in medical education are believed to be the products of professional learning, i.e., both educational factors and socialisation (Hafferty, 2006b). The social context in which the professional self develops includes organisational identity and community expectations (Leach, 2004).

There is evidence that those who choose pathology as a career have pre-existing stereotypic traits within their personalities and interests: they tend to be intuitive and introverted (Hojat & Zuckerman, 2008; Hojat et al., 2005; Myers & Davis, 1976; Winer, 2000) and more interested in intellectual pursuits than talking to patients (Holland & Bosch, 2006).

Whilst intrinsic factors such as personal interest are powerful determinants of goals and values (Eccles & Wigfield, 2002), a lack of interest in talking to patients need not necessarily translate into a lack of value placed on patient care, even though the stereotype may indicate that such is the case: professional identity and values are determined by more than stereotypes.

Social and political environments and the expectations of patients have been powerful influences in shaping professional identity, as revealed in a phenomenological study in osteopathy (Miller, 1998). For osteopaths, the identity of the profession has been negotiated over time with internal constituencies and the larger society. Conflicts and inconsistencies have created tensions between identity and practice with the subsequent dramatic evolution from an anti-allopathy stance to a model that closely resembles that of allopathic medicine.

There is further historical evidence that stereotyping plays a significant role in professional identity formation. The phenomenon of 'belonging to the corps of nurses' has been described as part of the professional identity of nurses (Öhlén, 1998), and includes internalised norms, values and use of language as characteristics of an ingroup that have been associated with a variety of stereotypes arising from social attitudes and media portrayals. Such portrayals have evolved over time and have included such labels as 'battleaxe', 'angel of mercy', 'wife and mother', 'doctors' handmaiden' and 'sex object' for example. Such stereotypes have profoundly influenced the self-image and self-esteem of nurses.

Nurses in Öhlén's study saw self-image and professional identity as closely intertwined. Whilst Öhlén found that both altruism and work-related values are important, he also found that the key to identity is the sense of *being* as opposed to *working as* a nurse, which involves both technical skills and humanistic qualities acquired through socialisation.

Incongruence between stereotyping and self-image was shown to have negative consequences for professional identity formation.

The effects of identity incongruence have been elegantly demonstrated in the context of interactions between team members in the operating theatre (Lingard et al., 2002). The researchers applied rhetorical theory to show how professional identity is shaped through 'construction of others' in a team by a process of perceiving and categorising, or forming impressions about, others with whom one comes in contact. In engaging with other team members, a person acquires implicit and powerful knowledge of professional roles and relationships, revealed in talk between team members: according to the authors, such language plays a key role in socialisation and identity formation. Language used in the operating room reveals embedded constructions of other professions, including their motivations and values — often harshly dissonant with professionals' constructions of themselves.

Whilst subjects demonstrated very clear understandings with respect to the technical roles within each other's disciplines, there were significant misunderstandings and dissonances with respect to non-technical or professional/relational issues of authority, motivations and values; and team-members employed rhetorical simplification to gain advantage in professional rivalry. It was argued that oversimplified or distorted perception of the other can lead to oversimplified or distorted perception of the self. The extent to which negative discourse applies to identity formation in pathology has not been explored; however, the fact that misunderstandings are most likely to arise in the area of non-technical roles suggest a point of vulnerability for pathologists.

A further example of incongruence between self-image and construction of others has been described in a study of German general practitioners (Natanzon et al., 2010). The GPs

were positively regarded in terms of communication and compassion, but negatively stereotyped by hospital specialists as lacking technical skill. This stereotyping conflicted with the GPs' self-identity, and was believed to impact adversely on the popularity of General Practice as a career choice. Though the stereotyping is the opposite of that for pathologists, the consequences appear similar, suggesting that findings relating to pathology may also apply, in principle, to other specialties .

2.3.2.3 *Professional identity and professionalism*
The fundamental distinction between professional identity and professionalism is that the former is constructed at the level of the individual or the professional group to which that individual belongs.

Professionalism is a construction by the community and medical profession as a whole of the idealised doctor: the ideals are articulated in professional codes, institutional frameworks and formal medical curricula. They may or may not be a reality.

Professional identity is a reality that mightn't correspond to the ideal, for reasons that can be valid, or not. It is based on one's beliefs about what it means to be professional; and the pathologist's beliefs may differ from those of the community or other health professionals.

2.3.3 **Interprofessional relationships**
Since it has been recognised that conceptions of professionalism may be formed at an interprofessional level, it is pertinent to consider theories that could explain and address the relationships between ingroups and outgroups in clinical settings. One socially-grounded approach draws upon the contact hypothesis (Allport, 1979).

This hypothesis underpins much of the literature in the field of interprofessional education: it postulates that social contact between groups can assist in the development of

positive attitudes regarding their interactive roles. Team-members trained in isolation, e.g., can be expected to have narrow or distorted understandings of one another's roles, skills and cultures; this can foster poor trust, unrecognised strengths and weaknesses and failure to notice errors before they cause serious incidents (Kennedy et al., 2009)

Gutmann (1998), the pathologist who found himself and his colleagues marginalised as he studied over 500 newspaper articles, had some ideas about how pathologists could raise their public profile: he suggests a variety of public awareness strategies. However, in my own experience, the RCPA has spent much on public awareness campaigns with limited impact. Perhaps the strategies need to be more fundamental, requiring social and educational interventions.

Some authors who have been concerned about medical stereotypes have offered suggestions regarding drawing together people from different medical or professional groups. For example, Gutmann and Salzman (1999) suggest that pathologists themselves must demonstrate their involvement with patients and an interest in them by participating in clinical rounds and that students should be involved in multidisciplinary meetings, in the hope that demonstrating mutually respectful interactions send a powerful message.

Hospital staff who encountered the negative effects of stereotyping often indicated it may be a helpful to bring members of different groups together for multidisciplinary meetings in order to improve communications and relationships within the hospital environment (Preston et al., 1996). However, it has been shown that simply putting professional groups together to learn side by side may not be enough.

Nor is it simply a matter of improving professions' understanding of one another (Kennedy et al., 2009). As demonstrated amongst medical students in a shared learning

environment with dental students, simply putting them together to learn may actually exacerbate the situation if the type of contact is not constructive (Ajjawi et al., 2009).

Constructive contact allows for interaction and exploration of each others' roles. Conditions that support this have been described in the literature on interprofessional learning (Hean & Dickinson, 2005): these include equal status between groups, a cooperative atmosphere, common goals, institutional support, awareness of similarities and differences and positive expectations of each other.

2.3.4   Socio-cultural theories: implications

It is apparent thus far that a responsive and reflective professional identity is more likely to develop where there is alignment between the understandings and expectations of others, self-identity and personal values, the social identity of the professional group, and the cultural milieu of the working and learning environment.

For the educational researcher, a major challenge is to identify potential sources of conflict, to explain them, and to discover possible strategies to resolve them. The following consideration of pertinent educational theories seeks to explain how and why some conflicts may exist at various levels of curricula, and to postulate possible frameworks to achieve alignment between the goals of training, the motivations and values of trainees, and their learning environments. Since identity implies values and goals it will also determine motivation; thus it has important educational implications for self-regulated learning (Eccles & Wigfield, 2002).

2.4 Professionalism and pedagogy

If a profession is to be self-regulated, there is expectation that the individuals who practise within that profession will have the capacity to regulate their own performance and learning.

The third aim of my thesis is to illuminate the educational factors that impact on the development of professional identity and internalisation of professional qualities through self-regulated learning. This I do by exploring trainee/supervisor use of a formative assessment tool designed to address the standards of professionalism set out in the training curriculum.

Postgraduate medical training has traditionally followed the apprenticeship model which is

> underpinned by dual assumptions of learning by doing and master as role model (Guile & Young, 1999).

This model stresses *immersion* — i.e., learning by experience through exposure over a certain period of time, generally culminating in a formal examination.

More recently, postgraduate programs have been adopting competency frameworks and structured curricula, with regular appraisals and work-based assessment. There has been great emphasis on socio-cognitive strategies and the production of autonomous self-regulated learners who can manage their own learning throughout their careers.

However, these competency-based models have been criticised because they focus on discrete behaviours and emphasise individual competence, possibly at the expense of team competence; they may not take sufficient account of the cultural dimensions to which learning in the workplace is intricately bound (Bleakley, 2006; Swanwick, 2005). The apprenticeship model has been revisited and built upon to develop socio-cultural models exemplified by situated learning (Lave & Wenger, 1991).

No single theory is without limitations, and it is likely that in any program elements from a number of theories can be adapted to best fit the purpose (Bleakley, 2006). This review briefly outlines and critiques examples from two theoretical perspectives: self-regulated learning as a socio-cognitive approach, and situated learning as a socio-cultural approach.

2.4.1 Self-regulated learning: a socio-cognitive perspective

Socio-cognitive theories unite behavioural theories that emphasise the influences of the environment on actions, and cognitive theories that emphasise the importance of cognition in mediating learning (Kaufman & Mann, 2007). Socio-cognitive approaches are underpinned by the work of Bandura (1986) who describes reciprocal relationships between the learner (personal factors), learning activities (behavioural factors) and the learning environment (environmental factors). Bandura sees humans as having basic capabilities underpinning learning, including the ability to self-regulate according to internal standards and to self-evaluate to guide action. Learners are self-regulated to the extent that they are 'metacognitively, motivationally and behaviourally active participants in their own learning process' — that is, they can use personal processes to strategically regulate behaviour and the immediate learning environment (Zimmerman, 1989).

Self-regulated learning is a complex cycle involving intermingling elements like psychological characteristics (self-efficacy, motivation, beliefs, learning style), personal choices (effort expended, learning strategies), judgments, and personal actions (goal setting, adjustment). This cyclical process can be conceptually represented as involving three main elements — forethought, performance and self-reflection, as illustrated in Figure 14 (Zimmerman and Campillo 2003).
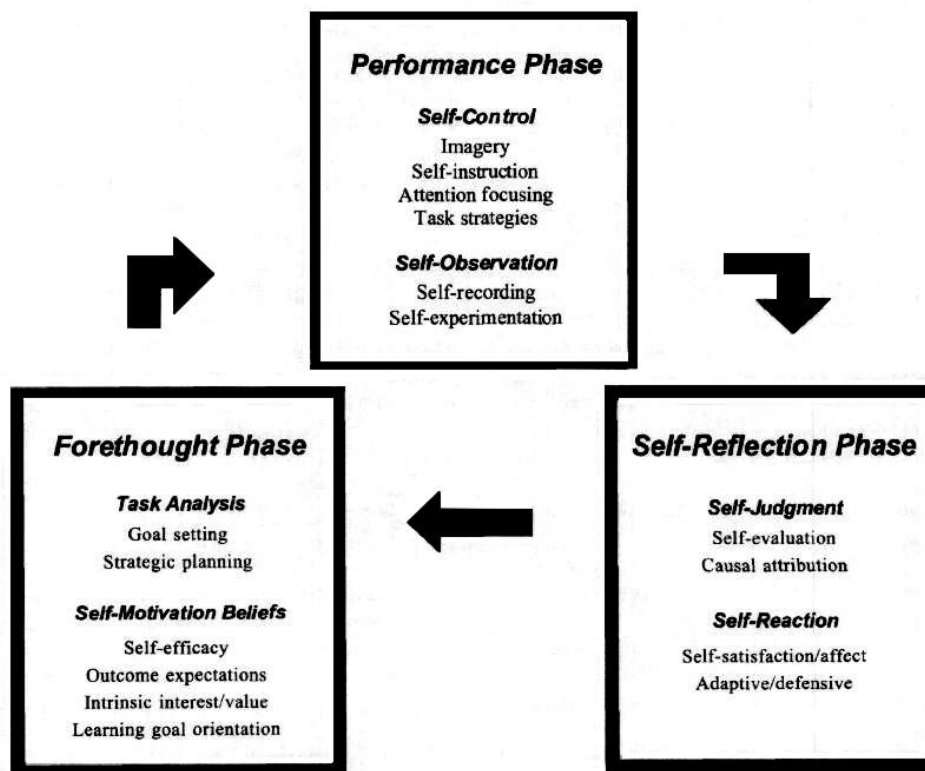
Figure 14. Phases and sub-processes of self-regulated learning

(Zimmerman & Campillo, 2003)

The RCPA *Learning Diary* drew upon a framework that aimed to define professionalism in pathology and to provide a tool for its assessment. The *Learning Diary* and underpinning curriculum could be seen as riding Hafferty's second and third waves, i.e., definition and assessment. In the case of the *Learning Diary*, the assessment comprised self- and formative assessment as derived from socio-cognitive models of self-regulated learning. The original stimulus for the project rode the fourth wave — the standards and requirements articulated at the institutional level of the AMC.

Self-regulated learning is a proactive approach by learners, and involves not just asocial forms of learning such as reading, studying and programmed instruction but also social forms, like modelling, guidance and feedback (Zimmerman 2001, p.1). It has been shown that use of self-regulated learning strategies is strongly associated with superior academic functioning (Zimmerman and Martinez-Pons 1986).

White and Gruppen (2007) have reviewed the application of self-regulated learning in the medical education context, and described a model involving four key phases: planning, learning, assessment and adjustment (see Figure 15). Planning and goal-setting are fundamental to self-regulation; they are important concepts in the framing of my research with respect to the significance of goals and values in pathology training. Assessment in the form of self-monitoring and feedback is highly recommended to ensure that effective skills are acquired. Adjustment includes reflection: the subject of reflection is not dealt with in detail in this review, but I cover some key points applicable to my research aims.
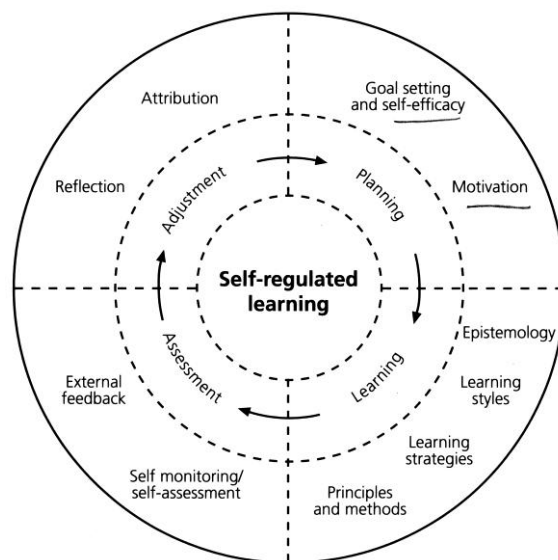
Figure 15. A model of self-regulated learning in medical education

Reproduced from *Self-Regulated Learning in Medical Education* (White & Gruppen, 2007)

2.4.1.1 *Self-regulation, goals and values*

Goals guide decisions made about learning and provide a standard against which to self-assess. Eccles and Wigfield (2002) have reviewed motivation theories based on 'expectancy-value' models of behaviour: expectancies refer to beliefs about how one will succeed in performing different tasks and activities, and values involve incentives and reasons for doing the task. Bandura's socio-cognitive model (1986) focuses on perceptions of self-efficacy and human agency: self-efficacy is confidence in one's ability to solve a problem or carry out a

task, and agency refers to the ability to 'intentionally make things happen by one's actions' (Bandura, 2001). Bandura proposed that individuals' efficacy expectations are the major determinant of goal-setting, activity choice, willingness to expend effort, and persistence.

Motivation theorists are concerned with how motivation and cognition work together and how individuals regulate their behaviour to meet their learning goals. They argue that even if a person believes s/he can do a task, there might be no compelling reason to do it. Therefore theories have been developed that focus on values or reasons for engagement with a task rather than simply the goals themselves (Eccles & Wigfield, 2002). Whereas self-regulated learning tends to emphasise goals, the expectancy-value models primarily emphasise values. The likelihood of engagement with a task depends largely on whether or not the consequence of an action is sufficiently important for an individual. Eccles and Wigfield have outlined four components of task value:

1. Attainment value – the personal importance of doing the task well. This is linked to the relevance of engaging in a task for the purpose of confirming or unconfirming salient aspects of one's self-schema;

2. Intrinsic value – personal enjoyment or interest;

3. Utility value – how well a goal relates to current and future goals such as career goals; and

4. Cost – the amount of effort needed and lost opportunities that result from making one choice rather than another.

The model appears to emphasise self-oriented values and individual goals. However, the authors do maintain that values are linked to identity constructs and culturally-based stereotypes: choice is not necessarily related to the conscious, rational decision-making processes.

2.4.1.2 *Self-regulation and reflection*

Reflection, in the medical education context, has been defined as:

> a metacognitive process that creates greater understanding of both the self and the situation so that future actions can be informed by this understanding (Sandars, 2009).

Reflection is a key activity of self-regulated learning and, some believe, the *sine qua non* of portfolio-based learning (Rees, C., 2005). Maintaining a text-based reflective journal can support the development of professional identity (Clandinin & Cavel, 2008; Coulehan, 2005); and critical incident reports have also been used in portfolio frameworks to support reflection in postgraduate medical training (Fung et al., 2000; Snadden et al., 1996).

Reflection is also a key component of professionalism and furnishes the capacity to make and account for decisions in the complex world of medical practice (Coulehan, 2005; Verkerk et al., 2007).

Low levels of engagement with reflection in portfolio use have often been a problem: Sandars (2009) suggests some strategies to deal with this:

- There must be alignment between components of the portfolio and the curriculum;

- Reflection must be an integral part of the education process. If it is disconnected or seen as a 'bolt-on' extra, it can lead to a culture or hidden curriculum that devalues reflection;

- Trainees and supervisor must understand the goals, purpose and nature of the reflection that is needed;

- Organisational support, encouragement and facilitation will promote reflection; and

- Beginning with simple tasks may help those who are unfamiliar with reflection.

2.4.1.3 *Problems with socio-cognitive approaches*

The main criticisms against socio-cognitive models of learning in medical education are related to difficulties with self-assessment; overemphasis on the cognitive domains of learning which do not adequately address the complexity of professionalism; and the fact that emphasising autonomy takes insufficient account of the social context of learning.

Doctors' accuracy with self-assessment has been shown to be poor (Davis, D. et al., 2006) and context-dependent (Epstein et al., 2008), 'thus reducing the validity of the rhetoric around nurturing learners to be self-directed' (Eva, 2003). Even poorly performing doctors can be self-directed (Bleakley, 2006), and those who perform most poorly and cannot recognise their shortcomings are those for whom self-regulation could have undesirable consequences.

Socio-cognitive models have been criticised because it is self-concept that is the object of remodelling (Bandura, 1986) — the mind is assumed to be functioning independently of the social context (Swanwick, 2005). Swanwick states that a competency-based approach to postgraduate medical education, whilst useful for construction formal curricula,

> will do little to enhance progression of the individual from newcomer to old-
> timer, or the cultural assimilation of the learner into a profession.

Furthermore, professionalism is much more than individual behaviour that results from learning the rules. Using cognitive strategies alone — i.e., relying on teaching bioethical principles and rules — has failed in the face of the pressures of commercialism and the social environment (Hafferty, 2006a).

The RCPA *Learning Diary* was based on a socio-cognitive model, and placed strong emphasis on the trainee's being able to diagnose learning needs and be self-directed in seeking learning opportunities and monitoring learning. Requiring of investigation is the

adequacy of this model as a standalone strategy to foster self-regulation in the higher domains of professional conduct and citizenship: one might ask if Harold Shipman could faithfully maintain a portfolio of self-regulated learning activities whilst killing vulnerable patients (Jackson & Smith, 2004). Even in far less extreme circumstances, isolated self-regulation could be unhealthy and lead to inappropriate problem-solving. An effective collaborative approach to regulation, on the other hand, would not condone such outcomes.

Swanwick (2005) maintains that we need to put greater emphasis on developing the medical apprentice in the community of social practice, where there are strong goals, individual engagement with a variety of learning practices, recognition of the trainee as a learner and 'immersion in professional discourse and behaviours and provision of opportunities to transform social practice'. This immersion in communities of practice characterises situated learning.

2.4.2 Situated learning: a socio-cultural perspective

Situated learning theory has been placed amongst a set of theories with a socio-cultural basis (Kaufman & Mann, 2007). It shares with socio-cognitive theory the view that learning occurs through dynamic interactions between the learner and the environment, but places greater emphasis on the learning environment and the many influences included therein. Situated learning theory goes beyond the learner's acquisition of concepts and structures to encompass transformation of identity (Lave & Wenger, 1991): it also extends the traditional apprenticeship model to the extent that the learner is apprenticed not just to an individual master, but to a whole 'community of practice'. In this model, knowledge may be constructed not only individually but jointly, by communities as well as the individuals who are their members (Eraut, 2000).

The community of practice constitutes a complex learning environment where there is dynamic interplay and interdependence between learners, teachers, patients, colleagues, co-

workers and resources. This thesis aims to identify the salient components for pathology training and to describe how they apply and may be optimised.

Lave and Wenger (1991) describe four components of learning, all of which are shared by the community of practice:

1. Meaning – learning as experience,

2. Practice – learning as doing,

3. Community – learning as belonging,

4. Identity – learning as becoming.

Situated learning theory includes the concept of 'legitimate peripheral participation' whereby the learner evolves into full membership of a community of practice. It is legitimate in that the learner has been accepted into this process. Participation implies meaningful and productive engagement in the community, progressively taking on more responsibility and becoming less peripheral. The learner acquires substantial new knowledge in the process, acquires new skills and takes on the language and culture of the community. The learner undergoes transformation, developing new social, professional, role and personal identities (Lave & Wenger, 1991). Everyday language has been shown to be a strong socialising force in the process of transformation from novice to expert in the case of surgeons (Lingard et al., 2002). One may speculate that it poses a similar challenge for pathologists.

Of all educational theories available, situated learning theory is said to be the most effective model to transform students from non-expert to expert members of a profession possessing skills and commitment to a common set of professional values (Cruess, R., 2006).

This model recognises that what is taught explicitly is not necessarily what is learned, and that social culture has a profound influence (Hafferty & Franks, 1994). If professionalism

is framed as identity in addition to bioethical principles of knowledge and behaviour (Hafferty, 2006b; Hafferty & Franks, 1994), as argued in section 2.2.1, then it must be recognised that this identity develops through a process of socialisation.

Three curricula that operate in medical training environments have been defined (Hafferty, 1998; Hafferty & Franks, 1994):

1. The formal curriculum contains official material: i.e., what we believe we are teaching.

2. The informal curriculum consists of unscripted, unplanned, highly interpersonal forms of teaching and learning that take place among and between teachers and students.

3. The hidden curriculum comprises influences at the level of organisational structure and cultural milieu, and can be extremely positive or negative.

The determinants of identity are largely contained in the cultural milieu, or hidden curriculum, that lies behind the formal curriculum. Whilst a formal curriculum to teach the cognitive base of professionalism is essential, establishing an environment where the process of socialisation in its most positive sense can take place is more critical and more difficult (Cruess, R., 2006).

The environment can be enhanced through positive workplace affordances — i.e., how the workplace invites and structures individual participation in work (Billett, 2002). The workplace should offer a wide range of learning experiences sequenced in a way that takes the novice from engaging in peripheral through to increasingly complex tasks. The learner needs opportunities to reflect on these experiences in an appropriately-staged manner (Billett, 1995; Cruess, R., 2006). Learners must also have positive role models who understand the roles they are modelling.

2.4.2.1 *Potential problems with the situated learning model*

Role modelling is actually quite complex, and not as widespread and positive as might be expected. There may be an insufficient number of role models; they may lack expertise/be reluctant to provide advice; or they may model inappropriate knowledge and attitudes (Billett, 1995).

The shortage of supervisors in pathology has been mentioned in section 1.4.3, implying a limited number of available role models for trainee pathologists, and the same may apply in other specialties. However the quality and appropriateness of role modelling in pathology or in other postgraduate training contexts is something that has not been well addressed by researchers to date.

There may be limited access to authentic activities. If learners are denied access to activities which are increasingly challenging, then it is likely that learning outcomes will be constrained (Billett, 1995).

Identity issues may put pressure on trainees to act in accordance with pressures to become part of the community where they are motivated to talk and act as much as possible like their expert practitioners around them. However they may not be ready to take on the responsibilities of experts, and may lack the experience to appreciate the boundaries of safe practice (Kennedy et al., 2009).

Whereas Bandura (2001) emphasises the agency of the learner, a criticism of the situated learning model is that it does not take sufficient account of the learner's autonomy in making meaningful decisions. There is a risk that learners will take a largely passive role with respect to selection of training activities (Kennedy et al., 2009).

Drawing from both self-regulated and situated learning models, Billett (2002) maintains that effective workplace learning is enhanced by individual agency to engage in

both cognitive and social experiences in a reciprocal interaction with the workplace. He describes an entwining of identity (both social and individual) with learning in the workplace and argues that not only is the worker transformed by the culture of the workplace, but learners may themselves bring about transformation of the workplace culture (Billett, 2004), and the ideal framework should facilitate this.

2.4.3   Pedagogical models for professionalism: Implications

No single theory can explain the complexities of teaching and learning in relation to professionalism in medical postgraduate settings. Socio-cognitive theories place strong emphasis on autonomy, individual agency and self-motivation, whilst socio-cultural theories emphasise the powerful socialising influences of stereotyping, the workplace and professional culture. A key area of commonality between the models is an emphasis on self-reflective activity.

As Bleakley (2006) argues, it is not helpful to set autonomy in opposition to culture, or to favour one set of theories over another: rather, it is more helpful to draw upon a range of theories as fit for the purpose.

What is evident from the foregoing review is that postgraduate education is a highly complex system. Personal and professional identity develops in the context of a formal curriculum comprising an explicitly prescribed curriculum and assessment, but probably more importantly is subject to the influence of the hidden curriculum.

The hidden curriculum is a cultural milieu comprising many factors that are inter-dependant and interact in dynamic ways. Identification of these factors and their interactions will inform a model for pathology training that seeks to resolve potential conflicts as far as possible; this means addressing curricula at formal, informal and hidden levels to achieve convergence of values towards those defined by community needs. Understanding of these

dynamic interactions places my multi-level recommendations in the realms of the fifth wave of professionalism (Hafferty & Levinson, 2008), and demands further investigation at the sixth.

2.5 Portfolios as formative assessment tools: empirical studies

The RCPA *Learning Diary* was constructed as a portfolio-type tool to be formatively assessed. Similar tools have been applied commonly in undergraduate medical education and increasingly in a variety of medical postgraduate training settings.

Portfolios may offer the educator the opportunity to apply educational theories of self-regulated learning within the situated learning environment. They have been defined as 'a collection of evidence of student activity (paper-based or electronic) that:

- outlines the student's own learning experience; AND

- requires some intellectual processing on the part of the student; AND

- draws together more than one item, clinical case, task, report, reflective task, etc.; OR

- is a learning journal, a collection of student reflections on their learning (Buckley et al., 2009).

Portfolios and related tools like personal development plans have been used in many contexts and for various purposes in professional education in health: they may be used for continuing professional development; enhanced learning; formative assessment; summative assessment; program evaluation and certification or recertification (Pitts, 2007). The design of the portfolio will depend on its purpose: those designed to enhance learning are generally structured towards facilitating processes associated with self-regulated learning. Processes include self-assessment, goal setting and planning, and recording and reflecting on learning (Jackson, 2003). Portfolios often incorporate mechanisms to support formative feedback.

Both the CanMEDS and ACGME frameworks include toolboxes of methods for both formative and summative assessment of a broad range of competencies including reflective learning, communication and professionalism. Portfolios are considered particularly suited to

fostering learning in these domains, as advocated in a published curriculum for neuropathology (Crain et al., 2005).

The term 'portfolio' has been used in a broad sense to include logbooks, training records and dossiers which merely document that a learning experience has occurred, but Rees (2004) maintains that this is a misuse of the term. She emphasises that it is a collection of evidence at the heart of which is critical self-reflection. Many studies that refer to portfolios in fact do not include this central element (Colbert et al., 2008): even if a portfolio is well-designed to support reflection is does not mean that it will occur. Many learners do not naturally engage in reflection, and guidance is required (White & Gruppen, 2007).

This review examines some case studies involving the use of portfolios and related tools for formative assessment, primarily in the context of postgraduate medical education. In particular, I evaluate the extent to which the portfolios support the processes of self-regulation and reflection, and the factors that promoted or hindered their effectiveness. These studies serve as a comparison for the experiences of my own participants.

2.5.1 Effectiveness

General Practice registrars have found portfolios useful for identifying important areas for learning; planning; organising records of learning activities; monitoring learning; reviewing progress; as a stimulus to feedback; and to encourage reflection with the supervisor (Hurrell, 2004; Kjaer et al., 2006; Snadden & Thomas, 1998; Snadden et al., 1996).

Fung (1997) evaluated an internet-based portfolio in an obstetrics and gynaecology training program in Canada: participants completed a Self-Directed Learning Readiness Scale instrument and a learning habits questionnaire to evaluate their perceptions of their self-directed learning abilities before and after the program. The program significantly enhanced residents' perceptions of their self-directed learning abilities and their interest in learning new

things. They felt that the portfolio, rather than didactic lectures, would sustain learning during residency.

There are mixed views about whether portfolios aid or hinder reflection in the medical postgraduate setting. For a group of Danish General Practice trainees portfolios stimulated reflection, especially with respect to complex or difficult problems (Kjaer et al., 2006). Others have found trainees very unenthusiastic about using portfolios for reflection (Pearson & Heywood, 2004) and resistant to reflective writing (Snadden & Thomas, 1998); this may have been due to individual learning preferences or the structure of the portfolio itself (Tochel et al., 2009).

Portfolios have been found helpful in supporting new trainees or those moving to new environments where they may be less confident (Hurrell, 2004; Snadden & Thomas, 1998).

In some cases, though individual responses were varied or unsustained, the implementation of the portfolio stimulated institutional change towards a more learner-centred culture, with increased feedback to trainees and the provision of learning opportunities and resources where none had previously existed (Parsell, 1997; Snadden & Thomas, 1998).

Table 4 summarises the potential benefits of portfolios and other tools to promote self-regulated learning as compiled from studies in specialist medical training.

Table 4. Potential benefits of portfolios for medical specialist trainees

Compiled from various studies in specialist medical education (Fung et al., 2000;

Hurrell, 2004; Kjaer et al., 2006; Parsell, 1997; Pearson & Heywood, 2004; Snadden &

Thomas, 1998; Snadden et al., 1996; Tochel et al., 2009).

Potential benefit	Details
Enhanced learning	Increased personal responsibility for learning
	Increased opportunities for reflective learning (whether this subsequently promotes reflective learning is uncertain)
	Identifying gaps and 'blind spots' in learning
	Identification of learning goals
	Goal setting and planning
	Focus on learning objectives
	Organising records of learning activities
	Monitoring and reviewing progress
	Planning for future learning needs
	Exploration of areas and development of new skills
Affective	Improved confidence
	Increased motivation for learning
Support	Improving trainee/supervisor dialogue and relationships
	Facilitating feedback and formative assessment
	A bridge for moving from one training environment to another
Organisational	Stimulating cultural change
	Heightened awareness of educational issues
	Provision of more learning opportunities and resources

2.5.2   Trainee factors influencing engagement and effectiveness

Junior specialist trainees are more likely to use portfolios than are seniors (Pearson &

Heywood, 2004; Snadden & Thomas, 1998; Webb et al., 2006): this could be because they

feel less confident, particularly in transitioning between training environments, and

appreciate the structure and support offered by the portfolio. Also, those in their senior years

are more likely to be preoccupied with preparing for examinations: Snadden and Thomas

(1998) found that the looming prospect of the MRCGP exam acted significantly against

portfolio use amongst senior trainees. Pearson and Heywood (2004) noted that final year

registrars, busy with exams and the search for employment, tended to be more rigid in their

educational approach and less influenced by the enthusiasm and encouragement of trainers;

whereas new registrars were more willing to take risks with less familiar ways of learning.

Learning styles and attitudes towards reflection are probably important determinants of portfolio engagement (Hurrell, 2004; Snadden & Thomas, 1998; Tochel et al., 2009). Snadden and Thomas comment that some registrars could not see the point of reflective practice and felt it was 'just their nature'. Some were resistant to the idea of reflective writing and felt that learning needs could be met by ticking them off in a book: for them, more detailed recording was perceived to be a waste of time. For others, the freedom to choose and negotiate and enjoying the written medium were positive factors.

Many doctors find reflective processes unfamiliar, challenging and time-consuming (Challis, 1999). Learners accustomed to more traditional learning methods like seminars and lectures may be unwilling to engage in a process that asks them to explain how these relate to planned approaches to addressing educational needs. Individuals may not have skills to identify or articulate learning needs, or may be uncomfortable with identifying gaps in knowledge or skill.

In a study of independent learning plans for training in a paediatric clinic (Stuart et al., 2005), 22% of residents and 33% of faculty reported difficulty working with learning goals. Participants were unaccustomed to taking active roles in planning learning, and most felt they needed suggested learning goals. Lack of personal motivation, tiredness and passivity have also been cited as obstacles (Kjaer et al., 2006; Snadden & Thomas, 1998; Stuart et al., 2005).

2.5.3   Support from supervisors, mentors and peers

Enthusiastic support and feedback from mentors, supervisors or peers appear critical for achieving engagement (2004; Snadden & Thomas, 1998; Webb et al., 2006). Effective feedback may outweigh scepticism and concerns about competing demands on time (Tochel et al., 2009).

Whilst there is good evidence that mentoring and supervision improve uptake, it is less clear how these factors impact on learning and reflection. One study that addressed this question found that the relationship with the supervisor did not influence recording or reflection (Pearson & Heywood, 2004). A possible reason is that supervisors themselves may lack understanding of the use of the portfolio (Kjaer et al., 2006; Tochel et al., 2009). Kjaer et al. found that whilst involvement of the trainer was beneficial, some trainers were reluctant or 'a bit scared', and needed encouragement from the trainees. It was frustrating for the trainee when the trainer was not familiar with use of portfolio. Preparation, training and engagement of supervisors were generally considered vital.

2.5.4 Flexibility and design for reflection

Good structure is important, but it must be flexible in supporting reflection and description of unique needs and experiences rather than overly prescriptive or merely a means of data collection (Driessen, 2007; Kjaer et al., 2006; Pearson & Heywood, 2004; Stuart et al., 2005). Fostering reflection is the key to professional development, and a portfolio must have a creative element that is learner-driven (Carraccio & Englander, 2004). Narrative writing is particularly advocated for the development of professional identity (Charon, 2001): merely ticking boxes does not fill this need.

Being overly prescriptive can result in perceptions of bureaucratic imposition. There should be clear guidelines and well-defined goals rather than detailed directives (Tochel et al., 2009).

2.5.5 Time and efficiency

Lack of time in the busy clinical environment is often cited as a problem (Kjaer et al., 2006; Snadden & Thomas, 1998; Snadden et al., 1996; Stuart et al., 2005). However, some have found portfolios not generally acceptable despite availability of protected time, so other factors must interplay with time constraints (Pearson & Heywood, 2004), and in some cases,

concerns about time diminished once reflective processes were seen as worthwhile and were embraced (Snadden & Thomas, 1998; Snadden et al., 1996).

Because of time and resource constraints, efficiency is extremely important. Driessen (2009) advises that we must focus more attention on measures to heighten feasibility and reduce required time; so paperwork needs to be minimised. Other ways of achieving efficiency include the sharing of resources across educational and political boundaries (Clay et al., 2007; Fung et al., 2000) and integration with usual work (Webb et al., 2006).

2.5.6 Implementation

There is substantial evidence to support the use of online rather than paper-based portfolios (Tochel et al., 2009): the flexibility of electronic formats is beneficial to users, assessors and organisations, and promotes engagement. It also appears that an online format better promotes reflection and encourages users to spend longer on the portfolio.

Fung et al. (2000) recommend that a user-friendly interface is very important for an online system. Concerns about lack of computer facilities and unfamiliarity with their use were once significant concerns, but this no longer appears to be as important.

However, the way in which the program is introduced to users appears to be critical. Impact on learning can be adversely affected by poor preparation and introduction of the portfolio. Failure to clearly define its purpose or inadequately informed learners and teachers can be very detrimental to a project, resulting in poor commitment from residents and trainers and hence limited engagement (Driessen, 2007; Kjaer et al., 2006; Pearson & Heywood, 2004). It is important to invest time and energy at the outset to ensure that everyone has an overview of the expected learning objectives and is familiarised with the use of the portfolio: practical demonstration or hands-on training with proper briefing on processes and purpose are recommended (Driessen, 2007; Kjaer et al., 2006). It is critical that users appreciate the

importance of the exercise, otherwise they are unlikely to engage with it (Pearson & Heywood, 2004; Webb et al., 2006); and an appreciation of relevance is a key requirement for motivation according to expectancy-value theories (Eccles & Wigfield, 2002).

Best results are achieved when the portfolio is integrated with the curriculum and other activities rather than used in isolation (Driessen, 2007).

Whether the portfolio is voluntary or mandatory is a crucial feature determining uptake. Unless participation is compulsory or embedded as part of organisation's ethos, there may be a major struggle to achieve compliance (Tochel et al., 2009).

2.5.7 Assessment

Whilst self-assessment is a basis for reflection and monitoring learning, it is not reliable in terms of correlation with objective measures (Eva & Regehr, 2005). It is therefore critical that external support be offered. Formative assessment has been shown to be beneficial (Davis, D. et al., 2006), and is not contentious (Kjaer et al., 2006), as it may be kept private between the trainee and supervisor and avoids problems with achieving reliable assessment.

There is also little contention about formally assessing the trainee against the required competencies using other objective tools such as OSCE, Mini-CEX and multi-source feedback. It has been recommended that unstructured components of a portfolio be balanced by such structured components for competency assessment (Carraccio & Englander, 2004).

There is controversy, however, regarding whether or not the portfolios themselves should be formally assessed: reliability of scoring of portfolios for summative assessment is a major concern. A large sample of performance must be tested with uniform content, well prepared students, several well-trained scorers and clearly articulated standards (Roberts, 2006); and other measures would be necessary for triangulation in the case of high-stakes assessment (Melville et al., 2004).

Such conditions for reliability are very difficult to achieve where recruitment of assessors is problematic and there are limited resources for training them. When the prime purpose is to promote learning, it is probably best that the portfolio be used for formative assessment, and that other methods should be used to assess the actual competencies. In my view, measures such as mandating a defined minimum level of participation and making the portfolio attractive to users are better ways to improve compliance without generating resentment.

Driessen (2007) is an advocate of summative assessment of portfolios. He asserts that for the portfolio to be taken seriously by assessment-driven students, it must be part of the institutional assessment procedures. He mentions studies demonstrating that compliance is compromised when there is competition from other summative instruments (Pearson & Heywood, 2004; Snadden & Thomas, 1998) but maintains that it is possible for one portfolio to be used for both formative and summative purposes.

Whilst there is good evidence from the specialist training sector that the distractions of other formal summative assessment will deter trainees from using a portfolio, Driessen's contention that there is no conflict between summative and formative purposes, at least in the specialist training context, is countered by a number of studies: for instance, Snadden and Thomas (1998) found that portfolios were helpful in formative assessment, but this benefit would not have been realised if they were formally assessed. They conclude that reflection is most likely to occur when the portfolio is owned by the registrar and that s/he will be less likely to produce an honest personal account and make notes that reveal shortcomings if s/he believes the portfolio will be seen by an external assessor.

Kjaer and Maargaard et al. (2006) also found that portfolios were a good basis for formative assessment, but 71% of their subjects felt they would be less honest and avoid

showing shortcomings if they were used for summative assessment — the greatest concern of Siriwardena's subjects (1998) was that their learning plans might be used for summative assessment purposes. This is particularly threatening for those trainees who are close to qualification (Pearson & Heywood, 2004; Snadden & Thomas, 1998). They conclude that if the portfolios are to be assessed there should be a separate part kept for formative assessment.

2.5.8 Conclusions about portfolios

Most portfolios studied in the postgraduate medical training environment have been based on socio-cognitive models. They emphasise the self-regulated learning strategies of self-assessment, goal setting and planning, recording evidence of learning, reflection on learning and formative feedback. They have achieved variable engagement with these processes. Many factors at individual, institutional and structural levels influence engagement and effectiveness, as illustrated in Table 5.

In these studies, motivations and values at personal and cultural levels, and the significance of the hidden curriculum have received little attention. It often seems to be assumed that the users will share the values of the institution or the educator. Since these values are so critical to learning, the integration of theories relating to motivation may provide greater insight into engagement with learning processes.

There is a need to take a learner perspective of being in the situated learning environment, experiencing and personally responding to influences and pressures, both positive and negative.

Table 5. Factors influencing the efficacy of portfolios for medical specialist trainees

Compiled from various studies in specialist medical education (Driessen, 2007; Fung et al., 2000; Hurrell, 2004; Kjaer et al., 2006; Parsell, 1997; Pearson & Heywood, 2004; Snadden & Thomas, 1998; Snadden et al., 1996; Stuart et al., 2005; Tochel et al., 2009; Webb et al., 2006).

Key factors	Details
Trainee factors	Stage of training, confidence Preparing for examinations Learning styles Attitudes to reflection Inclination to write narrative Familiarity with processes such as identifying deficiencies and working with learning goals Personal motivation
Support from others	Relationship between trainee and supervisor/mentor /peers Regularity of feedback Enthusiasm of supervisor Supervisor's familiarity with processes
Portfolio design	Flexibility versus prescriptiveness Design to support reflection Clarity of guidelines Electronic format
Implementation	Introduction to users Clearly defined purpose Perceived importance of content and process Hands-on training Provision of protected time Efficiency through minimisation of paperwork, sharing of resources and integration with usual work Embedding in the curriculum Embedding in the ethos of the organisation Mandatory versus voluntary Relationship to assessment

2.6   Summary, conclusions and research questions arising from the literature review

Drawn from a wide variety of popular, grey and academic sources, this review has provided an insight into the world of pathology and pathologists, summarising what is known about the meanings of professionalism in pathology, and how conceptions of pathologists and others can shape the identities of pathologists in training.

It is evident from literature that pathologists are stereotyped positively as scientifically knowledgeable and technically capable. However they are negatively stereotyped as being relatively uncommunicative; largely concerned with the dead; remote from patient care; and offering a commercial commodity rather than a professional service.

Anecdotal and research evidence suggests that stereotyping contributes to socialisation and formation of professional identity. This may be reflected in interdisciplinary and interprofessional relationships and may potentially impact on patient care. It is not clear, though, how this actually interplays with educational processes and the way in which a trainee will come to embrace professionalism as part of professional identity.

Identity theories offer some explanation for the ways in which identities are formed in the context of the social environment and norms, and the influence of intergroup relationships. Self-perceived constructions on the part of the community and other health professionals may lead to negative stereotyping and suboptimal interprofessional relationships, with possible adverse implications for patient care.

Re-evaluation of strategies in pathology training and education is necessary in the light of apparent lack of alignment between contemporary definitions of professionalism and the conceptions of pathologists and others about what constitutes professionalism in pathology. Firstly it is necessary to clarify meanings, in order to construct a relevant formal curriculum and to understand how educational processes may address complex influences on

identity formation at the level of the hidden curriculum. Existing theories provide some foundation for this re-evaluation, but it remains to discover how these theories may apply in the context of pathology training, and how new fit-for-purpose theories can be derived.

Thus the development of my model draws upon a variety of social and educational theories and explores multiple interacting factors to address my aims. Evaluation of the literature in relation to my aims has led to the formulation of my research questions.

With the ultimate aim of recommending an educational framework for the development of professionalism in pathology training, I pose my primary and key secondary research questions:

2.6.1 Primary question

This question corresponds to the overall aim of the thesis:

> **What social and educational factors shape professional identity and how do they inform development of a model to promote the development of professionalism in specialist pathologist training?**

2.6.2 Key secondary questions

These questions, corresponding to the three aims that contribute to the overall aim of the project, are as follows:

1. **What are the meanings of professionalism in pathology?**

2. **What social and environmental factors impact on the development of professional identity in pathology training?**

3. **How do pathology trainees engage with a self-regulated learning model to assess the standards of professionalism set out in a specialist training curriculum and what are the potential benefits and challenges of such an approach?**

3 Research approach

My research questions relate to such phenomena as identity, values, learning processes and educational environments: as such they are subjective phenomena occurring at personal and cultural levels. These phenomena are manifest in the language of my participants.

A qualitative approach recognises and values this subjectivity. It offers researchers the opportunity to engage with participants' experiences, reflecting on their language and interpreting it through lenses both theoretical and reflective, based on the researchers' experience. This provides for a richly-nuanced description of the lived experience of pathologists and trainees in their world.

This account of my research approach explains why I have chosen to use a hermeneutic phenomenological research methodology to address my research questions: it describes and critiques the experience of other researchers addressing similar problems and those using similar methods.

I describe how my data collection and analytical methods are appropriate to my research question and methodology, and offer a framework for judging the quality and trustworthiness of my findings.

Included in this chapter is a brief account of my use of mind maps; and the chapter's structure is illustrated as a mind map in Figure 16:
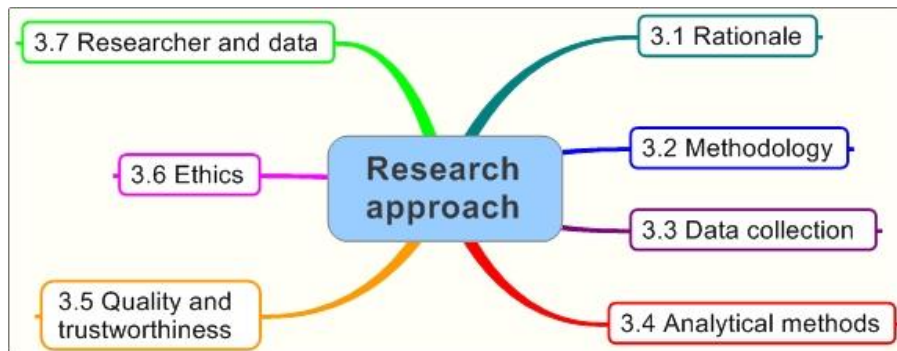
Figure 16. Mind map illustrating research approach

3.1   Rationale for choice of methodology

3.1.1   Theoretical perspectives

Methodology refers to the best means of gaining knowledge about the world, and guides the choice and use of data collection and analytical methods (Denzin & Lincoln, 2000). Methodology should be matched with the research questions and align with data collection and analytical methods. The choice of methodology will in turn be guided by epistemological and ontological considerations, i.e., one's fundamental understanding of the nature of knowledge and being.

Throughout the 20th century, research has been dominated by a paradigm that stems from the ontological position of realism — maintaining that reality is a singular, unambiguous truth, independent of the human mind and discoverable by scientific method. The realist position accords with an objective epistemology, giving rise to the positivist perspective that characterises most empirical research in the natural sciences. This paradigm emphasises objectivity, neutrality, measurement and validity. Associated methods are mainly quantitative and designed to prevent values and biases from affecting the data (Cohen et al., 2007, p. 5).

Just as there were paradigm shifts in politics, social structures and belief systems in the western world towards the end of the millennium, so there have been paradigm shifts in the theoretical underpinnings of human research. Whilst the positivist paradigm offers legitimate ways of addressing some questions in human sciences, there are many questions remaining that it has not seemed legitimate to ask (Campbell, 1997), relating to human values, motivations, culture, and the complexities of lived experience in the workplace; these cannot justifiably be reduced to numbers and simple observations. Professionalism and identity are highly value-bound; meanings are embedded deep within the stories and languages of people and their environments.

Frameworks such as phenomenology, ethnomethodology and symbolic interactionism are qualitative methods classed as interpretive, characterised by a concern with understanding the subjective world of human experience: they derive primarily from a relativist ontology. In interpretive frameworks, reality is socially constructed by the way in which we make sense of human behaviour, and meanings that differ according to the diversity of people in their various cultural environments. The epistemology of this perspective is idealism, the notion that reality exists only as ideas in the mind. Knowledge is subjective as the researcher constructs her/his own version of reality in the course of interaction with the research subjects and their environment, and seeks to uncover the constructs of the participants (Cohen et al., 2007). Because findings emerge from interactions between researcher and participant, subjectivity is valued (Creswell, 1998).

3.1.2   My journey as a researcher

Jolly (2001) points to pressures from the scientific and medical community to conduct medical educational research in the form of controlled randomised trials, using the sort of approach that might be used by a laboratory scientist. He suggests that such research is not always the best way to answer complex educational questions.

Investigating social constructs in medical education and the products of interactions between individuals and groups requires a broader methodological horizon. Kuper and Reeves et al. (2007) advocate a qualitative approach to research in assessment, particularly where it concerns non-medical expert competencies such as those embodied in the CanMEDS model.

As a pathologist with a scientific background, I had to rethink my positivist perspectives in order to come to terms with complex questions involving values, motivations and culture. When I began this project I took a realist's, pragmatic approach, focusing on actual events of a case study and the practical consequences of a tool's being employed in a

specific educational context. As I immersed myself in the interview data that I had gathered, it occurred to me that there were complexities that may be revealed by a more detailed examination of the data, and I began to experiment with NVivo software (http://www.qsrinternational.com). This presented an opportunity for much more complex data handling, and I became interested in the possible use of a grounded theory approach to derive theory from the text. As I proceeded to code line by line, interesting themes about pathologists — what is important to them and the ways they learn — began to emerge. There were clearly a large amount of real-life data to explore, presenting an opportunity to develop a deeper understanding. Iterative reconstructions of the research questions followed.

Reflection on my own experience and data whilst reading of the literature posed intriguing questions as to how the distinctive social identity of pathologists may impact on their learning and professional identity development. However, I found that in my quest for detail and practical application, my pragmatist mindset kept leading me to impose pre-conceived categories onto my data, based on the CanMEDS framework, described models of self-regulated learning and my own conceptions about pathologists and their world.

At the prompting of my supervisor, I thought about how I could take a step back from my own biased perspective and get a more objective view of the data through different lenses.

As I read about phenomenology, Husserl's catch cry of 'back to the things themselves' (Husserl, 1969) caught my attention. Clearly my subjects were talking about 'things' — that is, experiences they had both in the pilot study and in their everyday work — and the ways in which they experienced them. If I could focus on their first-person voices, trying to see the experiences from their perspectives rather than my own, I might be able to develop a richer, more insightful and more interesting picture and bring them to life.

I must 'look, look again, and keep looking' (Moustakas, 1994). Moustakas points out that phenomenological questions reflect the interest, involvement and personal commitment of the researcher: such commitment sustained me throughout the competing demands of my work and research.

I found it impossible, however, to completely shut out my preconceptions; and I sought a methodology that would allow me to be open about and draw upon them.

In order to understand the meanings of the experiences of my participants as I interacted with the text, I applied hermeneutic strategies. This approach was appropriate because it adds a way of interpreting the text that recognises the biases and prejudices of the researcher — to which I was inevitably subject — and it enabled me to compare my own perspectives with those of my participants and with published studies, in order to build an integrated, three-dimensional interpretation of experiences. This I achieved through iterative viewing and reflection, using lenses derived from social and education theories corresponding to the nature of my research questions.

3.1.3   Researching pathologists in their world

There have been few studies of pathologists in their work environments; these are mainly quantitative studies to measure attitudes to various aspects of pathology practice (Brimhall, 2007; Horowitz, R., 1998; Horowitz, R.E., 2006; Jenkins, D. et al., 2002). Amongst them, only Jenkins and Philips et al. explore affective domains like feeling misunderstood and marginalised. Though these studies provide useful insights, they explore attitudes only at a conscious level, and do not reflect the tacit experiences that lead to the development of attitudes and values.

One pathologist has taken an ethnographic approach to observing pathologists and trainees around a multihead microscope (Sandmeier et al., 2009). However, the study was

essentially descriptive of activity without exploring the dynamics of social interaction or subjective experiences of the learners: it explored the development of professional qualities at a cognitive and skills-based level, particularly in the context of the informal curriculum, but did not delve into the realms of identity and the value-laden hidden curriculum.

Though statistical data has been gathered regarding work environments in pathology (Ryder Self Group, 2007) and commentaries have been written about pathologist-clinician interactions, the only other researcher I am aware of who has attempted to delve into the lived experiences within the world of pathology is Burton (2003; , 2005). His studies primarily concern medical students and their reaction to autopsy. Using a phenomenological approach, Burton has been able to explore attitudes, emotional reactions and values relating to them. He also studied specialist trainees in a mixed methods study involving the use of videos in training; and this study used thematic analysis of textual data to examined reaction to the teaching method, though it did not explore affective or social domains (Burton, J et al., 2004).

Gutman (1998) has investigated stereotyping in pathology through an analysis of 500 newspaper articles, which revealed interesting insights about community perceptions of pathologists. However, to my knowledge nobody has researched the extent to which pathologists internalise these stereotypes as part of their professional identity.

3.1.4 Researching professional identity

The meanings of professional identity have been explored in the context of nursing using a narrative approach (Fagermoen, 1997). Fagermoen drew upon a framework of symbolic interactionism holding that self-formation results from social interaction between the individual and the socio-cultural environment. Using hermeneutic strategies Fagermoen was able to uncover embedded meanings and values that were actualised in practice, rather than statements about what had been formally taught or described in the literature.

Discovery of hidden meaning other than through direct questioning is valuable when studying professionalism, particularly so if there could be inconsistencies between what is professed, what is internalised and what is practised. Nobody will admit to lacking professionalism or not being reflective about it, particularly as the unreflective person will not even be aware of the fact.

Since investigating such inconsistencies was a key objective of my research, using a tried and tested hermeneutic approach had appeal: the main difference between my methodology and Fagermoen's is that while she was primarily concerned with values manifested in behaviour, I am more concerned with them as manifested in language.

Öhlén (1998) used a hybrid model to study professional identity, which involved concept development from empirical field data and semi-structured interviews.

Concept development began with a theoretical phase in which phenomena were identified and labelled; meanings, antecedents and consequences were associated with these phenomena and linked to theoretical frameworks. Study of the literature was particularly valuable in revealing socio-historical aspects of professional identity development. Interviews were designed to provide examples of the phenomena of interest and enabled the researchers to identify personal and interpersonal dimensions through interviews. Similarly, in my work the linkage of empirical data from the literature, theoretical frameworks, phenomena and personal perspectives relating to those phenomena provided multidimensional personal and social insights.

My approach differed from that of Öhlén in that the identification of phenomena of interest did not precede data collection. Rather, it was during the analytical phase that consideration of the literature prompted focus on some of the more interesting emerging themes.

3.2 Hermeneutic phenomenology as a research methodology

3.2.1 Phenomenology

Phenomenology is both a philosophical approach and a research methodology.

The Stanford Encyclopedia of Philosophy (Zalta, 2008) defines phenomenology as

> the study of structures of consciousness as experienced from the first person point of view. The central structure of an experience is its intentionality, its being directed toward something, as it is an experience of or about some object.

The term was coined in the early 20th century by the German philosopher Husserl (1859-1938), whose was the aforementioned catch cry, 'back to the things themselves' (Husserl, 1969). Husserl was concerned with reality as it presents itself to human consciousness and introduced the concept of *lifeworld* (the German *Lebenswelt*). During the 1970s, phenomenology began to emerge as an alternative to positivist research paradigms.

The key dimensions of Husserl's phenomenology are:

- Intentionality — the relationship between conscious subjects and objects; and

- Bracketing — to eliminate preconceived notions in order for the experiences and essences of the phenomenon to shine through. This encompasses phenomenological reduction, i.e., describing just what one sees, internal and external. Reduction leads us back to our own experience of the way things are and is a never-ending process (Moustakas, 1994).

Another important principle is imaginative variation, i.e., varying the frames of reference and perspectives to derive structural themes. This is followed by the synthesis of meanings and essences (Moustakas, 1994).

3.2.2   Hermeneutics

Hermeneutics is the theory and practice of interpretation. The word derives from the Greek god, Hermes, who communicated messages from the gods to ordinary mortals (van Manen, 2002). It adds an interpretive element to explain meaning behind experience and enables meanings to be drawn from comparisons of different social interactions, work and personal experiences — the subjects of my research.

Hermeneutics was originally applied to the interpretation of biblical texts. Schleiermacher (1768-1834) developed the concept of the 'hermeneutical circle', representing a dialectical movement between text and context, part and whole. Dilthey (1833-1911) developed it into a set of strategies for interpretation of all forms of text including the social sciences (Palmer, 1969, p.98); and Heidegger (1962) further elaborated on the 'hermeneutical circle' concept, locating it in the lived experience of the interpreter rather than in the mind and world of the author of sacred text (as it was for Schleiermacher).

I have applied this cyclical approach in my constant reflection on the texts used for my research. The way in which individual voices represented the big picture and generated the dominant themes of my research were fundamental to my analysis, in which I describe the macro and micro issues of pathology training and how the work and social environment relates to the individual.

3.2.3   Hermeneutic phenomenology

Hermeneutic phenomenology adheres to both methodologies in that is descriptive of how things appear, allowing them to speak for themselves (phenomenology), and interpretive because it claims that there are no such things as uninterpreted phenomena. The facts of lived experience must be captured by language — an interpretive process (van Manen, 2002).

Walters (1995) provides a commentary on the use of phenomenology in nursing research, emphasising the difference between Husserl's approach and that of his student

Heidegger. Husserl's phenomenology adopts an epistemological stance in that bracketing seeks objectivity and separation of the researcher from the subjects, who interact with objects in the world (Husserl, 1969). By contrast, Heidegger argued that understanding of people and phenomena cannot occur in isolation from the real world in which they live (Heidegger, 1962). Heidegger's phenomenology takes account of the affective dimensions of existence that are part of human experience in the *lifeworld*, maintaining that it is not possible to bracket one's experience from 'being-in-the-world'. In this shift to an ontological perspective, knowledge is seen as being embedded in everyday activity. Heidegger has been credited with fusing the ideas of Husserl's phenomenology and Dilthey's hermeneutics.

Heidegger's student, Gadamer (1976a), further emphasised language as the medium of hermeneutic experience. Pre-understandings and prejudices are mediated through language, but they are not viewed as negative as they are a product of the culture and enhance understanding. Gadamer addresses the problem of the researcher who is unable to be completely free from all prejudices and traditions; he argues that these prejudices are actually fundamental to understanding, and that the point is not to eliminate them but to reflectively examine and declare them, attempting to alter those that disable understanding. If the prejudices are explicit they can be compared with the understandings of the participants; thus does the researcher seek freedom from undisclosed prejudices. And thus, in declaring and reflecting upon my own prejudices, I actually add depth to my analysis.

In my reflection on the data available for this study, the questions that arose related to the lived experience of pathologists and trainees in their everyday work environment. Given my own experience as a pathologist and my empathy with trainees in their daily grind, meeting work demands and preparing for examinations, I was very much aware that Husserl's style of phenomenological reduction would be impossible for me; and it would not take advantage of my unique insights and relationships to the data and the participants. I had

been through the experience of sharing anxieties about the educational interventions and been on the receiving end of some anger. My involvement in the experience of the participants was substantial and thus offered an opportunity for reflection and deeper understanding in a legitimate way.

There is no set method for doing hermeneutic phenomenological research (Gadamer, 1976b); however, van Manen (1990 p.31) describes six research activities that can be valuable in guiding the researcher employing hermeneutic phenomenology. Personal experience is the starting point for these activities, which are:

1. Turning to the nature of the lived experience.

2. Investigating experience as we live it rather than as we conceptualise it.

3. Reflecting on the essential themes that characterise the phenomenon.

4. Describing the phenomenon through the art of writing and rewriting.

5. Maintaining a strong and orientated relationship with the phenomenon.

6. Balancing the research context by considering parts and wholes.

In the case of my study, texts generated from conversations about experience recorded in semi-structured interviews provided most of the source material. To supplement and triangulate my data I also made use of surveys, with brief, open-ended responses from participants in workshops.

The researcher analyses the text to identify meaning units, structures and themes; meaning units are clustered to integrate structures and develop a textural description of experience. Finally there is writing and rewriting (van Manen, 1990 p. 111), ultimately to produce convergence of the data and the researcher's perspective.

Whilst text is the data for phenomenological research, it is also the product. The aim is to uncover meanings and generate rich descriptions of human activities, feelings and intentions as experienced in the *lifeworld*. It lets hidden meaning shine through and draws the researcher and the reader into the feeling of the experience by making it concrete.

Hermeneutic phenomenology is a well-described methodology in nursing research. However, some of this research has been criticised because it does not always truly demonstrate convergence of participant narrative, researcher perspective and research process (Draucker, 1999).

A good example of how convergence can be achieved has been described in a study by Koch (1996), describing experiences of elderly patients falling out of bed. In this study the researcher's perspective, one of personal emotional involvement, becomes evident when the author discloses the experience of her father's death following his fall.

Similarly, I have personal and emotional investment in my research on pathologists, in terms of myself being part of this marginalised outgroup (as I have described). Koch's personal experience is subsequently reflected in her stated position on ethical and social issues, and she clearly exposes the reasons for her position. For me, the opportunity to explore my own beliefs about professionalism in pathology in a legitimate way was one reason for choosing the hermeneutic phenomenology approach.

A technique used and recommended by Koch is the maintenance of a reflective journal to describe and interpret experience. I have found this a valuable tool as a researcher, not only for keeping track of and contributing to my analysis, but for developing formative insights in my personal development as a researcher. In my case this was aided by maintaining a journal of my own political and social activities in parallel with my research, noting how social identity and ingroup behaviour were evident in my own social settings. It

helped me to understand how group members act in a cohesive manner in the face of barriers and how cultural norms are reinforced in this context.

Draucker (1999) makes another point — the value of hermeneutic phenomenology in drawing upon the philosophical writings underpinning the methodology to enrich research findings. My research builds upon one of Heidegger's constructs maintaining that as 'beings-in-the-world', people often fall into 'levelling practices', or activities that follow what everyone else does. This is consistent with the idea of social identity, where individuals tend to conform to the norms within their ingroup or social environment.

The number of phenomenological studies in medical education is small. Kjaer and Maagaard et al. (2006) used a phenomenological approach to investigate the use of portfolios by general practice trainees, and Burton (2003) has conducted a phenomenological study of the use of autopsies in the medical curriculum. Though Burton refers to the researcher being an intrinsic part of the research process, the methodology is not explicitly hermeneutic, and does not set out to fuse the horizons of researcher and researched as I have attempted. My choice of the hermeneutic strategy is therefore novel, though not without justification or precedent as an established methodology in clinical health care, particularly in nursing.

3.3 Data collection and subjects

3.3.1 The context for data collection

The data used for this study consist of textual material collected in the course of the evaluation of an educational intervention that was part of a series of strategies undertaken by the RCPA to address professionalism in its curriculum.

Over the course of my project I had a number of overlapping roles, as described at the beginning of this thesis and graphically illustrated in Appendix 5, which illustration may help orient the reader towards the phases of data collection in relation to my changing roles.

Three main types of data were collected:

1. Text documents compiled from responses to surveys distributed during workshops I gave to RCPA supervisors and trainees;

2. Documents completed by participants as part of the *Learning Diary* pilot study; and

3. Text documents derived from semi-structured interviews and a discussion group.

Because these sources include rich textual material, with interesting linguistic elements reflecting strong opinion and affective and behavioural responses to lived experience, they provide ideal material for phenomenological study. These data were converged with my own experience and concurrent literature review.

3.3.2 Data from workshops conducted in 2006

Throughout 2006, workshops were held in seven cities in Australia and four in New Zealand. A College newsletter and email invited all trainees and supervisors of the RCPA to attend these workshops, designed to introduce the *Learning Diary* and *Generic Curriculum* and to discuss other matters relating to training with the RCPA.

Survey forms were distributed at the conclusion of each workshop, inviting feedback about the appropriateness of the curriculum, possible benefits of the *Learning Diary*, barriers to implementation, how it could be improved, and its potential use as an assessment tool. Forty-two supervisors and sixty-six trainees provided feedback; and respondents were identified only as 'trainee' or 'supervisor'. Aggregated responses, together with some brief field notes, were compiled into a document to be used both for the CIPHE pilot project and as text for analysis in my study. The feedback also informed modifications to the *Learning Diary* prior to pilot testing.

3.3.3 Learning Diary pilot study

The *Learning Diary* pilot study was administered by CIPHE in late 2006. Participants for the study were recruited in four ways:

1. Open invitation offered during the workshops;

2. Advertisements placed in the RCPA newsletter;

3. Direct email sent to supervisors and trainees;

4. Notice on the College website.

All volunteers registered via the RCPA website.

Fifty-eight trainees enrolled in the study: of those, twelve submitted completed diaries. Fifty-three supervisors enrolled, and eight completed the diaries with their corresponding trainees. (The completion rate was less than anticipated because of a negative reception of the *Learning Diaries* during the workshops and because subsequent modifications resulted in delays. This meant that the study was conducted close to examination time, and those sitting for examinations declined to participate.)

Each participant was given a copy of the modified *Learning Diary*, with instructions, and was asked to complete it over a period of three months. The completed diaries, including reflective comments, were used as data for analysis. Entries were studied in order to describe the nature and extent of engagement with reflective processes. All who completed the pilot study were subsequently interviewed.

3.3.4 Interviews

I interviewed all twelve trainees and eight supervisors who completed the pilot study. As I conducted these interviews, it became apparent that a broader range of perspectives would enhance my data, so I selected three further stakeholders for interview. They comprised an academic medical educator from a public health background, a clinician educator representing the AMC, and an educator working in an administrative role in a medical training organisation; and all were familiar with the background and purpose of the *Learning Diary*.

All interviewees were assigned pseudonyms — arbitrarily-selected names to preserve anonymity: their relevant demographic characteristics are shown in Appendix 6.

Interviews ranged in duration from 15 to 60 minutes. All interviews with trainees and supervisors were conducted by telephone, as none of the interviewees was located in Sydney. In one case the supervisor and trainee (identified as 'Patricia' and 'Denise') were interviewed together, respecting their personal preference and convenience. I used a semi-structured interview format with open-ended questions to explore positive and negative responses to the *Learning Diary*, impact on learning and relationships between trainees and supervisors, the relevance of the underlying curriculum, and practical considerations for its implementation and use: participants were invited to offer suggestions for improvement. The interview guides are included in Appendices 7 and 8.

Interviews with other stakeholders were conducted face-to-face and were relatively unstructured, allowing for free-ranging discussion of individual perspectives after studying the form and content of the *Learning Diary*.

All interviews were recorded electronically and transcribed by an RCPA secretarial contractor. I checked interview transcripts for accuracy by repeated listening and reading.

3.3.5 Data collected from workshops conducted in 2007

A further series of workshops was conducted in 2007, following the pilot study, in six Australian and one New Zealand city: during these workshops the *Learning Diaries* underwent iterative development.

Those who attended the 2007 workshops were offered a survey sheet, participant instructions and a consent form at the conclusion of each workshop. The surveys asked about potential benefits of the *Learning Diary*, barriers to its implementation and how it could be improved — a copy of the survey sheet is included in Appendix 9. All trainees and supervisors who completed the surveys were assigned a unique code based on their discipline, role, year of training if applicable, and geographical location. The distribution of relevant demographics of the participants is shown in Appendix 10.

3.3.6 Discussion group

Because other specialist medical colleges face similar issues in addressing curricula in professionalism, I convened a group discussion at the Royal Australasian College of Physicians (RACP). I chose this college because many of our trainees participate in joint training with the RACP but experience different approaches in each. I was keen to explore similarities and differences between these two approaches, and also to compare the differing needs, attitudes and experiences of pathologists and physicians.

Pseudonyms were assigned also to the participants in this group, comprising a jointly qualified physician/pathologist with a strong background in medical education, a visitor from the Royal College of Physicians in the UK, an education consultant to the RACP who was familiar with the RCPA project, and three senior staff members from the RACP deanery. Their details are shown in Appendix 6.

The discussion was of 60 minutes and unstructured in format. This was appropriate: firstly, because I was uncertain in advance of the exact composition of the group, and secondly, because I wanted to leave open the possibility of capturing a broad range of opinion and experience from a range of perspectives. I personally recorded and transcribed the discussion to ensure that participants were correctly identified.

3.4 Analytical methods

3.4.1 Rationale

Since my research was aimed at the meanings of experiences of people in their social milieu, the epistemology of idealism was congruent with the aims. Within this paradigm, the methodology of hermeneutic phenomenology was appropriate because:

- I was exploring complex phenomena, such as learning and identity, as trainees are socialised through experience into the world of pathology, justifying the phenomenological perspective; and

- My participants had themselves interpreted their experience through their use of language.

I aimed to add and converge my own interpretations of these experiences to provide a rich and lifelike description of the phenomena, to which end I applied a hermeneutic methodology.

3.4.2 Assumptions

In using the following strategies I have made some assumptions about my data collection:

- The *Generic Curriculum*, having been derived from many perspectives regarding the nature of professionalism in pathology, was adopted as a proxy for the concept of professionalism. Here the concept of professionalism began as a framework of competencies based on the structure of the CanMEDS model. As the hermeneutic analysis unfolded, more complex layers of meaning emerged, demonstrating the ways in which conceptions of professionalism were embedded within the identities and learning environments of participants as well as in the broader context of health care.

- The *Learning Diary*, or portfolio, based on a model of self-regulated learning, was adopted as a proxy for the processes of self-regulated learning. Again, this began as a relatively straight-forward construct relating to learning processes, but it became apparent that the nature of learning was influenced by complex factors beyond the impact on individual learners of a formal curriculum and portfolio.

3.4.3 Strategies

My analytical strategies reflected the methodology of hermeneutic phenomenology in the following ways:

- I employed the empirical methods of phenomenology to explore the range and varieties of phenomena experienced by my participants;

- I applied the reflective inquiry methodology of hermeneutics to interpret the aspects of meaning that were associated with these phenomena.

In practical terms, I have drawn upon some of the constant comparative methods as used in grounded theory (Strauss & Corbin, 1998). These include aids such as coding and memo writing; close reading and re-reading as employed in the immersion stage; matrices; and displays like mind maps and diagrams. Such methods are used extensively in other traditions of qualitative research as well as in grounded theory (Boeije, 2002).

I have engaged in van Manen's recommended research activities (van Manen, 1990), having essentially followed the stages of analysis described by Ajjawi (2007) as derived from phenomenological and hermeneutic principles and from guidelines in published literature. These stages often occurred simultaneously and iteratively throughout the project.

My application of these stages was as follows:

1. Immersion.

Textual data from surveys became progressively available throughout the study: throughout, I transcribed it into documents and read and re-read it until I was familiar with the content. With the interviews, soon after each was conducted I listened to the audio, and read and re-read transcripts once available. Periodic re-reading of transcripts and listening to recordings at various points in the project refreshed my overall understanding of the data. During this and subsequent phases I tried to maintain focus on the lived experience, as recommended by van Manen (1990).

2. Understanding.

Text documents were imported into NVivo 8; initial coding was done by systematically and sequentially working through the data. Phrases and paragraphs representing phenomena of interest were identified and treated as individual pieces of data: data chunks/meaning units had to be large enough to capture and contextualise affective and experiential phenomena in relation to language, but small enough to enable categories.

I progressively sorted and organised data into categories representing similar phenomena and created labels to describe their essence. These categories were first order constructs primarily describing phenomena that were experienced; they included actions like reflecting and recording, pressures like work and examinations; interactions like support from supervisors; and professional values like management and communication. As related ideas emerged the categories were arranged into a tree structure. By the time I had coded all the interviews no new categories were

emerging, indicating that I had achieved saturation from these sources. Similarly, no new categories were arising from surveys by the end of their coding.

3. Abstraction.

After initial coding, I had a tree structure representing the first order constructs in hierarchical form. I reproduced this structure in a mind map and experimented with moving branches around and noting relationships between them. I developed understandings about how the phenomena were experienced — e.g., identifying with roles and reacting to pressures — which led to the formation of a framework of second-order constructs. Ideas were categorised around socio-cultural phenomena of stereotyping and identity, and education-related phenomena.

Reading the literature simultaneously influenced this process, for it prompted me to focus on emerging themes of particular interest. Questions arose as I compared, re-ordered and re-compared categories; and, together with memos, these were recorded in notes attached to branches of the mind map. Memos comprised reflective comments added progressively to coded material, and provided ways of conceptualising and linking themes and concepts.

As I proceeded with the coding and restructuring, I progressively updated in NVivo my mind maps and the tree structure, to maintain consistency. The main advantage of mind maps is a more visual way to overview the structure; and it is very simple to drag and drop branches around, experimenting with different structures and perspectives, applying imaginative variation, before altering the structure of the NVivo data. My use of them is further described in section 3.4.5.

Construction of matrices using NVivo helped me to assess the frequency with which various phenomena occurred, the extent to which they coincided with

other phenomena, and in which contexts they occurred. For example, I could cross-tabulate phenomena and themes with various groups, enabling correlations and comparisons to be made, which aided the identification of dominant themes.

4. Synthesis and theme development.

One of the central strategies recommended by van Manen (1990) is that of reflection on the data to develop themes characterising phenomena.

I continued to work with mind maps as I iteratively reviewed and reflected on my data and the published literature, applying different theoretical lenses to the data. Research questions were also progressively developed; and the alignment of data, literature and interpretation were constantly adjusted, working towards convergence. Mind maps were particularly valuable in facilitating the hermeneutic cycle, moving between the parts (data) and the whole (meaning), as illustrated in Figure 17.

Developing meaning from the data was aided by the use of the 'describe-compare-relate' guidelines suggested by Bazely (2009); description included context, basic elements and themes. In relation to these themes, comparisons were made between different groups being in different disciplines and at different stages of training — e.g., pathologists versus trainees. The categories were then related to each other by asking questions about the conditions under which phenomena arose or differed, and what actions were involved; and they were also related to similar phenomena described in the literature. I continued to use matrices to assist in answering questions that arose from previous categories. New data were analysed and compared against old data: for example, when a new theme was identified it could be cross-tabulated against existing phenomena or themes.

The evaluation of the whole relates to interpretation: mind maps enabled visualisation of the big picture or gestalt. Interpretation was mediated through reflective writing. Resulting questions required a return to the parts in an attempt to discover more answers. The objective was to achieve a balance between the whole and the parts as suggested by van Manen (2002).
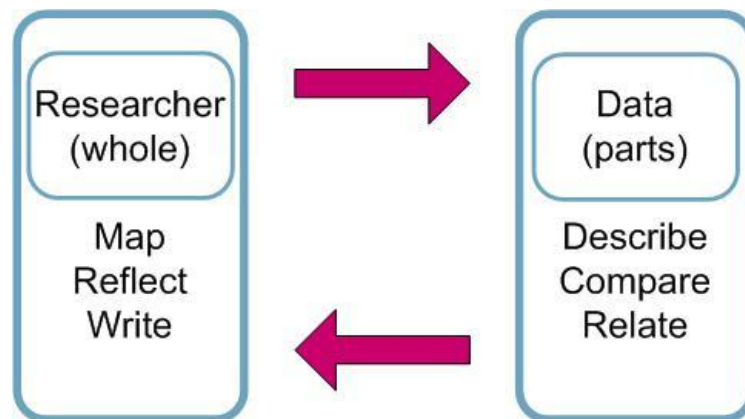
Figure 17. Researcher's adaptation of the hermeneutic cycle

5. Illuminating data

As I synthesised data, developed themes and wrote them up, I iteratively returned to the published literature to seek examples and draw comparisons and to stimulate further questions. I sought answers in the data and in turn sought further information, comparisons and illustrations from the literature to illuminate the data.

6. Integration

Finally my task was to achieve convergence between data, theory and interpreted meaning: this came largely through the process of writing and rewriting and ongoing reflection. It was also facilitated by preparing abstracts and posters for conferences: the need to crystallise ideas helped me to capture the essence of my research, and the understanding I derived from doing this guided the writing of my narrative.

Throughout these stages I strived to maintain 'hermeneutic alertness' (van Manen, 1997) — stepping back to reflect on meanings of situations rather than accepting preconceptions and interpretations at face value. Whilst my pathologist background was helpful during data analysis in achieving understanding of language and context, the stepping back was additionally so in dealing with my own reactions to some negative views about pathologists.

I gratefully acknowledge the contribution of my supervisor, Chris Roberts, who alerted me to my biases and encouraged me to write more reflectively and openly; and thus to unveil issues that may otherwise have gone unnoticed.

3.4.4   Software tools

NVivo 8 was used for storage and retrieval of textual data, including documents from interviews and surveys. NVivo 8 enables handling of large volumes of qualitative data and facilitates coding, categorisation and theme identification whilst maintaining links to sources. The unique codes assigned to participants were used to produce case nodes, ensuring all texts were linked to their sources.

Mindjet MindManager Pro 7 (http://www.mindjet.com) is a powerful and flexible tool that integrates seamlessly with Microsoft Office applications. It was used for planning, literature search, review and synthesis, learning needs analysis, brainstorming, ordering of data themes, memoing, reflection, structuring and writing of thesis, time management and display of material as a basis for discussion and illustration of thesis. Buzan's iMindMap v.4 (http://www.imindmap.com) was also used for illustration purposes as it produces a more artistic result than MindManager. The rationale for my use of mind mapping for this research is discussed below.

KnowledgeLink 5 (www.mindsystems.com.au) is a tool that directly interfaces with MindManager Pro and Microsoft Word. It facilitates editing of text in a hierarchical layout and was used for the literature review and analysis. I typed or imported mind maps and pieces of information or summaries of papers reviewed into KnowledgeLink. From there the text could be readily visualised, dragged, dropped and edited, then exported back to a Word document or mind map.

3.4.5   Mind mapping as a research tool

Throughout this project I have employed mind mapping techniques for a wide variety of purposes, as illustrated in Figure 18.

Figure 18. Mind map of uses for mind mapping in this thesis
Created with Buzan's iMindMap v.4.

Mind mapping has been developed, popularised, and commercially promoted by Tony Buzan since the 1970s (Buzan & Buzan, 2003). Students, teachers and researchers have found the technique very useful for academic applications. It's based on the idea of Radiant Thinking® (Buzan, 2003), where a central concept in the form of a word or image is placed at the centre of the page, and radiating branches are drawn out in a hierarchical tree-like

fashion. The branches are labelled with words or images and are added as ideas are perceived or generated. The use of colour, imagery, free-form lines and radiant structure, according to Buzan, stimulates creativity and 'whole-brain thinking'. The classic Buzan map is hand-drawn and may be very colourful and artistic; however, software applications have opened up possibilities for powerful applications.

Mind mapping software is invaluable for structuring and writing a thesis, where the outline can be mapped out in overview and detailed blocks of text can be built up as notes attached to branches. As previously mentioned, the notes and branches can be very easily dragged, dropped, edited and extended to create an ever-evolving structure that can be easily overviewed at a glance. Many mind map programs interface with word processors, but lack of integration with bibliographic software is a major limitation that I and other researchers have experienced (Lesley et al., 2002). If a mind map program allowed bibliographic citations to be added to text in the map and linked to a program such as EndNote, it would be a boon to writers and researchers.

Jenkins (2005) describes how she uses mind mapping to reflect on her nursing practice, exploring achievements and opportunities for improved practice, pointing out that the maps offer an opportunity to 'stand back from the event'. Such reflective processes are very applicable to hermeneutic phenomenological methodology; and they have also been invaluable to me personally for many years, and throughout my academic development, as well as this research project.

Mind-mapping may be used as a tool to support self-regulated learning and management of large and complex bodies of knowledge in a wide variety of domains and sources (Tergan et al., 2006). It supports the processes of knowledge

identification/evaluation, search, generation, representation/organisation, communication and use.

Literature searching and synthesis and information management can be supported by the use of mind maps: they can help in defining problems, mapping existing knowledge, identification of gaps and the formulation of search strategies (Webber, 2002). Mind maps can facilitate critical thinking whilst synthesising literature by enabling visual organisation of concepts in a hierarchical structure: the structure grows as new information is discovered (Lesley et al., 2002).

Mind mapping has been described as an analytical tool for qualitative research. Fernández (2005) used MindManager software, as well as butchers' paper and whiteboards, to complement the coding function of ATLAS.ti (http://www.atlasti.com) to organise ideas and themes in grounded theory research. Mind maps allow for creative free association, and their strength for phenomenological research is that they are

> not inherently goal structured – aimed at helping you to identify all the factors associated with an issue, but not (necessarily) focusing on outcomes (Brightman, 2003).

Whilst NVivo has a hierarchical tree structure to categorise data, it is not nearly as easy to visually overview the structure and to drag and drop categories as with a software-generated mind map; furthermore, the re-coding and un-coding of items within categories can be a tedious process. With mind mapping software the researcher can easily experiment with moving branches around and creating relationships between them, thus facilitating imaginative variation. Mind maps are an excellent way to apply the hermeneutic cycle. The software makes it easy to move between the whole, or gestalt, as displayed by the central image and proximal branches, and the parts, as displayed in the distal branches and attached notes.

Brightman (2003) suggests that for qualitative research, the greatest use of mind maps is for reflection, knowledge exploration and learning. This is particularly because they are personal, can be particularly creative if hand-drawn and can incorporate a lot of images rather than words. I would agree that this is a very valuable use, and have always enjoyed reflecting with coloured pens on large sheets of butchers' paper (as well as with a pencil on the backs of envelopes while travelling) whether for personal, work or research purposes. However, I would go further than Brightman and suggest that electronic mind maps have excellent capabilities for structuring and presenting data and findings, and would be particularly powerful if they could be integrated with bibliographic and qualitative analysis software.

Whereas these mind maps are excellent for exploration and discovery where concepts are not pre-defined, concept maps (Novak & Cañas, 2008) are highly structured and built around concepts that have been defined. Though often confused with mindmaps, concept maps serve different purposes. They are particularly valuable for understanding and displaying conceptual and causative links. For this reason I have used a concept map at the end of this thesis to integrate, explain and display my findings (Figure 23).

3.5 Quality and trustworthiness criteria

There are many guidelines for carrying out and judging qualitative research. There has been considerable debate about whether the same criteria of validity and reliability as used in quantitative research can be applied to qualitative research, whether different criteria are necessary, or if indeed it is valid to apply any criteria at all. Conventional measures of validity, generalisability and reliability correspond to a realist paradigm. Relativists offer a huge array of distinctive assessment schemes to choose from, depending on the topic and the purpose of the research (Mays & Pope, 2000).

Various sets of criteria for assessing the rigour of either phenomenological or hermeneutic methodological approaches have been described. These have been integrated in an extensive review (deWitt & Ploeg, 2006), resulting in a new framework that is attentive to both phenomenological and hermeneutic considerations. The framework includes five criteria:

1. **Balanced integration** refers to the intertwining of philosophical concepts, the voices of the participants and the explanation. Throughout my study I have constantly drawn upon social and education theories as well as phenomenological and hermeneutical strategies as I describe and interpret the words and experiences of my subjects and add my own explanations. I have iteratively examined and reflected on the texts through a variety of theoretical lenses that were aligned with my research aims and questions in order to achieve balanced integration. The product of this integration is convergence of researcher, theory and data. According to Koch (Koch, 1996), the demonstration of the steps towards convergence adds credibility and validity to the research.

2. **Openness** is related to a systematic, explicit process of accounting for the multiple decisions made throughout the study process. I have explained

transparently reasons for my choice of participants, methods and theoretical frameworks; in particular, I have explained why I chose a methodology that would allow me to take account of my personal involvement and biases.

3. **Concreteness** refers to the usefulness for practice of the study findings. The ultimate purpose of my research is to synthesise theory and empirical data in order to develop a model that can be applied in pathology training. The research is situated in the real world and will be applied in the real training environment, so it must be concrete and implementable. In particular, my research gives central affordance to the social realities of the educational environment.

4. **Resonance** refers to the effect on readers as it relates their own experiences or feelings. This cannot be fully evaluated until the research is published and read by others working in the field: however, I am able to gauge some degree of resonance by discussing my work with colleagues and presenting it at conferences. Responses from discussions with both professional colleagues and friends resonate well regarding the stereotyping of pathologists and the practical difficulties in engaging trainees in reflective learning. When I presented my work at the Association for Medical Education in Europe (AMEE) conference in Spain in 2009, the engagement and 'phenomenological nods' of the audience indicated strong resonance. Phenomenological descriptions are validated by mutual recognition evidenced by this 'nod' that says 'Yes, that is an experience I could have'(Koch, 1995).

5. **Actualisation** refers to the future realisation of the resonance of study findings. At the time of writing this thesis I was implementing a number of my

recommendations in my role as Director, Education at the RCPA. The ultimate

outcomes of these interventions, however, may take some years to evaluate.

3.6 Ethical considerations

3.6.1 Approval

Ethical approval for this research was granted by the Human Research Ethics Committee of the University of Sydney. The application was submitted by the CIPHE team conducting the pilot study. As I was a member of this team, my approval was covered under this submission. The main issue considered was the privacy and de-identification of data collected by participants.

3.6.2 Participant information and consent

Participant Information Statements were given to all participants. These explained the nature and purpose of the research, how participants would be involved, and how the data would be used. Contact details for further information and complaints were given. No complaints were received.

Signed consent was obtained from all those who submitted feedback surveys in workshops, completed *Learning Diaries* and who participated in interviews and the discussion group, regardless of pseudonyms.

3.6.3 Handling of research data

As the participants in this study were mainly supervisors and trainees of the RCPA, it was especially important that no identifiable data be known to officials, administrators and other College members. Participants completing written surveys were identified only by a code based on demographic data. The data on the individual survey response sheets were unavailable to anyone but me.

Interviews were transcribed by a contractor who regularly provides secretarial services to the College and who was briefed on the confidentiality issues. Interviewees were informed that the contractor would be aware of first names: they were invited to use a

pseudonym during interview; but none opted to do this. Transcripts were subsequently de-identified and pseudonyms were assigned to the participants as listed in Appendix 6.

The interviews were recorded automatically by a teleconference service and transmitted electronically to the College secretariat. Recordings were burned to optical media and distributed to myself and the transcriber, whose copies were destroyed after transcription. Audio recordings, having been made and funded with RCPA resources, are to be maintained in a locked cabinet at the College premises for seven years, in accordance with RCPA policy.

All hard documentation, including transcripts and surveys, will, similarly, be maintained securely for seven years.

3.7 Relationships between researcher, participants and data

At this point it is pertinent to reflect on how my various roles and personal perspectives may have impacted on the collection and analysis of the data.

As a qualified pathologist, I am empathetic with many of the concerns of pathologists and trainees, sharing a common language and having familiarity with their environment. Coar and Sim (2006) have studied the methodological implications of doctors interviewing doctors: they found evidence of some of the advantages that I experienced — shared language, enhanced communication and understanding, cooperation and relative ease of gaining the confidence of the interviewee.

They also noted that the interviewee may feel solidarity with the interviewer, just as I sensed. Whilst this may be good for establishing rapport, I had to be aware of tensions between solidarity with me as a potential ally, and hostility towards the system of which I am part. Because I had an active role in the original design of the *Learning Diary*, interviewees seemed somewhat unsure regarding holding me responsible for a resented process or seeing me as potential saviour who could reverse it: this may account for some apparent contradictions within interviews.

During the 2006 workshops I encountered considerable opposition and, at times, overt verbal aggression from a number of workshop participants. The anger was not personal but was directed at 'the College', 'the AMC' or was just an expression of frustration relating to workload and exam stress. The nature of responses of participants changed over time. The negativity subsided and the tone of feedback softened under successive modifications of the *Learning Diary* and *Generic Curriculum*. However, at one point a shift in design of the diary towards a more reflective model drew strong cries for the adoption of a check-box approach. The changing data pattern is not a negative thing from a research point of view, as naturalistic

environments are subject to change, and this presented an opportunity for reflection on how changing context can lead to changing responses.

In the interviews it was very difficult if not impossible to avoid projecting my own concerns onto the subjects. These were complex, and subject to evolving circumstances. On the one hand I was a representative of the Board of Censors that had commissioned the pilot study, and it would be my responsibility to implement any consequent decisions of the board. On the other, I was keen to make a name for myself in the hope of eventually securing a staff position at the College. I had established a rapport with trainees and supervisors and was keen to support their professional development with a well-designed tool, but did not want to subject them to an onerous task that they would resent.

The participants sometimes seemed confused about my roles and sought to establish whether I was friend, foe or neutral observer. I was careful to explain that for the sake of the interviews I was an independent researcher and not acting in my role as a contractor or a representative of the Board of Censors. However, the nature of the conversations was probably influenced by the beliefs of the participants (mistaken at the time but subsequently true) that I could significantly influence College policy relating to the *Learning Diaries*. My genuine shared scepticism about the diaries probably helped my interviewees to be honest with me, though in some cases this may well have resulted in my asking leading questions.

Coar and Sim (2006) have observed that when doctors are interviewed by other doctors, they may feel under scrutiny, as if in a viva exam, and anxious to present a good image and disguise shortcomings: so it may have actually been an advantage that we were talking about the *Generic Curriculum* and *Learning Diary*. If we had been directly discussing professionalism and reflection, there may have been conscious effort to impress the

interviewer with more positive attitudes. Also participants may have felt confronted if I was questioning their professionalism.

Though the subject of the interviews was ostensibly related to the practical implementation of the *Learning Diaries*, there were in fact deeper meanings that were forthcoming, I believe, largely as a result of the rapport that I established with the trainees and supervisors.

In this sense the curriculum and diaries functioned as a 'stalking horse' for the purpose of data collection. This term derives from the practice of using a horse as a decoy when hunting waterfowl: the birds would flee on the approach of a human, but would tolerate the close presence of a horse, so the hunter could hide behind the horse until he was within firing range. My subjects, as 'birds' were comfortable discussing the curriculum and diaries (the 'horse'), whereas they would have been uncomfortable talking directly to me (the 'hunter') about professionalism. Thus I could approach the subjects behind the cover of the 'horse' and to listen carefully while my subjects revealed attitudes that would have been inaccessible through direct questioning.

Interviews with educators were conducted after those with supervisors and trainees. By this time my growing concerns about their attitudes and approaches to learning led me to express these concerns: this drew some negative comments about pathologists that were unexpectedly strong, and which I initially found confronting. I later resolved this through my reflective hermeneutic approach and contextualisation in the theoretical frameworks of my research.

At the time of the discussion group, I was very much embroiled in political conflict at the RCPA. It was impossible not to convey during the focus group my pessimism about several political issues besieging the College and threats to my career prospects. However,

my own cynicism seemed to draw out some interesting comments about pathologists and their stereotypic characteristics.

Given these complex relationships between myself and the interviewees, where we are 'co-authors' of the data as Coar and Sim (2006) put it, the hermeneutic strategy allowed me to take advantage of the social setting in which we all had our own perceptions of each others' roles, status and identities.

My analysis is presented in two chapters, corresponding with my two sets of theoretical perspectives. Firstly, in Chapter 4 I examine stereotyping and identity development through lenses derived from identity theories and writings about medical professionalism. Then in Chapter 5 I apply education theories to describe and account for responses to the *Learning Diary* intervention. Integration of theory and research findings was used to develop recommendations for the model described in Chapter 6.

4 Research findings: pathologists and professionalism

4.1 Introduction

In the literature review I described how pathologists are stereotyped both positively with respect to their scientific knowledge and diagnostic skills, but seen to be delivering a technical service rather than being compassionate and communicative doctors. My analysis further describes this by exploring from a phenomenological perspective the extent to which stereotypic characteristics define or influence personal or professional values, and how they may infiltrate collegial relationships and the daily lives and professional culture of pathologists. I examine the meanings of professionalism for pathologists and how professional identities and values are shaped in the context of ingroup/outgroup relationships and the requirements of the pathologist's work. This analysis addresses the first two of my key sub-questions:

What are the meanings of professionalism in pathology?

What social and environmental factors impact on the development of professional identity in pathology training?

These questions concern the ways in which pathologists and trainees form their own professional identities in becoming members of the pathology profession, in relation to their understandings about what professionalism in pathology medicine entails, and in the broader context of community-constructed models of professionalism such as CanMEDS. I seek to identify salient influencing factors in the context of pathology work and the learning environment, and stereotypic conceptions on behalf of others.

Social identity theory may explain the way that pathologists categorise/label themselves and adopt standards, behaviours and identity that are consistent with their own group (Turner et al., 1987). It may explain how they create favourable biases towards

themselves by drawing attention to the attributes that make them look good (Stets & Burke, 2000). It may also explain how stereotypes can influence the development of professional identity through socialisation and how this can impact on professional relationships.

I have interpreted the phenomena of experience in pathology training by employing the hermeneutic strategy of breaking the whole into its component parts, primarily elements of language concerning pathology, identity and professionalism, and recombining the parts into themes and sub-themes. This approach has been employed to enable exploration of the subconscious expressed through language, and to reveal insights that may not be uncovered by directly surveying attitudes to professionalism. Other researchers have employed related qualitative approaches for similar purposes (Fagermoen, 1997; Öhlén, 1998).

4.1.1 Data presentation

Having reduced the data relating to this question, I have displayed the major themes and sub-themes in Figure 19. This thematic framework represents professional identity formation in pathology in the context of socio-cultural influences, conceptions of professionalism and professional values. For each theme, illustrative data is presented, together with theoretical exploration of the data.

I have drawn my analysis from all sources of data — interviews, surveys and pilot studies — to maximise their use. Miles and Huberman (1994 p.432) suggest that the condensed version of the full data set is displayed to:

1. Permit analysis in close conjunction with the displayed data;

2. Allow the analyst to see what further analyses are called for;

3. Provide easy comparability across the data sets; and

4. Heighten the credibility of the report.

This also contributes to the 'transparency of the method' — that is, the explicit reporting of the data.
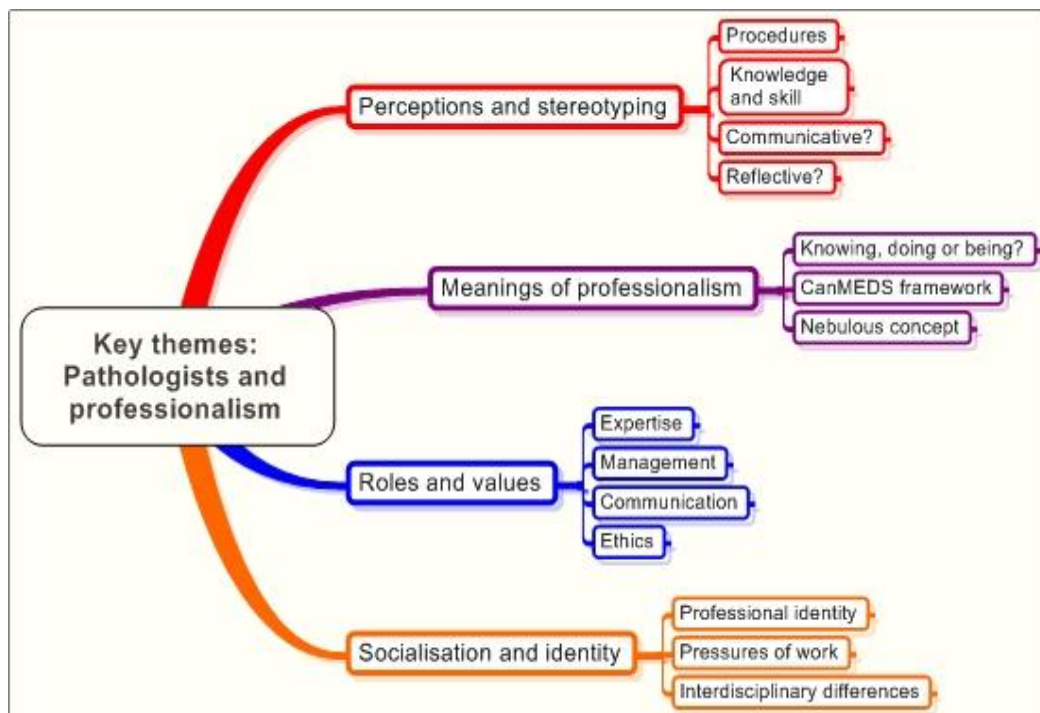
Figure 19. Pathologists and professionalism: major themes and subthemes

4.1.2 The primary themes and their inter-relationships

The themes as presented in Figure 19 can be described and inter-related as follows:

1. **Perceptions of pathology and stereotyping of pathologists**

   This defines the nature of the category to which pathologists belong and the stereotypes relating to that category as perceived by non-pathologists.

2. **Meanings of professionalism**

   Conceptions of professionalism are a basis for professional identity; conceptions and hence identities are not necessarily aligned with realities and/or expectations.

3. **Pathologists' roles and values**

   This defines the values and meanings that pathologists apply to their professional roles in daily practice. These values are major determinants of the priority given to

educational goals, and the educator must understand these in order to construct a relevant curriculum.

4. Socialisation and professional identity

This synthesises the above themes and explains how stereotypic attributes, cultural and work values, environmental pressures and conceptions of professionalism combine to produce a professional identity that may or may not meet the broader ideals of professionalism (section 2.2.1). Comparisons are made between the various pathology disciplines to illustrate the differential effects of culture and environment.

4.2 Pathologists and stereotyping

The meanings associated with 'pathology' as a discipline, and how pathologists label themselves and identify with the category, are fundamental to the ways in which they construct their identities. These factors define how they perceive themselves and others as members of groups and the ways in which they participate in group culture (Turner et al., 1987).

Where the word 'pathology' is used in my texts, it generally denotes a science, a course of study or a set of procedures. Pathologists are seen by others to be proceduralists and scientific /diagnostic experts.

To a pathologist, 'pathology' is the discipline they practise, with all its knowledge and skills, but the word does not necessarily embody associated professional values.

There are several examples, such as the following quote from a pathologist, showing how the word 'pathology' is used to imply that the broader areas of professionalism are somehow distinct from pathology:

> Trainees will feel this (time spent on *Learning Diary* activities) is time they
> would rather spend in pathology training. (Anatomical pathologist)

4.2.1 The pathologist as a proceduralist

The more you do, the more you churn through, the more money you get.(Roger)

The image of the pathologist as a proceduralist appears to be a quite common perception among non-pathologists, as nearly all of the education professionals in my study referred at least once to procedures when discussing the work of the pathologist. Procedural medicine has negative connotations of money-making and commoditisation, compared with the warm feelings associated with patient communication. Negative stereotyping with respect to dental students' being perceived as proceduralists not focused on patient care has been described as a basis for prejudice from medical students (Ajjawi et al., 2009).

Chemical pathologist Patricia acknowledges a distinction between pathologists who are more concerned with procedures as opposed to those who are more concerned with patient communication. The work of chemical pathologists tends to be quite technical compared with that of haematologists and immunologists, often jointly trained and dealing directly with patients.

> Chemical pathology is obviously going to be different to the other disciplines in that the procedural skills that we have are quite different and the amount of communication that we have can be quite different in a way. In haematology and immunology, communication involves communicating with the patients directly, which a lot of other pathologists won't do – as well as communication with doctors.

Roger is an educator from a public health background who has worked closely with pathologists. It is the image of the commercially driven proceduralist rather than the caring communicator that sparked his cynical comments about procedures, profits and professionalism:

> I'd classify pathology as a procedural specialty in the sense that the way in which pathologists are remunerated, there is a growing private practice element and it's piece work. The more you do, the more you churn through, the more money you get. One has to take a step back and say – what would Hippocrates have thought or any of the giants of the history of medicine, how would they feel about it? I think the commercialisation of medicine and health is a problem. Automation has had a lot to do with biochemistry – it's made that easier. If you look at the amount of effort that goes into the production of one microscope slide for an anatomical pathologist to look at – it's not insubstantial – and if it's multiple pieces of tissue, it all takes time.

Commercialism is seen as antithetical to professionalism (Murphy, 2003; Swick, 1998) and the production-line view of pathology has been cited as compromising the public image of pathologists and the services they can provide (Legg, 2008). In Roger's commentary, this commoditisation also includes anatomical pathology, which is not in fact

automated but requires intense personal involvement of the pathologist. Whilst Roger recognises the complexity of anatomical pathology, he describes it in terms of the *production* of the slide for the pathologist to look at, rather than in terms of the pathologist devoting time and medical expertise to providing patient care.

Roger's reference to Hippocrates, the symbol of medical ethics, implies strong criticism of pathologists and their professionalism. My former employer, who kept a statue of Hippocrates on his desk, would have been highly offended, though as one can see from Figure 20, he was a pathologist from a different era.
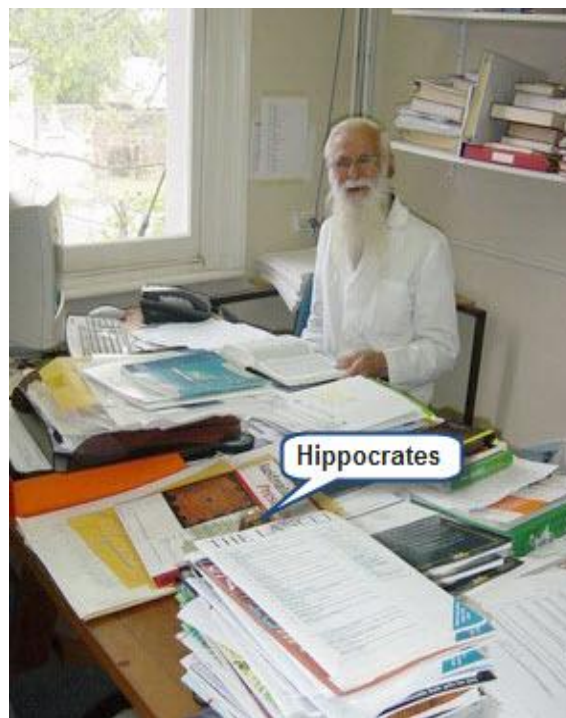
Figure 20. A pathologist of a past era

Hippocrates, though largely hidden in this photograph, takes pride of place amongst the *Lancets* on the desk of my former employer, Dr Colin Mansfield. Photograph by Wendy Pryor

4.2.2   Knowledge and skill

'If I ever needed a biopsy, I would get this guy to read it because he is so obsessive. And he's terrific at this work.' (Physician Ken)

Whilst Roger spoke of pathology as both a specialty and a science, his veneration of the science contrasted sharply with his cynicism about pathology as a procedural specialty. Roger, like many health professionals, associates pathology with wisdom and knowledge and expressed it thus:

> No one would deny that a knowledge of basic sciences is important to pathology. I believe that a knowledge of pathology is fundamental not only to the proper understanding of medicine, but it actually makes it a lot easier to learn.

This is the positive side of the pathology stereotype, relating to science and knowledge, that pathologists themselves readily embrace.

Ken, as a physician, has great admiration for the diagnostic skills of pathologists. In this respect, he described a friend who is an anatomical pathologist in glowing terms:

> His role is really to read slides for people who have prostate cancer, and I would trust this guy implicitly. If I ever needed a biopsy, I would get this guy to read it because he is so obsessive. And he's terrific at this work.

Despite this admiration, all is not glitter: Ken's friend is 'obsessive' and a poor communicator, as Ken later remarked. It may be that friendship, trust and respect for diagnostic skill are enough for Ken to excuse a lack of communication skills. Later in the interview it became apparent that perhaps veiled cynicism about the profession justified acceptance of a lack of professionalism. Ken suggests that the friend may not actually need communication skills in the way that a caring physician would:

> It's still important but not quite that critical. So we need to kind of respect that approach in some of the disciplines.

Roger would not be so ready to accept what he perceives to be a lack of professionalism. He was emphatic that:

> There is more to being a pathologist than being able to look at a slide and get
> the right diagnosis.

Roger went on to discuss issues of professional ethics, medical errors and quality management, and dilemmas about public versus private funding of medicine. Whilst diagnostic skill and accuracy are highly valued by all, he pointed out that medical professionalism involves more than this.

Professionalism concerns identity (Hafferty, 2006a). What constitutes it derives from both self-image and the perceptions of others (Lingard et al., 2002). Roger and Ken in particular have expressed their perceptions about the shortcomings of pathologists with respect to communication and professionalism.

4.2.3   Are pathologists non-communicators?

'They see it as a backroom specialty, somewhere where they can get away from patients, somewhere where they can sit in the lab and look down a microscope and they never have to talk to anyone.' (Jennifer)

When I conducted the discussion with the RACP group, I made a comment that reflected my growing concerns, particularly after having recently interviewed Roger. Though this was not good technique for an 'impartial' researcher, the instant response was interesting:

> Wendy: 'When it comes to laboratory management, they're really into that,
> but all this other stuff like communication and collaboration…'
> Ken: 'A bit like surgeons'.

A clear example of stereotyping. The stereotypic feature that pathologists are said to share with surgeons is poor communication (Harris, C., 1981; Legg, 2008; Woolfe, 1987), and was probably what Ken had in mind when he subsequently described pathologists, using his friend as an example:

In a sense we have to allow doctors who want to hide from a lot of self-reflection around the front-end stuff like communication... Some people know they're not good at that and they opt for disciplines like radiology or pathology. And you just have to respect that way of working, and I've got a good friend who's an anatomical pathologist who well, perhaps enough said, and I don't feel like it's right to push him too far down the track of thinking about what he's like, his communication or lack of it, or about his Asperger's or whatever, but I think in a sense, I think as physicians we can and we should, because we're dealing with patients on a regular basis and good communication is critical.

Whilst there may be truth in Ken's observation that introverts are attracted to pathology (Hojat & Zuckerman, 2008; Myers & Davis, 1976), it is also the case that pathologists, even of the anatomical variety, do have many roles beyond reading biopsies and must be able to communicate.

When Ken refers to communication, he is mainly talking about communicating with patients. Because of this, he believes that communication is less important for pathologists and it actually doesn't matter so much if they are not good at it. Though Ken may believe that he is being a kindly physician in accepting his friend's behaviour, he may actually be doing the pathology profession a greater disservice by reinforcing rather than challenging the stereotype in the way that Roger did in a less kindly tone. Physicians like Ken and frameworks such as CanMEDS (Frank, J. E., 2005), that specifically associate communication with patients, may serve to reinforce the idea that the doctor who does not see patients is a non-communicating doctor, or perhaps not even a real doctor.

Roger, like other educators Linda and Tony, commented how communication is just as important and relevant for the pathologist as for any other doctor, though it applies in different contexts.

There's a series of contexts within which those tasks are undertaken. Now, the pathology laboratory is clearly going to be a fairly specialised, localised

area ... you can say – well, a *doctor* needs to be able to establish effective communication with people, at least as far as patients and families and carers are concerned – sufficient to create a climate of some empathy and trust. They are going to need to do that with the patient, the family and carers, with other health professionals, with their boss, with their juniors. Depending on the slant you take, you say they (pathologists) would need to be able to do that with the administration of the hospital or the health care institution.

It is interesting that Roger applies the word 'doctor' to the clinician who communicates with patients, as distinct from a pathologist who communicates at an administrative level.

Pathologists may not have to talk directly to patients, but they certainly need to interact at many levels. Pathology trainees who choose their specialty in the hope of hiding behind the microscope are mistaken about what is really involved. Microbiology supervisor Jennifer referred to the many ways in which pathologists need to communicate:

> ...different ways, telephone, face to face, presentation, and all the ways that they are expected to interact – with laboratory staff as well as clinical staff and students.

However Jennifer noted significantly different attitudes between 'single-discipline' trainees who train in laboratory microbiology only, and those who are jointly trained as microbiologists and infectious disease physicians. The physician trainees are much clearer and more confident about their communication roles than the pathology trainees.

> Some of the single discipline trainees that I've examined and also that I've supervised are much less confident and much less clear in their mind about how important their communication role is. I think still some people go into pathology – microbiology in particular – because they see it as a backroom specialty, somewhere where they can get away from patients, somewhere where they can sit in the lab and look down a microscope and they never have to talk to anyone. It's not just micro, it's across the board that communication has got to be highlighted as a major skill.

The stereotype of the 'backroom' doctor (Graves, 2007) who is remote from patients, according to Jennifer, is actually seen as an attraction to pathology for some. It seems likely that stereotyping is operating here in two negatively synergistic ways: it sends the message to students that pathology is a way to escape to the 'backroom', thus exerting selective pressure on career choice, and this is reinforced through interdisciplinary prejudices in the clinical environment.

4.2.4   Are pathologists unreflective?

'Doctors who want to hide from a lot of self-reflection around the front-end stuff like communication... they opt for disciplines like radiology or pathology.' (Ken)

Ken has referred to pathologists as 'doctors who want to hide from a lot of self-reflection around the front-end stuff like communication'. To Ken, reflection is part of being human, and he seemed to assume that if a doctor is not in the front line of patient care, then the doctor is hiding from self-reflection. Ken links lack of direct patient contact in a stereotypic and oversimplified manner to lack of communication, reflection and humanism, and this is seen to be justification for lack of life skills altogether.

> So although I'm a human being and I want to get people to reflect, I think it's
> a life skill. Maybe the expectation of some of the disciplines should be not so
> much upfront as for the others.

To Roger however, this lack of patient contact is definitely not a justification for non-reflective behaviour, especially since Roger takes a broader view of reflection. During his interview we recalled the resistance from RCPA Fellows when we had tried to implement a reflective diary for their Continuing Professional Development Program (CPDP) (see section 2.2.3.6). The Fellows had great difficulty with the reflective aspect, and the project was eventually abandoned in favour of a system of counting hours spent on particular categories

of learning activity, such as reading journals or attending lectures. Roger believed that this response was symptomatic of a non-reflective cultural milieu endorsed by the College:

> We need to think about where that change should start and how it can be accelerated, and the College has a role to play in that in terms of the continuing professional development milieu that it sets up and without being unkind or rude, probably counting hours is not a very intelligent activity.

Roger does in fact come across as rude in this following outburst of outraged polemic:

> I think we need to go back and remind ourselves what those original benefits (of the *Learning Diary*) were. One of the expectations of a mature professional is that they are able to reflect on what they do, and if people say point blank and they don't want to think about what they're doing, one then has to question – are these mature professionals which we're producing or is this back to primary school? This is frankly very infantile behaviour which trainees in this learned profession are demonstrating.

This is not just an amusing stereotype. Roger has identified a deeply entrenched culture that is part of the hidden curriculum to which our trainees will be exposed (Hafferty, 1998). Trainees may be socialised to learn as their masters do. The masters' CPDP involves unreflective counting of hours. Many trainees responded as negatively to the reflective aspects of the *Learning Diary* as the pathologists reacted to the reflective CPDP. Thomas, an educator who had previously participated in an RCPA workshop where the *Learning Diary* was discussed, was almost as rude as his colleague Roger when recounting the experience:

> We've seen that they didn't like the reflective aspect of the diary. What we are doing is a one-off learning diary and the feeling was that this is an imposition on what we are already doing. "Oh God, what does the College want us to God-damned do now?" kind of reaction. They were wanting us to cut it down. I was very surprised at the reaction. It wasn't a very revolutionary thing that we were doing. It was a pretty standard reflective diary.

Ken responded by explaining how he had been able to bring about an acceptance of the RACP portfolio through a series of educational workshops in which supervisors and

trainees were taught about reflective learning. Whilst offering kindly advice on one level, Ken was again suggesting that pathologists are 'different', and maybe not as good as his physician ingroup, because he is doubtful about their reflective capacity.

> So the resistance, at least amongst the physician/paediatric people, is much less, with a bit of time and a bit of information, than it had been. And it may be true for you College too. Dunno. I think pathologists overall can be a slightly different group of people, in general.

Ken, Roger, Thomas and the others at the RACP apparently view pathologists as a 'different' outgroup. Whilst their cleverness is acknowledged, pathologists are seen by some members of the physician and educator groups, variously, as uncommunicative and/or unreflective, perhaps even infantile, commercially-driven technicians. This disparaging discourse portrays pathologists as a marginalised group, with the risk that pathologists may construct their own identity around that image (Turner et al., 1987).

My data suggests that pathology stereotypes are not totally erroneous, but are exaggerations or oversimplifications of reality, meaning that identification with an ingroup impacts on personal values by making it more difficult for a person to recognise the difference between group norms and professionally desirable behaviour (Hilton & Hippel, 1996). Ken appears to be an example of this. He identified and venerated his own physician ingroup norms, but at the same time implied that poor communication and unreflective behaviour are acceptable for pathologists because they are a lesser breed of doctor, being less humanistic than physicians. Such stereotypes may be damaging to inter-group communication and understandings (Preston et al., 1996) with potentially serious consequences for patient care (Lingard et al., 2002).

A negative stereotype may also be endorsed by individuals over the long term and manifested across a variety of situations. This has been described as 'chronic internalisation'

which can result in decreased self-esteem and motivation (Burkley & Blanton, 2007). This has potentially serious implications for education and training, where self-regulation depends on self-efficacy and motivation (Bandura, 2001).

Furthermore, trainees may 'selectively accentuate' their technical capabilities and downplay their humanistic attributes to preserve self-esteem in the face of negative stereotyping (Stets & Burke, 2000).

Clinicians and educators may be critical of pathologists' professionalism, but they may also have different conceptions of the nature of professionalism itself. Appreciating different conceptions is important to both clinicians and pathologists in understanding each others' roles. It is also important for educators in any specialty to understand differing conceptions in order to construct meaningful curricula.

4.3 Meanings of professionalism

From interactions with the *Generic Curriculum* and also the ways in which my participants used the words 'professional' and 'professionalism', I could deduce some ideas about their conceptions and make some comparisons between non-pathologists, pathologists and trainees.

Whilst as an interviewer I used the term 'professionalism', the pathologists and trainees I interviewed never did so in response, and only one pathologist mentioned the term in written feedback. However they sometimes used the term 'professional' in a broad sense. This was often in relation to practice and responsibility; when referring to 'professional development'; or in relation to identity, for example referring to oneself as 'a professional' or 'a professional pathologist'.

4.3.1 Knowing, doing or being?

'If somebody is going to practice ethically, they just are, it's not a learned skill.' *(Rebecca)*

Modern conceptions of professionalism have evolved away from the bioethical view that lists knowledge and behaviours (Cruess & Cruess, 2008; Hafferty & Castellani, 2009). However, my participants tended to use language consistent with bioethical models and refer mainly to the knowledge and technical aspects of pathology.

For example, the idea of 'professionalism as knowledge' was expressed by a pathologist as 'basic knowledge for professional practice'; and 'professionalism as skill' is implied in phrases like this one from an anatomical pathologist when referring to the *Generic Curriculum*: 'engineering the skills needed for a successful pathologist'.

Certainly knowledge and skills are essential components of professionalism and must be taught, but they are tools and do not in themselves constitute *being* a professional

(Hafferty, 2006b; Hafferty & Franks, 1994). This does not mean that technically-minded people like engineers and pathologists cannot shape their professional identity through reflection on knowledge and behaviour (Harris, C., 2008) — indeed, they must be supported in doing so (Cruess, R., 2006).

Another aspect of professionalism, emphasised by trainee Rebecca, is innate character:

> Some things are not so much tasks to be learned as personality traits – if somebody is going to practise ethically, they just are, it's not a learned skill.

Hafferty (1994) criticises this idea, pointing out that although moral character is largely established before entering medical school, we can and must take active steps to guide transformation of the student into a professional.

Non-pathologists Peter, Roger and Ken concur that professionalism is more than technical. Unlike the pathologists, they talk about professionalism as that which arises from reflection upon experience and behaviour. To Ken, it revolves largely around reflection on interaction with patients. Ken found that physicians and trainees responded very favourably to workshops in which they were encouraged to reflect upon patient interactions, to the extent that the physicians have made provision for some RACP supervisors to specifically provide support for trainees to develop as professionals as a separate activity from studying the technical skills of the particularly specialty. Ken explains:

> That's why we have agreed to separate out the roles of the supervisors such that we have extra supervisors whose role it is to facilitate reflection about development as a professional and those who work on the educational journey through the content of the basic training and skills acquisition. Now that is to be tested as to whether that is actually a useful distinction or separation, but it's pretty clear to us that issues of getting people to reflect on this stuff needs particular specific and focused attention.

This separation of teaching roles is also accompanied by a *Professional Qualities Curriculum* that is separate to the content of the basic clinical training. Ken himself questions the wisdom of this approach, but claims that the separation is for the purpose for emphasising the importance of reflection in professionalism.

Though I cannot comment on the appropriateness of this strategy for physicians, I do see potential problems. To focus on any one aspect, be it knowledge, skill or moral character, or to separate reflection from any of these, does not do justice to the more holistic conception of professionalism as identity (Hafferty, 2006a; Hafferty & Franks, 1994).

4.3.2 Professionalism and the CanMEDS framework

'Ditch the CanMEDS formula and focus on the practical aspects of pathology.' (Pathologist)

Since the model of professionalism that was presented to my participants derived from CanMEDS, I was able to assess some reactions to this construct.

The CanMEDS model (Frank 2005) specifically defines what is meant by the doctor's role as Professional, and sets it out as one segment of the overall model of a medical specialist. However the terms 'professional' and 'professionalism' are used more broadly in everyday language compared with the CanMEDS definition.

The actual term 'professionalism' was seldom used by my participants other than by medical educator Peter, who discussed the topic in some detail. He equates 'the dimension of professionalism' with 'CanMEDS type of properties'. Peter takes the view that professionalism is a broad and global concept, encompassing knowledge, behaviour and professional qualities — i.e., 'being professionally active' in more than just everyday work and technical expertise. Here is Peter's commentary on the subject:

CanMEDS was one idea about some headings that could be promoted in this generic area and it really seems because they did the work, it became very popular with many other colleges. In fact, the AMC itself is going to generate a thing saying that it's decided there's already enough floating out there.

I almost think that dividing it up into so many different elements is more than necessary. You could batch them a little bit better and say – you have to be professionally active rather than just in day to day work – or something like that...

My view was that it sectored it out a bit too much and it could have come down to two or three headings, or even just one global heading – evidence of development of professionalism other than technical expertise – and that evidence could be quite wide. I have some sympathy for the view that CanMEDS has been a little bit overblown.

Peter describes some of the difficulties in defining professionalism for medical specialists in general and questions the subdivided structure of the CanMEDS model. He is aware of misgivings about CanMEDS within the ranks of the AMC, even though it was officially endorsed in their published accreditation standards (Australian Medical Council Incorporated 2002) at the time of the interview: the latest AMC standards refer to CanMEDS only as a footnote (Australian Medical Council, 2008). CanMEDS was adopted by many Australasian colleges largely on account of AMC endorsement; while some continue to find this framework suitable, others have found the need to substantially modify it. Peter recommends 'batching' the roles, so as to provide a more global definition of professionalism that can be applied by individuals in various specialties in many ways.

Similarly, Roger sees tensions between the general and specific aspects of professionalism, and the dilemma of putting the doctor, the community or both at the centre of the flower diagram (Figure 11):

This is such a broad area. You've seen the latest CanMEDS flower? The serious problem about that is that you need to be able to communicate to deal with all the other elements and what the flower looks like – acknowledging

the medical expert and decision-maker has to be somewhere in the middle, so
does the community.

The RACP (2007) has considerably modified the CanMEDS model, developing its own *Professional Qualities Curriculum*. Like the RCPA *Generic Curriculum*, this is also applicable across all the medical specialties, but is embodied in a single document separate from the detailed specialty curricula. Physician Ken describes the professional qualities as all those that do not relate specifically to a discipline — such as neurology or gastroenterology — but are broadly oriented to either adult or paediatric medicine. He explains it thus:

> The way we've interpreted the CanMEDS type stuff is to take out the stuff
> that relates to the discipline, and we are talking about being a basic medical
> specialist, with a slant towards being a physician or a paediatrician.

The reference to 'taking out stuff' echoes Ken's comments cited earlier about separating the teaching of professionalism from that of the basic sciences. Whether this is appropriate for pathology is a question to be discussed based on my analysis.

Three of my participants specifically used the phrase 'as Professional', directly citing the CanMEDS construct. In one case it was in the sense that it was not his/her 'real job' as a pathologist. In another case it was considered by a trainee to have been 'done to death' in medical school; and in only one case, a trainee, was it considered to be a useful concept. Three pathologists also made direct references to CanMEDS as such, one simply saying that the framework was not useful, another asking the College to 'ditch the CanMEDS formula and focus on the practical aspects of pathology', and another saying that:

> It seems that the six areas of expertise have been made up and people are now
> being asked to fill them with sense, rather than the other way round.

It is perhaps a valid point that what is seen as 'sense', i.e., those aspects of professionalism that are relevant to the practice of pathology, should define the curriculum framework. However, the problem remains that what this pathologist perceives as sense may

not correspond with the concept of professionalism as seen by the others in the medical and general community; and a physician who wishes to separate professionalism from knowledge and skill may not meet community expectations, either.

Linda, an education administrator, also expressed reservations about CanMEDS from her observations of pathologists and trainees: from her perspective, its framework, prior to being adapted and refined by the College, was perceived as nebulous and largely irrelevant. Linda comments that the RCPA uses:

> ...the same headings as CanMEDS – but that's where the similarity stops...(It has been) refined to meet the needs of the College and that's really important, because at the outset it was too nebulous...CanMEDS is fine but it needs to have relevance otherwise you won't get any buy-in from the trainees or the supervisors.

Despite the refinements to the *Generic Curriculum* and attempts to make the CanMEDS framework relevant to pathology, the framework did not engage the pathologists and trainees. Furthermore, some educators were also concerned that the model does not do justice to the more global nature of professionalism with community responsibility as a central focus. I argue that we need a model that captures both 'sense' as defined by community and professional expectations, as well as one that engages the hearts and minds of those who must embrace it in everyday practice.

4.3.3   Professionalism as a nebulous concept

'I fear many things listed in the curriculum are subjective and not quantifiable. Their inclusion in a learning diary may result in a frenzy of clichéd motherhood statement answers.' (Trainee)

A striking phenomenon in my data was the very frequent use of words and phrases implying vagueness, and the concept that professionalism is something ill-defined and nebulous. The word 'nebulous' itself occurred 24 times in the texts generated by this research, and was used

always in connection with the *Generic Curriculum* — i.e., my proxy for professionalism. Other terms included:

'vague'; 'airy fairy'; 'ambiguous'; 'amorphous'; 'abstract'; 'fuzzy'; 'waffle'; 'silly'; 'soft'; 'subjective'; 'not quantifiable'; 'non-specific'; 'feel-good stuff'; 'an exercise in creative writing'; 'obscure'; 'shady'; 'open to personal interpretation'; 'a bit of a waste bucket'; 'politically correct broad concepts', 'unfocused', 'trite', 'vague' and 'almost meaningless'.

Such terms were used by trainees about twice as often as by pathologists: one made the following objection:

I fear many things listed in the curriculum are subjective and not quantifiable. Their inclusion in a learning diary may result in a frenzy of clichéd motherhood statement answers.

To discover more about why these terms might be used, I employed one of the techniques typically associated with constant comparative methods, i.e., construction of matrices. This was facilitated by the matrix query function of NVivo 8 and enabled cross-tabulation of various concepts and parameters.

One matrix revealed a significant parallel between perceptions of professionalism as vague and nebulous and concerns about irrelevance. About 60% of trainees who commented about irrelevance also referred to nebulousness, compared with only about 10% of those who indicated that they thought any aspects of the curriculum were relevant. In other words, perceptions of relevance are inversely associated with conceptions of nebulousness.

Areas that were most often identified as nebulous related to interpersonal skills. For example, one trainee stated that:

Some (outcomes) seem *silly*, for want of a better word, e.g. collaboration and teamwork! - identify roles of healthcare team members.

Other areas included health advocacy and

soft areas such as managerial skills, legislation, ethics etc. (Trainee).

The fact that trainees referred to the vagueness of professionalism more often than pathologists could relate to a lack of immediate value to the trainee and preoccupation with other learning goals (Eccles & Wigfield, 2002). It could also be because professionalism is not well operationalised for the trainee (Jha et al., 2006) and not explicitly assessed (Hafferty, 2004).

Goals that are seen as 'soft' and 'silly' will not be given priority: technically-minded pathologists will probably find vagueness to be particularly unappealing. Some pathologists expressed a preference for 'concrete' objectives: Pathologist Dean describes himself, e.g., as a 'concrete thinker' and likes to see 'concrete examples', and another pathologist suggested that 'areas with more *concrete* outcomes will be easier to understand and assess'.

Some authors have acknowledged that professionalism is in fact a vague concept when considered in broad terms. However this perception of vagueness is overcome by operationalising it in practical terms applicable to medical practice (Hafferty, 2004; Jha et al., 2006).

Whilst the perception that professionalism is a vague concept does seem to be embedded in the culture of pathology, I have no evidence that this is to a greater or lesser degree than for other medical specialties. In discussion with colleagues about how medical students and members of other disciplines perceive professionalism, the consensus was that this idea of nebulousness is fairly widespread.

Motivating transformation of professional identity from an educational perspective means setting clear goals (Swanwick, 2005). However, the priorities assigned to the educational goals will be strongly influenced by the learner's own values. It is vital therefore

to understand the values that pathologists hold for themselves and will model for their trainees.

The next theme concerns pathologists' values as they relate to the perceived relevance of various aspects of professionalism in their daily work.

4.4 Pathologists and their professional roles and values

4.4.1 Diagnostic expertise

'The most important thing is our pathology knowledge and how we apply it.'

(Trainee)

Perceptions of relevance of the goals of training determine the value and hierarchical and temporal positioning of goals, and hence motivation to address them (Eccles & Wigfield, 2002; Zimmerman, 2001). The themes described here relate to the relevance of the domains of professionalism, illustrating the relationships of goals and values to culture and how conflicts between expectations perceptions and realities may occur. How these values and conflicts actually motivate or hinder self-regulated learning will be further considered in Chapter 5.

CanMEDS and other models articulate community expectation that medical expertise is central to being a medical specialist (Frank, J. E., 2005). In keeping with this expectation, diagnostic expertise is highly valued and central to pathologists (Jenkins, D. et al., 2002). My participants demonstrate commitment to this central value unequivocally, as encapsulated by one pathologist:

> 'pathologist *expertise,* which of course is a *sine qua non*;

Trainees also place top priority on achieving this diagnostic expertise, as one of them explains: 'the *most important thing* is our pathology knowledge and how we apply it', and another trainee referred to the 'cornerstone of AP' as 'diagnosing things'.

There is no dispute about the value that both pathologists and clinicians place on diagnostic expertise: the values placed on the non-technical aspects of pathology and the extent to which they find their place in the learning goal hierarchies of trainees and ultimately as part of the identities as pathology professionals are of more interest in this research.

4.4.2   The non-technical domains

'The wide range of generic skills required of a pathologist in their everyday practice life' (Pathologist)

Eminent pathology role models emphasise that many aspects of professionalism are integral to the practice of pathology (Harman 2005; Collins 2006; Horowitz 2006; Duflou 2008), but I was keen to discover to what extent these values were articulated by my participants when discussing their everyday experience.

A striking theme arising from the qualified pathologists participating in the workshops was the frequency with which they referred to aspects of professionalism as being relevant to practice, using phrases like:

> the wide range of generic skills required of a pathologist in their everyday practice life.

Compared with pathologists, trainees were less likely to refer to the value of the non-technical domains. Several openly questioned the relevance to their training experience; which implies that aspects of the training program are influencing the arrangement of goals such that professionalism, though it is seen by pathologists to be essential in practice, takes a lower priority for trainees as an educational goal.

Specific issues relating to professional and work values clustered in three main domains: management, communication and ethics. I consider these in turn, and finally describe some differences between the pathology disciplines to illustrate some of the factors that influence goal priorities.

4.4.3   Management

'To know how a laboratory functions, the safe storage of dangerous goods, quality assurance, and that sort of thing. I really see there's benefit in implementing this.' (Trainee Hans)

The aspects of the *Generic Curriculum* clearly identified as most relevant were those regarding laboratory management.

Pathologists spend a significant proportion of their time engaged in management roles (The Ryder Self Group, 2007). There is a recognition that management skills are increasingly important for them, but newly-qualified pathologists may be inadequately prepared for this role. Some US studies have described how deficiencies in training account for such lack of preparation (Horowitz, R., 1998; Horowitz, R.E., 2006). When pathologists in my study were asked about what they considered to be the potentially beneficial aspects of the curriculum, they often referred specifically to aspects of laboratory management — referring particularly to laboratory safety and quality management and to some extent informatics, human resource management and legal issues. Education administrator Linda, who attended the workshops, noted that these issues came up frequently in discussion. There was a strong feeling that this is part of the daily responsibility of pathologists and that it had been largely neglected in the curriculum, as illustrated by this haematologist's comment:

> (The *Generic Curriculum*) puts emphasis on fields necessary and required to function safely as a pathologist which play only a minor role in the exam process. (It) reinforces the managerial aspects of the role of the pathologist.

Some of the pathologists interviewed indicated either dismay or surprise at how little trainees were being taught about laboratory management, even at a senior level. In some cases the curriculum served as a trigger to discuss these issues with trainees. Chemical pathologist Patricia, for example, was surprised to find that her fourth year trainee had minimal exposure to some very important aspects of laboratory management:

> It was interesting to go through and realise that there were some areas that she'd never had anything to do with, particularly the occupational safety issues and some of the human resources ones. One can soon see – you're doing nothing about learning about quality assurance, or there's a real hole

about this or that. It does emphasise to the trainee the broad number of areas
that are needed to be covered during the training period.

Similarly, anatomical pathology supervisor Ian identified business management as very much part of his practice and expressed his opinion that registrars should be exposed to this type of activity. However, he had not previously thought about passing this knowledge and experience on to the registrars:

> Yes, it did provide an outline of where we should be going with certain aspects that I wouldn't have considered necessarily. For example, some business aspects which I'm obviously quite familiar with, running the practice here, but not necessarily – that wasn't on my radar for passing on to registrars.

Anatomical pathologist Andrew discussed at length the importance of understanding how regulatory frameworks and funding arrangements impact on pathology practice, but complained that these topics are not being actively taught.

Like their supervisors, trainees do see the relevance and benefits of addressing laboratory management as explained by trainee Hans:

> To know how a laboratory functions, the safe storage of dangerous goods, quality assurance, and that sort of thing. I really see there's benefit in implementing this. When you read up on something that you didn't know before, for example, like management of a laboratory, you actually do get a bit of experience. Obviously, one has the ability to self assess and see.

Appreciation of the importance of management may not occur until late in training. It was not until senior anatomical pathology trainee Janet worked with a colleague on designing a training program for junior trainees that she became aware — and concerned — that these skills had not been part of her training experience. She explained how the responsibility of organising the training for others, together with prompting from the curriculum, led to her understanding:

I think they are (important) and I think that's why in Queensland we actually addressed this when we put together our registrar training program for the pre Part I and post Part I people – we deliberately included in-between when you sit the slides and the *vivas*, we particularly addressed things like lab safety, QA, QC, we tried to address some legislative things, definitely the things about human resource management, data control and data entry. We didn't really ever think about those things.

As Janet implied, values and interests change over the course of the training program. This has implications for the ways that trainees will prioritise their learning goals over time (Eccles & Wigfield, 2002), as discussed in depth in Chapter 5.

When trainees are offered a curriculum addressing the technical aspects of laboratory management, they seem to embrace it readily in terms of intrinsic interest and work-related value, though other educational goals may get in the way of actually learning to be a manager. Before the introduction of the *Generic Curriculum*, the RCPA curriculum structure had not evolved with pathologists' perceptions of the importance of training in laboratory management. Addressing this at the level of the formal curriculum was an immediate and well-accepted step though, from the evidence in this study, insufficient in itself.

Some less technical aspects of management were mentioned more seldom; they may have lesser value in the pathology culture and may therefore be more challenging to address.

Despite the fact that some trainees did indicate significant interest in quality management, anatomical pathologist Andrew had some major concerns that the trainees did not see 'the big picture' relating to quality management — i.e., the role of the pathologist in the broader health context and the implications for patient safety:

I think quality management was probably the area where they had the least idea. I'm having trouble explaining to them that we hold clinico-pathological audit meetings. As for why we do it – they thought that the clinicians were interested in seeing the cases. The whole point of correlation and audit was

lost on them. They know that's the title of the meetings, but they've never even thought that there were internal purposes in holding the meetings, and there were cross-medical specialist reasons for holding the meetings, and that the bigger picture was trying to improve patient care, patient safety, manage performance – they just didn't see that as being what it was all about at all. And these are pretty good trainees, the pick of the bunch.

When the pathologists in Andrew's laboratory took an interest in quality management, it was at the level of personal interest or work value, rather than the other orientation of patient care (Fagermoen, 1997). Whereas it emphasised the technical goals of the process, patient safety was not seen as the primary purpose of the exercise.

Ken argued that the RCPA had the wrong perspective in framing management as a set of technical skills. He and Roger described conceptions of management different from those of the pathologists.

When Roger was describing how he would construct a curriculum, he used the area of management as an example. His concept related to the patient, family and carers, other health professionals, their professional environment, human resource management and managing one's own personal affairs.

Ken was quite emphatic that management, from his point of view as a physician, had nothing to do with technical issues such as those concerned with laboratory management. He was actually very critical that the RCPA should treat this as a generic role and stated that it should be regarded as a core technical area specific to pathology. Ken explained:

When I look through what you've got, not surprisingly, your stuff about Manager is not particularly generic because it's actually about lab management, which is a central part of pathology training. When we think of management in the CanMEDS type construct, I suppose when you think of when it's a physician manager, or is it a pathology professional, it's actually quite different, …. I'm sorry if I sound critical, but ... I would have considered a lot of that stuff in your pathologist as manager – lab safety, that sort of

thing, is what I would have thought of as being your core curriculum, about being a pathologist. That to us is just like reading an ECG to a basic physician.

It is interesting that Ken used the phrase 'being a pathologist' in this context, reinforcing his previous statements portraying the identity of the pathologist as a technician. Yet the pathologist's role in quality management is highly relevant to patient safety (Hilborne et al., 2009): indeed, it should be part of 'being a pathologist'. However, the physician must understand that this is not grounds for criticising and stereotyping, and that the need to focus on technical issues does not mean that the pathologist is necessarily a non-reflective technician. Furthermore, the pathologist must also understand that the meaning of management, though it does involve a good deal of technical knowledge and skill, is ultimately concerned with patient care and safety. This underlines the importance of physicians, pathologists and educators establishing and clearly communicating definitions that are contextualised and meaningful for the particular specialty.

4.4.4 Communication

'Working with clinical staff to enhance the role and value of pathology within the hospital' (Trainee Martin)

The importance of communication and collaboration has been emphasised in many published curricula. There is evidence in the literature that pathologists perceive this domain as highly important in practice, but often neglected in training (Harman, 2005; Horowitz, R.E., 2006); and it was given a significant amount of attention from all my participants.

Some trainees did indicate that they placed a high value on good communication. For example, Katrina describes it as 'what you do on a daily basis', and Anna identifies communication as the most relevant objective at her junior level. Trainee Dani finds that her interactions with clinicians are particularly satisfying. From this she derives a 'positive

feeling' about 'having a direct input into patient care'. Dani seems quite comfortable with her role as a patient-oriented communicating doctor.

On the other hand there is evidence that at least some trainees are uncomfortable with interpersonal roles, like the one who referred to objectives relating to collaboration as 'silly'. Another specified empathy, communication and collaboration as nebulous concepts, and another associated communication with 'counselling', seeing this as an inappropriate area for a pathologist to be dealing with. In fact, the words 'empathy' and 'counselling' were never used in the RCPA curriculum, but possibly that opinion reflects the stereotyped conception that communication is mainly concerned with patient interaction, and is therefore not of interest to pathologists. Discomfort with clinical work was implied by anatomical pathology trainee Janet when she referred to her 'three years of pain and suffering as a clinical person'.

Anatomical pathology trainee Sam questions the relevance of communication skills because he doesn't see patients:

> Most of them were culturally-based things. We don't see patients very often, so I'm not sure how relevant they were. I know there were some particular issues with regards to autopsies and things. We're not really involved in the consent process at all, so it's a bit hard to know – I don't think all of them were relevant.

Such findings are consistent with evidence that students who choose pathology as a career are not particularly interested in direct patient contact (Holland & Bosch, 2006). However these findings will be of major concern if the patient, at a distance, is left out of the picture altogether.

Another trainee, acknowledging that communication is important, sees it mainly in terms of writing a report, so that it is readily assessable in a formal examination:

> Important aspects such as communication/writing a report etc (are) assessed in (the) exam anyway.

This illustrates a view I have personally heard expressed on a number of occasions: that for the pathologist communication is about the written report and little else. When I related this to physician Ken, he responded in a somewhat cynical tone:

> There's *that* style of professional practice.

Communication applies at broader levels, as appreciated by trainee Martin who identified teaching and

> working with clinical staff to enhance the role and value of pathology within the hospital

as important and satisfying aspects of his interaction with others. Trainee Hans referred to 'the role of the pathologist in the wider community'. It is encouraging that these two junior anatomical pathology trainees recognise the importance of communication and advocacy at both the local institutional and broader community levels.

Pathologist Andrew is a passionate advocate in the area of medical politics, and he explained how he had been very actively involved in the political activities of the College, promoting the profession and advocating for adequate funding. He had been investing great effort but was very concerned about others not being interested or not having the time to be involved:

> Maybe the diagnostic material is fine, but there's a lot more to being a pathologist than just doing diagnostic work, and the legacy that we're going to end up with is that there are going to be very few pathologists prepared to engage with the College's political activities, because they won't either be informed or care. I'm pretty tired, I must say – the hour a day I spend on College matters, even just dealing with the correspondence, and the intermittent meetings. I'm sure I'm like a lot of other people where you have a pretty complex working life and you're trying to squeeze these things in, and I don't see another generation of people coming along. There's a limit to how long you can do this stuff for. I'm probably one of the younger people doing it and I'm nearly 50, which is pretty crazy.

Pathologists have been reported as being less comfortable than other doctors in the role of Health Advocate (Ringsted et al., 2006). A lack of intrinsic interest for many pathologists is compounded by the high cost value in terms of time, effort and distraction from other goals that may lead to poor motivation for involvement (Eccles & Wigfield, 2002).

In summary, it is agreed that pathologists must be able to interact and communicate at many levels: this may not involve direct interaction with patients, but the type of skills required are not necessarily distinct from those that clinicians must display.

Trainees who accept the stereotypic image that pathologists are non-communicators because they do not see patients are taking a non-reflective approach and failing to understand how pathologists must be effective communicators at many levels.

Physicians who stereotype pathologists as non-communicators because they do not see patients are similarly being non-reflective in not understanding the broader meanings of communication for pathologists and perhaps for themselves.

It will be important to clarify to our trainees exactly what communication means in the context of pathology and to firmly counter suggestions such as Ken's that it does not matter so much for pathologists.

4.4.5 Ethics in pathology practice

'Things that you don't actually specifically think about are things that you do all the time. Things like ethics and confidentiality.' (Trainee Katrina)

Pathologists face many ethical challenges, particularly in emerging technologies like genetic testing (NHMRC 2000) and changing business models (Murphy 2003). I have highlighted concerns that pathologists are not being adequately prepared for these challenges (Domen 2002).

As mentioned in section 4.2.1, Roger reflected concerns about potential clashes between business models and medical professional ethics (Murphy, 2003; Swick, 1998), particularly regarding pathologists in the private sector.

Pathologist Andrew expressed serious concern at the lack of understanding or interest among pathologists concerning the regulatory environment and issues relating to illegal and inappropriate pathology practice. He specified weakness of the curriculum in addressing these issues as the major reason:

> Even simple things to do with the Medicare schedule and billing and everything else, which does relate to professional practice, is so difficult and complex and the fault in the background is that we don't have a well developed curriculum.

Despite the very real, specific and complex issues relating to ethics in pathology, trainees often seem to be dismissive of their importance or just take the area of ethics for granted.

Pathologists are in the business of handling huge amounts of urgent and sensitive information in potentially insecure environments (LiVolsi & Leung, 2006). However Katrina, a junior anatomical pathology trainee, did not appreciate the need to formally address the issue of confidentiality in her pathology training:

> Things like confidentiality and such were self explanatory and I don't really think you need to be assessed on that because I would hope that most people entering into any sort of medical position would understand confidentiality.

Similarly, for senior anatomical pathology trainee Janet, ethics and confidentiality issues were taken for granted, dealt with at medical school level, and not seen as something that she had to consciously reflect on in the context of their her own professional work as a pathologist:

> The other big group of things that you don't actually specifically think about are things that you do all the time. Things like ethics and confidentiality – you've already had that ingrained in you since you were a medical student, so it's difficult to tease that out of your own self because it's already layered in there.

'Layering in' to the 'own self' reflects a high degree of internalisation that is a desirable outcome of training as a medical student. However, a reluctance to continually add to those layers and to consciously reflect on them in daily practice is not a desirable outcome of postgraduate training. Another trainee showed a dismissive attitude in a more disturbing way, saying professionalism had been 'done to death in undergraduate medical degrees' and was 'aimed at the wrong level', as if no longer relevant to be considered at the level of a specialist pathologist. It would indeed be tragic for our doctors who are stereotyped as being concerned mainly with death to regard professionalism as a remnant of a past autopsy.

Even though Andrew referred to the lack of a formal curriculum, it is unlikely that formal instruction in bioethical principles alone will rectify the problem (Cruess, R., 2006). Medical ethics are more than knowledge or a set of tools. They exist at the level of professional identity and develop through socialisation within a cultural milieu that has a much more profound influence than does the formal curriculum. This 'hidden curriculum' is embedded in daily experience and interaction with peers and role models, and in the ethos of the workplace and the organisation (Hafferty, 1998) and thus must be addressed at the same levels.

Roger offered a commentary on this issue in which he suggested going beyond the content to examine the problems deeply rooted in culture, presenting a major problem for a self-regulated profession. If we wish to promote self-regulation, then we must have a clear understanding of the nature of the 'self', the professional culture and the direction of change:

To come back to the pragmatics, people do need to understand that there is more to being a pathologist than being able to look at a slide and get the right diagnosis…I guess the recognition that there is more to it than straight content is important….It seems to me that there is a set of systemic and existential and professional problems which are crowding out the educational benefit which can and should arise from this sort of activity. That needs a bit of clear diagnosis and the only way this is going to be resolved – because this is basically a self-regulating profession – is by moving people's view of all that, and cultural change is not rapid.

Making that diagnosis is the object of this thesis. I have presented evidence that most pathologists do have values that extend beyond getting the right diagnosis, however it appears that often these values are not truly internalised and embedded in culture to the extent that they form strong educational goals for the trainee.

4.5 Socialisation and professional identity

This theme integrates the findings so far described in this chapter, and concerns the ways in which pathologists and trainees develop their professional identities in relation to their own understandings about pathology and professionalism, the context of their work environment and stereotypical conceptions of others.

There are many tensions and dilemmas for pathologists as they negotiate their way through these others' expectations, and their own, about who they should be, who they want to be and who they are.

Firstly I consider what it means to be a pathology expert, and then examine the extent to which professionalism is embraced or not as part of professional identity. I assess the possible impact of pressures in the workplace. Finally, I describe differences between pathology subgroups, highlighting the differential impacts of culture and environment on identity.

4.5.1 Being a pathologist

'They're diagnostically engaged, that's why they do it.' (Andrew)

To non-pathologists, as noted in section 4.2.1, the word 'pathology' is associated with science and procedures.

Being a pathologist implies identity, and whilst it includes practising pathology, it also concerns the extent and the manner in which pathologists embrace professional values as part of their identity. The way that pathologists see their professional identities can be inferred from the way they use the term 'pathologist'. For example, in a written response to a survey question, one pathologist, having been shown the CanMEDS diagram, conveyed his identity emphatically by the use of block letters:

> We have the pathologist as Manager, as Professional, as Communicator etc,
> but not AS PATHOLOGIST which is our real job.

This pathologist specifically excluded some key aspects of professionalism in emphasising an identity as a pathologist. He subsequently expressed strongly negative views about including professionalism in the curriculum, being particularly concerned about its nebulous nature.

During the workshops, pathologists often asked me why the centre of the CanMEDS flower logo, labelled 'Medical Expert', was so small, suggesting that it detracted from the 'true' role of the pathologist. My initial response was to bow to pressure, modifying the CanMEDS diagram by enlarging the centre and relabelling it 'Pathology Expert'. This helped to win over the audiences in the workshops, but my subsequent reflection led me to wonder about the wisdom of this approach.

Anatomical pathologist Andrew had observed this attitude amongst the forty two pathologists who work in his large anatomical pathology laboratory. They are concerned with little else apart from their diagnostic function. When discussing aspects of quality management and advocacy, he said of the pathologists:

> There'd be one or two I would regard as interested … They're not by nature
> people who want to engage with this stuff. They're diagnostically engaged,
> that's why they do it.

The pathologists in this laboratory, as far as Andrew was concerned, failed to see the big picture about 'trying to improve patient care, patient safety, (and) manage performance'.

This culture appears to be a powerful socialising force, as Andrew explained with respect to the trainees in his laboratory:

> Trainees see the end point as getting Fellowship of the College of
> Pathologists. If you ask them to expand on what that means, most of them
> would have great difficulty and my impression is that most of them would say

> – "I'm diagnostically competent", and that's where they'd finish the
> discussion.

Anatomical pathology trainee Janet also referred to the category of 'pathologist as pathologist'. Taking on this identity was her primary concern, and she believed that other trainees have much the same attitude:

> I'm just learning to be a diagnostic pathologist...most of my 'training' is based
> around learning how to be a diagnostic pathologist...everyone's desperately
> trying to learn how to be a diagnostic pathologist...I'm being a diagnostic
> pathologist.

Throughout her interview, Janet referred frequently to this phenomenon that pathology is essentially about diagnostic pathology. The repeated use of the words 'be' and 'being' implies a very strong sense of identity connected to the diagnostic role.

4.5.2 Professionalism as peripheral

'Around the edges of core anatomical pathology training' (Gareth)

For some pathologists and trainees it appeared that their diagnostic expertise alone defined their professional identity. In other words, they simply related to the centre of the CanMEDS 'flower' and were driven only by the work or self-oriented values described by Fagermoen (1997).

Coulehan (2005) describes a form of professional identity termed 'non-reflective' that he believes very common in medicine: the doctor may believe that adhering to the cultural norms is being professional, without reflecting on the negative values that may be embedded in that culture. There is lack of congruity between what is espoused and what is internalised.

My evidence suggests that it is also a common phenomenon in pathology, and manifested in language that outwardly professes professionalism but inwardly detaches it from identity. This detachment is evident in the very frequent use of words and phrases implying that professionalism is thought to be a good thing but ancillary to pathology.

Chemical pathologist Patricia expresses a dichotomy between the professionalism that is seen as important to the practice of pathology, and the syllabus that separates professionalism from the goal of training a pathologist. She says:

> I guess it's something which is separate to the syllabus but just as important for professional practice.

Terms separating professionalism from 'pathology' were used very frequently by pathologists in my study. They included:

> 'additional'; 'outside the routine reporting of cases'; ' things besides medicine (slides and cases)'; 'outside discipline specific areas'; 'supplement to the more obvious components of pathology training'; 'non- core'; 'ancillary parts'; 'pathologists' role outside the reporting scenario'; 'around the edges of core anatomical pathology training'; 'extraneous things' and 'extra layer'.

Trainees also used language implying that the outcomes listed in the *Generic Curriculum* were important, but supplementary to their main diagnostic focus. They used phrases like:

> 'non-medical'/'non-diagnostic aspects of work as a pathologist'; 'non-clinical roles'; 'peripheral competencies'; and 'other aspects of pathology practice'.

The separation between professionalism and the 'usual square' of daily study was evident in this comment by senior anatomical pathology trainee Mark:

> The major upside was it's very helpful to have a good list of things that you really need to know about – outside the usual square of elusive disease – things like safety and quality issues and things like that, that you may not necessarily read about in your day to day study.

It is notable that Mark's emphasis was on the cognitive ('things you... need to know') aspects of professionalism. Mark worked in the laboratory where his role models were the 42 pathologists to whom his supervisor Andrew referred to as 'diagnostically engaged', disinterested in the running of the laboratory and failing to see 'the big picture' about 'trying

to improve patient care, patient safety, (and) manage performance'. It appears that Mark, by virtue of a weak curriculum and non-reflective learning environment, was being socialised into a non-reflective professional identity, internalising the negative culture but regarding it as 'good'.

Although anatomical pathologist Gareth could see the content of the professionalism curriculum as being very relevant to his pathology practice and 'all very much part of what we do', he was sceptical about the use of the *Learning Diary*. He provided a definition of a 'professional pathologist' that was somewhat paradoxical when set beside what he described as *doing* all the technical procedures of pathology. Gareth described how he expected his trainees to engage with the *Learning Diary*:

> Ultimately they're not going to be professional *Learning Diary* filler-outerers, they are going to be professional pathologists. What they really want to be doing is getting their teeth into a good case, cutting it up well, signing it out well, doing the immunos well, and doing all the pathology...
>
> The skills they will learn from doing this will be applicable throughout all of their training and their professional consultant lives, so the earlier they learn it and get it on board, the better pathology registrars they'll be and consultant pathologists they'll be...
>
> I thought a lot of it should be concentrated more into the first three years, or certainly into the pre Part I era of their training, because once they pass Part I and they're getting on into their senior registrar years, what they really need to be concentrating on is doing pathology...
>
> (This) will be around the edges because they're going to have to read about it, and everything integrates, it's all tied together, but in terms of core anatomical pathology knowledge, I don't know that this will add a huge amount than they already learn throughout their already extensive training they do in the five years.

Gareth's words conveyed a number of contradictions and tensions. *Being* a professional pathologist, in this commentary, was distinct from *doing* the procedures of

pathology, i.e., what trainees *really want*. Whilst professionalism was seen to be 'part of' specialist practice and supposedly 'integrated', it was at the same time 'around the edges' of the core, which is anatomical pathology knowledge. The rest could be 'taken on board' early then set aside to concentrate on 'pathology' — i.e., knowledge and skills as embodied in the examinations.

This attitude was commonly evident amongst the senior anatomical pathology trainees, who are most intensively examined, suggesting that preoccupation with technically-focused exams in the senior years promotes a non-reflective approach to professionalism. In this approach, 'doing pathology' conforms to all of the cultural norms and is seen as virtuous, but the identity of a 'professional pathologist' does not necessarily embody patient-centred values.

The model of professionalism for the pathologist who identifies strongly with the Expert role, but sees the non-technical aspects of pathology as nebulous and peripheral, is graphically illustrated as a wilting CanMEDS 'flower' in Figure 21.

Figure 21. The wilting CanMEDS 'flower'

For the pathology trainee, becoming a diagnostic pathology expert is a strong and clear goal. Other CanMEDS roles may be peripheral, appearing indistinct and nebulous. Adapted from original CanMEDS diagram (Frank, J. E., 2005) by Wendy Pryor.

4.5.3   The 'well-rounded' pathologist

'It will add to the discipline specific curriculum in making a well-rounded, more 'informed' pathologist.' (Haematologist)

Another interesting phenomenon was the use in several cases of terms such as 'well-rounded pathologist', or 'good and complete pathologist', implying at least superficially a view where the pathologist regards professionalism as part of the whole identity. In most cases these terms were used in written feedback from the workshops, and there was limited context for determining what was actually meant; but meaning could be inferred in a few cases. For example, 'roundedness' in some cases referred to knowledge:

> It will add to the discipline specific curriculum in making a well-rounded, more 'informed' pathologist with knowledge in all aspects of pathology. (Haematologist)

Furthermore, this 'rounded' knowledge and skill may not ultimately impact on the professional identity of one who is focussed on becoming a diagnostic pathologist, as suggested by trainee Janet:

> Although this process may make the trainee a more *rounded* employee in the sense of understanding management and communication strategies, I do not see that it will contribute to *being* a better diagnostic pathologist.

Despite recognition that there is more to being a pathologist than having the knowledge and doing the reporting, and that one needs a more 'rounded' conception of the role, professionalism may still be placed 'outside' the technical sphere rather than as an underpinning value, as this anatomical pathologist implies:

> (The curriculum provides) increased awareness of pathologists' roles. (It) emphasises the roundedness of pathologist position. (It will help to) understand the extent of a pathologists' role outside the reporting scenario.

Encouragingly however, a significant number of pathologists and trainees did show evidence of a more integrated and reflective form of identity. The one pathologist in my study who actually used the term 'professionalism' advocated the advantages of:

> Supervisor and mentors' combined efforts to make the trainee understand the importance of safe practice, professionalism, documentation and recording, as a help for future direction.

This brief statement from an immunopathologist embodies the supervisor's commitment to the professional development of the trainee. Instilling knowledge, understanding, safe practice, professional values and the adoption of processes to facilitate ongoing development were regarded as key roles for the supervisor or mentor. Statements made by a few other pathologists conveyed similar ideas, and a number referred to the fact that those aspects had been neglected in training and in the curriculum and assessment system. For example:

> I think this highlights some of the areas of pathology training that aren't necessarily addressed on a day to day basis i.e. diagnosis of cases, but are nonetheless important in the role of the pathologist consultant. (Anatomical pathologist)

Reference to responsibility to the wider community was unusual amongst my participants. Such ideas were expressed by only a few trainees, all of them in their junior years. For example, first year anatomical pathology trainee Hans said:

> I think over all that introducing this *Learning Diary* can aid and support us in understanding our role as pathologist in the wider community. After all, these are all relevant and important topics to all pathologists.

As trainees progress, it appears that other pressures take over and they become more focused on other goals.

4.5.4 The influence of the work environment

'Because of workloads our pathologists are really busy – they don't really think this is that important.' (Trainee Hans)

There is a critical shortage of pathologists in Australia and New Zealand; and this is particularly so in anatomical pathology. The shortage of pathologists is believed to be related to lack of funding, an indirect result of misunderstandings about the roles of pathologists, and a poor public image that emphasises technical service and de-emphasises human involvement (Legg, 2008).

Lack of time is a very common complaint when any new requirement is introduced, so I tried to deflect my participants from dwelling on this obvious issue when discussing barriers to addressing professionalism in the curriculum. Nevertheless, concerns about lack of time arose repeatedly, particularly amongst the anatomical pathologists and trainees. In fact chemical pathology trainee Anna remarked that anatomical pathologists were 'always complaining about the workload'.

Figure 3 illustrates how in anatomical pathology in particular there is increased pressure on supervisors because of an unfavourable supervisor:trainee ratio.

This pressure of time has a number of possible consequences: e.g., supervisors may feel stressed and be discouraged to continue working as such. Asking them to undertake additional teaching and assessment may just be enough to tip the precarious balance, as anatomical pathologist Gareth mentioned:

> I've already had two supervisors come to me and say – it's just all too much. So, for some consultants, it's already been enough for them to say to me – I'm not going to be a supervisor from here-on in if we have to fill it out.

One disillusioned and angry anatomical pathologist attended a workshop and complained:

> Being a supervisor is becoming more onerous and less fun/rewarding. I'll give it up before the next workshop.

Pathologists are likely to spend a large proportion of their time at the microscope and have limited time to teach. Trainees may be given a restricted view of the roles of pathologists and very limited support for addressing broader areas.

Trainees have to do much of the time-consuming and routine service work; this limits time available to spend on other activities, thus impacting on educational priorities.

Trainees often complain about how busy their supervisors are, and that it is difficult to find time to sit down with them for teaching and feedback. Anatomical pathology trainee Hans explains how time pressures impacted on his personal stress levels, the relationship with his supervisor and opportunities for learning:

> I work in a very busy department. We start early in the morning and we are busy with service work until late. All the main focus is cutting up specimens, trying to report them and trying to pass the exams. We don't really focus on the other things, which are also important, which I think is very important

when you become a pathologist. At this stage in our career, we obviously have to know what we look at, which is what we do every day.

In our institution, my supervisor didn't really understand the importance of this whole project. Every time I approached him to sit down and discuss my learning objectives and progress, it was always postponed... because of workloads because our pathologists are really busy, they don't really think this is that important. So, that was a big problem for me.

We met the College yesterday, they were here to assess our laboratory, and this is one of the questions we raised – the lack of guidance from the supervisors in your day to day activity, progress, areas of need. In our institution, I don't really think there's that communication. Whatever the reason may be, I think it probably is workload again. This is probably what day to day practice will be like, or is like, and this is something we have to get used to or just accept.

A heavy service load resulted in Hans' supervisors placing little importance on the project, not seeing it as relevant so providing minimal support. For trainees this threatens to extinguish the value they may initially place on becoming a broadly competent pathologist and leaves them feeling disillusioned and unsupported.

The culture described conflicted with Hans' pre-existing values regarding the responsibility of the pathologist to the wider community (as described above). This posed a risk that Hans and his fellow trainees would be socialised into the unreflective, uncommunicative, technical culture of the department they worked in: they may just come to accept the normative value, 'what day-to-day practice will be like', where 'all the main focus is cutting up specimens'. It would be a sad outcome for a motivated new trainee like Hans.

4.5.5 Interdisciplinary differences

'That's a cultural thing in the training program, particularly in the ones like AP and haematology, where there's a lot of morphology, whereas the chempath people are definitely more aware of these things because they have a lot more analysers.'
(Anatomical pathology trainee Janet)

Within the social culture of pathology, there are sub-ingroups corresponding to the various disciplines; and there are differences between disciplines in terms of both social norms and educational structures.

The most distinctive subgroup is anatomical pathology, and trainees from this discipline are more likely than others to label themselves specifically according to their discipline, suggesting a strong ingroup culture. Anatomical pathologists are very technically engaged: they work with microscopes, seldom see patients, and have relatively little to do with management activities. Trainees have pressures of many technically focused exams and a heavy service workload.

Microbiologist Jennifer, as previously noted (section 4.2.3), describes how 'joint' RCPA/RACP trainees, who have clinical duties, are more aware of and competent in communication roles than RCPA-only trainees.

Clinical responsibility is also the factor that chemical pathologist Patricia sees as a key distinction between her own trainees and those in haematology or immunology who deal more directly with patients, as illustrated in her comments in section 4.2.1.

Chemical pathology trainee Anna distinguishes herself not only from those pathologists who see patients, but also from the anatomical pathologists for whom complaining about workload is seen as a defining characteristic:

> (Chemical pathology) seems completely different to anatomical who are
> always complaining about the workload - and the people who are seeing
> patients – it's just a different world.

Whilst workload is one distinguishing feature between disciplines, it appears that seeing patients is the strongest cultural differentiator, to the extent that it puts the trainee in a 'different world'. Anatomical pathology trainee Sam repeatedly referred to the fact that in his discipline, trainees hardly ever see patients; for this reason he was cynical about the requirement to address some areas of professionalism that he described as irrelevant 'patient-based things' and 'culturally-based things' (section 4.4.4).

Sam's professional identity is connected with not seeing patients; his idea that 'patient-based things' are irrelevant suggests that his work has become detached from the patient. This is consistent with the culture in which he works, along with supervisor Andrew, fellow trainee Mark and 42 pathologists who do not see 'the big picture' about patient care.

Being strongly diagnostically engaged to the exclusion of broader issues is very much part of the anatomical pathology culture in the experience of senior anatomical pathology trainee Janet:

> I'm being a diagnostic pathologist, I'm learning to pass my exams and I'm
> learning all these bits and pieces and you aren't looking at this background
> curriculum. That's a cultural thing in the training program, particularly in the
> ones like AP and haematology, where there's a lot of morphology, whereas
> the chempath (chemical pathology) people are definitely more aware of these
> things because they have a lot more analysers, QA, QC and quality
> management and things like that. They're much more aware of the
> significance of that to their role, whereas I feel that this whole concept is
> really quite alien to anything I've been told about in anatomical pathology.

For Janet, the identity of 'being a diagnostic pathologist' was strongly connected to her discipline of anatomical pathology, the examinations and the nature of her work. Janet noted another distinction between anatomical and chemical pathology: the latter has more

emphasis on quality management in the laboratory. This was used as further justification for anatomical pathologists being dismissive about their broader roles.

Chemical pathologists are similar to anatomical pathologists in their technical orientation but have greater involvement in quality management. However, they suffer from an unstructured training program (section 5.3.1) that limits their exposure to potentially valuable experiences.

One socialising factor shared between anatomical pathology and haematology, as Janet mentioned, is 'morphology' — i.e., they spend a lot of time with microscopes. Janet explained that these disciplines also share a heavy work and exam load. The difference, Janet added with irony, and probable downward comparison to the haematology outgroup (Turner et al., 1987), is that haematology is less complex and technically demanding than anatomical pathology:

> We're comparing ourselves to other trainees like the physician trainees who have their two exams and that's it. Obviously they've got their other assessments and their log books and their various bits and pieces, and the people who are more examined than us are the poor, double-hatted haematology people. But they only have three blood cells.

Thus the main factors that define interdisciplinary differences are the extent of patient interaction, workload, exam load, and the nature of the work, whether it emphasises microscopy or quality management. Most trainees in haematology and immunology, and about half of those in microbiology, train jointly as physicians and are likely to have a stronger patient orientation.

Anatomical pathology trainees are the most strongly represented amongst those who consider the non-technical domains to be irrelevant and nebulous. Almost all complaints of being over-examined come from anatomical pathology trainees, and most complaints about

overwork and general overload are from those in anatomical pathology, be they supervisors or trainees. In a culture where patients are hardly seen and quality management is considered 'alien', it will be very difficult for trainees to see 'the big picture' to which Andrew refers.

In all disciplines, heavily loaded supervisors and role models have little time to spend with trainees so tend to regard professionalism as peripheral to their diagnostic work.

All of these pressures work against the development of a reflective and responsive professional identity, and serve to rationalise and reinforce the stereotype of the pathologist remote from patient care.

4.6 Conclusions

Many pathologists display a professional identity where the big picture of patient care and safety is detached from daily work. For trainees, especially in anatomical pathology, this technical culture is perpetuated by a hidden curriculum (Hafferty, 1998; Hafferty & Franks, 1994) consisting of stereotyping, role modelling, language and work practice. It is reinforced by a formal curriculum that de-emphasises professionalism and focuses heavily on technical procedures.

Against these powerful socialising forces it is a major challenge for the educationalist to steer future pathology professionals towards a more reflective identity. Only by considering social and educational issues to be intertwined can we develop a model to address the development of professionalism at an identity level.

The existence and impact of such socialising forces are evidence to support a diagnosis that negative stereotypes do have some truth and are reinforced in the training environment. It has been recognised for some time that professionalism was under-addressed in the RCPA training program: the initial treatment, in the form of a portfolio-type formative assessment tool based on a self-regulated learning model, had been applied before the underlying factors were entirely clear.

The next chapter reveals the responses of the participants to the applied model and explains the educational factors determining the outcomes. The analysis, informed by educational theory, provided the basis for recommending some strategies to improve the outcomes.

5   Research findings: Pathologists and portfolios

5.1   Introduction

Paragraph 1.4.5 in the background to this thesis set out the original aims of the *Generic Curriculum* and *Learning Diary* program as:

- Articulating outcomes for previously neglected non-technical aspects of pathology;
- Supporting processes for reflection and self-regulated learning; and
- Providing a structure for formative assessment.

Themes in sections 5.2 to 5.4 of this analysis relate to these aims. The remainder concern the impact of the curriculum and portfolio on the learning environment and trainees' affective responses, the reasons why trainees behaved and reacted as they did, and factors that may lead to more positive responses.

In this analysis, I describe the potential and predicted impact of the new curriculum and associated formative assessment tool based on the opinions of workshop participants. I compare this to actual experience in the pilot study, empirical evidence from other studies, and theoretical principles. Possible explanations for differences are offered, particularly in sections 5.7 to 5.9. Section 5.10 offers some solutions to problems identified. Figure 22 illustrates the key themes of this chapter.
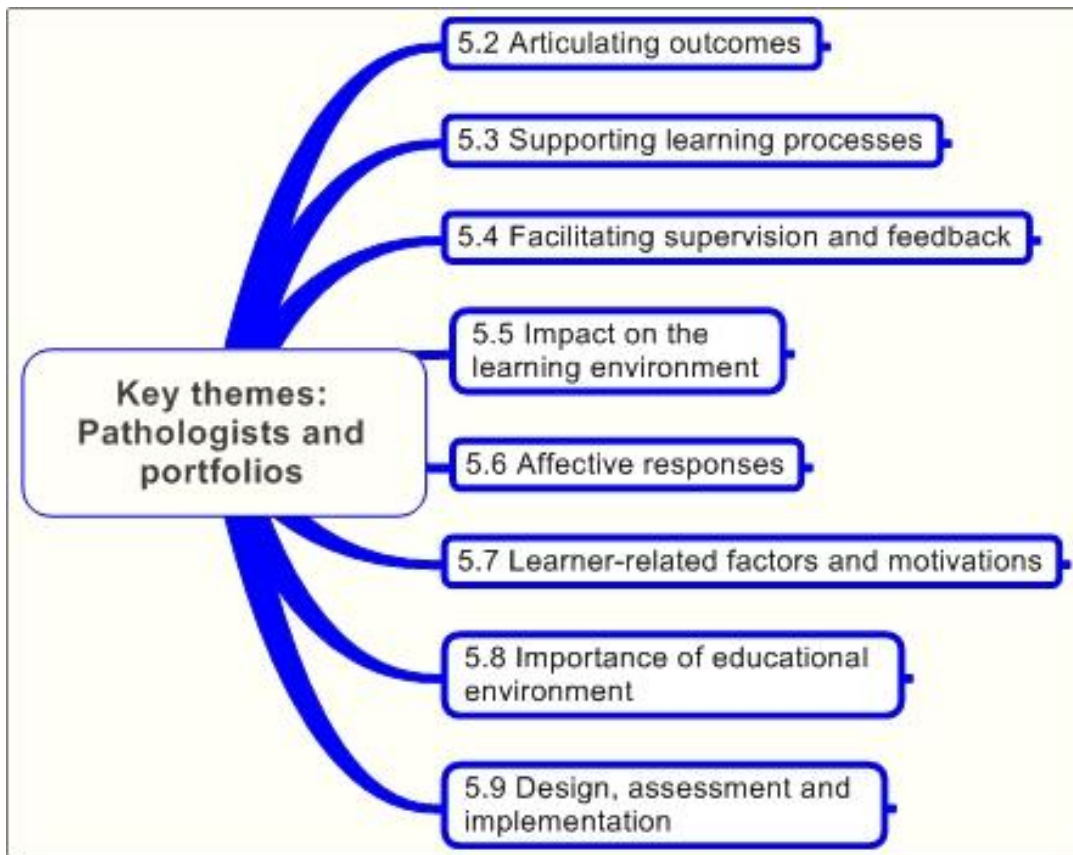
Figure 22. Mind map showing thematic structure of Chapter 5

5.2   Articulating outcomes and promoting awareness

'These are things I should be thinking about' (Trainee Martin)

Teaching professionalism is a multifaceted endeavour, the most fundamental steps being to define expectations and teach the cognitive basis (Cruess, R., 2006). Notwithstanding the powerful impact of the hidden curriculum (Hafferty, 1998), it is a prerequisite to have a strong formal curriculum with learning outcomes clearly articulated.

Some who have investigated the use of portfolios in postgraduate medical training have found that they draw attention to stated learning objectives (Kjaer et al., 2006). In most studies, portfolios have been based on established curricula: however, in my study not only was the portfolio process new, but even the curriculum on which it was based.

When workshop participants were asked to identify the potential benefits of the curriculum, more than 40% referred to the articulation of the outcomes in the *Generic Curriculum*, and the raising of awareness of the broader areas of pathology training. The fact that this was such a strong theme suggests a synergistic effect of the new curriculum and a new process.

This awareness-raising was the most frequently acknowledged benefit of participating in the pilot study. The curriculum prompted supervisors to teach trainees about things that might otherwise 'slip under the radar' (Chemical pathologist, Beth). Almost all of the trainees in the pilot study mentioned becoming more aware of aspects of training that they had not considered before. Martin stated:

> What it did for me was make me go – this is what I should have done already...or these are things I should be thinking about... It influenced my awareness of the importance of aspects of what I was doing... and if I haven't done them by this point, I need to find some way of doing them.

Whenever a particular domain was specified, laboratory management was emphasised. Ethics was occasionally mentioned but responses mainly involved interest in the technical aspects: the project may not have been successful in promoting awareness of the true breadth of non-technical outcomes.

Furthermore, making trainees aware of goals by no means ensures that they will pursue or attain them, as pathologist Andrew pointed out:

> It did focus some attention on neglected areas of the curriculum. So, I would regard that as a positive. I don't think it facilitates achieving those objectives.

To realise the benefits of awareness, one must take action. Motivation to act on a goal depends on having a reason to pursue it as well as the ability and the means to do so (Eccles & Wigfield, 2002). It is not enough to simply present a list of goals and expectations.

5.3   Supporting learning processes

5.3.1   Structure and framework

'Give me some sort of guideposts' (Anna)

Specialist trainees in some studies have found portfolios helpful as a framework for learning (Snadden et al., 1996; Stuart et al., 2005; Tochel et al., 2009): my participants frequently referred to 'structure' and 'framework'. Such building-related metaphors are to be found in educational theories relating to constructivism, constructionism and scaffolding.

Constructivism refers to the ways in which learners construct meaning from experience, and encompasses constructionism and scaffolding. Constructionism concerns learning by engaging with tangible objects in the real world to enhance self-directed learning and the construction of new knowledge (Papert & Harel, 1991). Scaffolding has been described as a 'staged approach for bridging from a learner (knowledge) identity to a participant (practitioner) identity' (Kaufman & Mann, 2007), and is consistent with constructivism where the learner is central. In scaffolded instruction, structure is first provided by the tutor; the learner mimics the structure, but gradually needs less direction as the structures are internalised and self-regulation takes the place of the tutor (Langer & Applebee, 1986).

Some trainees, particularly juniors, complained of a lack of structure in their training program. Scaffolding could be required upon which to build their evolving learning skills and identity, as first year trainee Anna explains:

> I sound like a bit of a baby now, saying – give me assignments, give me a structure, give me a topic, give me a little exam along the way, give me some sort of guideposts to show that I'm doing what I'm supposed to be doing... In the absence of that, you just stumble along and work it out yourself...Later on, you can be proactive and say, this is what you should do, but it's really hard at the beginning. I'm asking, I'm looking, but I'm a bit flummoxed really.

Whatever theories may apply, it appears that trainees like their learning to be grounded in the meaningful reality of experience and concrete examples. Some felt structure may be helpful in dealing with nebulous concepts: one supervisor commented that the curriculum 'adds tangible structure to a range of nebulous yet important steps'. Another commented that it would support processes by establishing a 'more directed path for learning and developing patterns of learning for later life'.

Despite positive expectations, the experience of most trainees in the pilot study was often disappointing. Anna's desire for structure was far from fulfilled:

> I was incredibly disappointed by the whole experience, because I was just feeling so desperate and lost and confused and please help me somebody, and out of the sky came the *Learning Diary*. And this was what I have been waiting for and then it was – well, hello, what's this? This isn't what I want. No, not really – it just made me feel even more lost and does the College really know what we need and want, where we're coming from?

Despite her extensive prior experience in the medical publishing industry, Anna found herself feeling very lost in the new environment of pathology. It cannot be assumed that trainees will be autonomous from the outset: a carefully-staged framework is needed to promote confidence and to provide a foundation on which to build.

These type of data reinforce the finding that for a successful portfolio process, a well-supported framework must be provided. It also supports the need to pay attention to cultural factors and to understanding trainee needs and values as implied in Anna's phrase, 'where we're coming from'.

5.3.2   Self-assessment and learning needs identification

'Some people have completely inflated views of themselves and others always under-mark themselves' (Rebecca)

Metacognitive processes in self-regulation include assessing one's own strengths and diagnosing learning needs (Bandura, 1986; Zimmerman, 1989; Zimmerman & Campillo, 2003). It is expected that doctors are able to self-assess as a basis for lifelong learning and self-regulation of professional practice, but one of the main arguments against self-regulation is that students and doctors are not able to self-assess consistently well (Eva & Regehr, 2005).

Eva and Regehr argue that simply considering accuracy of self-assessment does not take account of the context and the purpose for which it is used or how self-assessment is operationalised. In a review of the effectiveness of self-assessment, Colthart and Bagnall et al. (2008) point out that though there have been many quantitative studies of the accuracy of self-assessment, there is a dearth of qualitative evidence describing attitudes, motivations and experiences relating to self-assessment. They point to an urgent need for such research: my data do offer some insight into these issues.

Some researchers have found that portfolios can help specialist trainees identify learning needs (Snadden & Thomas, 1998; Snadden et al., 1996) or 'blind spots' (Kjaer et al., 2006). The potential to use self-assessment to identify strengths and deficiencies was highlighted by many supervisors and several trainees who attended the RCPA workshops; some predicted this would in turn facilitate learning needs identification, ability to set goals and track progress.

In the pilot study trainees were asked to use a numerical self-assessment tool to rate themselves for each outcome on a 5-point scale from novice to expert, before and after the study: Hans felt it was potentially helpful, but Denise was the only trainee to engage enthusiastically and find it useful:

> ...if I look at a certain outcome I can say – I know that and I circle it and then I
> set myself some goals, go out and do various activities or learn it, and then

come back and look at my rating. I can see if I've achieved something or, on the other hand, it would show me that what I thought I knew wasn't quite enough and I could then go back and say – at the beginning of the rotation my level of proficiency should have been lower than that because I did quite a lot after I did that. So, it showed – I thought I know these things, but when you go out and do them it makes you realise things that you thought you knew weren't really at that level.

Denise was using self-assessment for the purposes of identifying learning gaps, setting appropriate goals, monitoring and reflecting on progress and enhancing self-awareness. It stimulated an appropriate response that was beneficial regardless of the accuracy of self-assessment. She had the advantage of working closely with her supervisor, who understood the process and offered feedback and support.

On the other hand, Martin worked without the participation of his supervisor. He pointed out the difficulties faced by junior trainees in self-assessing, and the problems of not having a standard against which to compare himself. For Martin it was a pointless exercise, also raising some anxiety about the need for self-disclosure:

> For me, the big problem was that I was a first year trainee. I didn't have any outside measures of what is expected of a first year trainee, a second year trainee, a third year trainee, so all I could do is look at it and say – I'm better than I was six months ago...We tend to measure ourselves against other people, or we tend to say this is the standard expected. So, the problem I had was that was a rating there but there was no standard and there was no comparison, so it was pulling a number...I wasn't prepared to say I am still only a 2 on this particular outcome because I don't want the people who are reading it to think I'm an idiot.

Martin's statements are consistent with findings that having guidance and being able to compare oneself against external standards are more valuable than merely 'pulling a number' in isolation (Colthart et al., 2008; Eva & Regehr, 2005).

Rebecca also had concerns about unreliability; furthermore, she felt that a numerical approach to self-assessing ethical practice was inappropriate:

> Some people have completely inflated views of themselves and others always under-mark themselves. I don't think it's objective in any way...

> Self rating yourself as to whether you think you're practising ethically or not is a complete waste of time. Everybody is going to put down – yes, I'm practising ethically. For the sake of showing some improvement, no one is going to put a 3 at the beginning and a 5 in a year's time or whatever.

The tendency to self-under- or overrate has been borne out in a number of studies (Colthart et al., 2008). Chemical pathologist Patricia has observed that trainees who under-rate themselves can achieve greater accuracy and objectivity with experience:

> People who know the most always think they know the least. The self awareness – it does change, the more you learn the more you realise the things you didn't know in the first place.

Janet also related how over the period of her training she progressively spent less time with her supervisor as she gained skill and confidence in self-assessing.

Empirical evidence supports my observations. Those who under-rate themselves tend to become more accurate with feedback and the opportunity to benchmark themselves against others (Colthart et al., 2008). Those who over-rate themselves are more dangerous because they lack metacognitive skills and this is difficult to remedy. It has been found that accuracy of self-assessment is poor for interpersonal skills (Colthart et al., 2008) and it seems likely that this would also apply for ethical practice, as Rebecca suggests.

Supervisor Henry recognised how self-assessment could benefit learning, but particularly stressed the need for the trainee and supervisor to work together:

> I think it's very good for them to assess their own progress and effort in those various areas because most of the time, if they're honest with themselves, they will soon identify where their weaknesses are in terms of what training

experience they're getting. As long as it's reviewed with the supervisor of their particular training period, then I think it's a very constructive thing.

Trainees Nina and Victor both expressed satisfaction at having worked with their supervisors Henry and Jennifer to address their communication skills. Jennifer described how it worked with Victor:

> First of all, I got the registrar to tell me where he thought his strengths and weaknesses were, and then we were able to work out some strategies to try and address some of the areas that he perceived as weaknesses, and the ones that I concurred with as well...It legitimised some concerns I had, and that he recognised, about his communication skills, or lack of.

In this case, self-assessment together with feedback led to appropriate goal-setting and subsequent action, with positive outcomes.

Whilst there is evidence that individuals can improve self-assessment accuracy with experience, it has been argued that this skill is unstable and context-dependant (Eva & Regehr, 2005): self-assessment should not be relied upon when it comes to self-regulating professional and safe practice. Eva and Regehr maintain that it is best viewed as a means of seeking out external feedback and for monitoring practice rather than for identifying gaps.

5.3.3 Goal setting and planning

'It made me set some goals that I needed to achieve, so I'll keep myself motivated to perform those activities.' (Trainee Denise)

As well as drawing attention to the curriculum and providing structure the portfolio was expected to facilitate goal-setting, planning and formulating learning objectives. Many workshop participants mentioned timeframes — daily, weekly or longer term. They often referred to collaborative working between supervisors and trainees in establishing these time-structured goals and approaching them in a systematic and stepwise fashion.

Portfolios have been found to be effective in medical postgraduate settings for identifying learning goals and planning strategies to fulfil them (Hurrell, 2004; Kjaer et al., 2006; Snadden & Thomas, 1998; Snadden et al., 1996). They may also motivate and stimulate interest in pursuing new goals (Fung et al., 2000).

Goal setting and planning are key metacognitive strategies of self-regulated learning (Bandura, 1986; Zimmerman & Campillo, 2003). They are the tasks that constitute the 'forethought phase' (Figure 14) and are driven by self-efficacy, outcome expectations, intrinsic interest and learning goal orientation (Zimmerman & Campillo, 2003).

When Denise completed the pilot study, she reported:

> It made me think about the different areas and made me set some goals that I needed to achieve and give some deadlines, so I'll keep myself motivated to perform those activities or be involved.

Similarly, Dani worked with her supervisor Beth to set timelines:

> We basically sat down together and we said – out of this list of things that you haven't done, which of these can we tackle in the time that you've got here. (Dani)

This was motivating for Dani, and also for Beth, who reported:

> I've been pleasantly surprised, because she's got ahead of me.

Beth also described how with her trainees she would set out goals in sequence and review achievement at intervals.

The motivational value of appropriately-sequenced goals — including achievable proximal goals — is a feature of both self-regulated (Schunk, 1990) and situated (Billett, 1995) learning theories.

For others like Martin the portfolio did not facilitate goal setting:

> It didn't change what I was doing on a day to day basis, or how I was planning for things. Perhaps that was just me not understanding what the purpose of it was at the beginning.

The problem for Martin was that the rationale was unclear to him. This may have been due to the portfolio design and inadequate instructions, and possibly because Martin's supervisor did not assist him as Beth did Dani.

A further barrier to effective goal-setting and planning is unfamiliarity with the processes involved. Some other researchers have found that trainees can have difficulty working with goals. (Kalet et al., 2007; Stuart et al., 2005): one chemical pathologist in my study observed that this applied particularly to new trainees:

> The very open-ended format may be difficult for trainees, especially in early years to address. (Chemical pathologist)

Senior trainee Janet, whilst recognising the benefits of planning, describes how she has gone through her training without doing any — at least not consciously and explicitly:

> It's a completely foreign concept to me, to plan my learning, and then go about doing it in rigid steps like that. I just basically go along and if I need something I work out which resource I need to do it... I think it is an important thing to do and thinking about it, I guess I already do it informally in my head but I don't write a plan... I think it's just something that happens; people who study and learn are already doing it. I don't know if you can teach somebody to do that, I've never experienced being taught how to do that.

Janet goes on to suggest that it would be helpful to have defined targets and actual worked examples to draw upon when working with the supervisor to formulate a plan.

Good portfolio design and supervisor support can support goal setting and planning, but the purpose must be clear and the goals timely and relevant.

5.3.4 Learning by doing

'Doing is more important than learning' (Roger)

Though setting goals and developing learning plans are vital steps in self-regulation, they do not guarantee that subsequent activities and learning will occur.

As well as being metacognitively active in assessing learning needs, and motivationally active in setting goals and planning strategies, self-regulated learners are behaviourally active in carrying out their plans (Zimmerman, 1989): this constitutes the 'performance phase' (Figure 14).

Pathology involves much active learning and many procedures. One objective of the *Learning Diary* was to prompt trainees to undertake activities oriented towards their new learning goals, and to learn in new ways from existing activities.

Though socio-cognitive theorists emphasise cognitive goals, the goals of medical education also involve dealing with complex professional problems, and learning is internalised through participation (Lave & Wenger, 1991). *Doing* is therefore critical according to educator Roger:

> I think the modern way of learning is to give people problems to look at, say to them what do you know about this already, what do you need to learn and do – and doing is more important than learning – in order to resolve it. Go away and learn how to do it, come back and do it, and that internalises the learning, and you end up learning the right things because what you need to know and what you need to be able to do is based on a professional problem.

In this case the doing is prompted by more than just identifying a gap in learning: it is motivated by the need to solve an immediate and relevant problem — an important motivation for adult learners (Knowles, 1975).

For some trainees, simply specifying that a task needs doing will prompt them to do it. However, if it is not meaningful it may be done in a superficial way and without learning, as Gareth explained:

> Registrars, being good chaps and girls, get on and do what they have to do. ..If you present them with this, they will simply say – it's something I've got to do... How well it gets done I'm not sure, but at least then it gets done, it doesn't get put off and put off.

Some trainees, including Anna, Hans and Mark, said they would carry out what was required, simply because they were told to. Anna says:

> (I would) just try and do everything they suggest I should do, if they think it's going to help, then I'll do it. It wouldn't change my attitude at all. I'd still do it anyway.

Doing without meaning or purpose is doing without learning. Supervisors can play a key role in giving meaning to tasks. This was the case for Dani, who was prompted to take on new tasks after discussing her specific needs with supervisor Beth. Dani remarked:

> It also did help with nutting out specific problems to individuals, showing you where some of your weaknesses lie, which means that you could then go on and tackle them. It did alter some of the tasks I tackled.

Recognition of need makes the task relevant, and relating it to specific problems that the adult learner needs to address promotes active learning (Knowles, 1975).

Similarly, when supervisor Jennifer was able to identify her trainee Victor's need to improve his speaking skills, it motivated him to do a public speaking course, and learn from the experience. Jennifer relates:

> One of the things I got him to do was to join a Speechcraft course. He did that – six Tuesdays he came along – and went through the whole procedure – spontaneous speaking, prepared speeches and all that sort of stuff. He actually did quite well, it was quite an effort for him, but he progressed and I think that

he learned quite a few skills...I've heard him speaking, and he used all the
skills that he'd learned, so from that perspective it was really good.

Whilst a trainee may be personally aware of a learning need, as Victor was, the
supervisor plays a large part in motivating action. A trainee is likely to place value on goals
that the supervisor considers important.

5.3.5 Self-monitoring and recording

'Keeping on track' or 'another mountain of paper'?

Self-monitoring involves noticing one's own actions, examining the effects and using
observations to improve future practice (Epstein et al., 2008). Although this can be done
mentally without writing anything down, observations may not faithfully reflect behaviours
due to selective memory if they are not recorded (Schunk, 1990). Self-recording has been
associated with enhanced self-efficacy, skill and task persistence (Zimmerman, 1989). In
Zimmerman and Campillo's self-regulated learning model (2003), this recording is an
integral part of the performance phase (Figure 14).

A number of workshop participants expected benefits of recording in terms of having
an administrative record and supporting learning in various ways, such as 'keeping on
track', and 'providing material for review by supervisors and trainees at formal
discussions/preparation of reports'. Some believed that documenting would prompt reflection
on everyday experience. For example:

> (It) enables systematic documentation and thought analysis of activities. This
> will help the trainee learn to reflect, analyse and apply what he/she has learnt
> in this future work as a pathologist. (Microbiology supervisor)

Recognition of potential benefit, however, was far outweighed by concerns that
documenting would be tedious, time-consuming and unnecessary, possibly interfering with
productive work. Participants used phrases like 'another mountain of paper to go through', 'a

bureaucratic necessity to be filled in mindlessly', and 'painful to complete'. One supervisor complained that:

> Sometimes we seem too overwhelmed with documentation at the expense of
> what we are paid primarily to do.

A researcher in the field of personal development planning warns that where documenting and keeping records is just a bureaucratic requirement it can actually impede learning and stifle enthusiasm (Jackson, 2003). This attitude is evident, for example, in the words of an anatomical pathologist:

> An activity largely imposed upon us by bureaucrats which is largely
> unnecessary. Make documentation as simple as possible. A tabular format
> with suggested activities and tick box then date/hours column may work best.

Jackson advises that care must be taken to define the rationale for recording information and how this is integrated into learning processes.

In my study the benefits of documenting learning became apparent when trainees understood the purpose and found the process not too difficult. For example, Denise reported:

> As I did things, I wrote them down and then typed them out. It wasn't
> difficult to do and I think documenting was good because I can always go
> back and see where I'm up to and if I want to build up on that or if there are
> areas that I need more help with, I could repeat them.

Anna also found the documentation 'pretty painless' and appreciated that:

> Documenting activities that would be occurring in the course of work could
> be used to prompt additional learning experiences from such events.

On the other hand, unfamiliarity with documenting evidence and cynicism about the purpose resulted in an unrewarding experience for Janet, who found that the documentation was 'basically an exercise in creative writing' because 'it's just the foreign mind set – we're just not used to it.'

Whilst reflective narrative writing has been shown to be beneficial in developing medical professionalism (Charon, 2001), specialist trainees may be resistant to it (Snadden et al., 1996). Some students have found that narrative writing can prompt learning from experience, but others have found it contrived and irrelevant (Kalet et al., 2007). Forcing the issue could result in a counter-reaction towards unreflective box-ticking for those who find reflection challenging:

> I find 'reflective' learning and documentation difficult to get my head around and need some structure. I would find a list of 'minimum requirements' to be ticked off useful. (Third year anatomical pathology trainee).

Even for those who are familiar with reflective processes and do understand the purpose of documenting it, an awkward format can be counterproductive. Martin explained that many junior trainees are now familiar with reflective documentation from their medical school experience, but the design of the *Learning Diary* was problematic:

> Although I see the value of the diary, it is a convoluted document that to fill in takes hours and really doesn't add much in its current format. ...I think the format encourages superficial comments and this is surely against the aims of the task.

From these findings it can be concluded that in order to gain the rewards of documentation:

- The benefits must be clearly stated and understood;

- The format should neither encourage box-ticking nor require so much narrative that the task is difficult and unappealing;

- The portfolio should be uncomplicated in design; and

- Some trainees need support to develop their reflective learning skills.

5.3.6 Reviewing and reflecting

'A skill to be learned over time' (Anatomical pathologist)

Reflection is a metacognitive activity central to self-regulated learning and also integral to socio-cultural learning models (White & Gruppen, 2007; Zimmerman & Campillo, 2003). The RCPA *Learning Diary* model aimed to support reflection as illustrated in Figure 6.

Though some maintain that reflection is a defining element of portfolio design (Rees, C., 2005), others regard it as optional (Colbert et al., 2008). Variation in design may be one reason that portfolios support reflection to a variable extent (Tochel et al., 2009).

Individuals will also vary in willingness and ability to reflect (Pearson & Heywood, 2004; Snadden & Thomas, 1998). Pearson and Heywood found that general practice registrars were equally split between those who recorded regularly in their portfolios and those who did not; of those who did record, only about half reflected on their records. However, they believed that the registrars were reflective in their learning style but the portfolio itself was irrelevant to their reflective learning practice — i.e., the design of the portfolio may in fact stifle reflection.

Though several of my workshop participants anticipated that the *Learning Diaries* could potentially facilitate reflection, the benefits were limited in practice. There was little recorded evidence of self-reflection, and trainees seemed reluctant to do more than simply tick off activities done.

Pathologists have been stereotyped as being reluctant reflectors compared with clinicians (section 4.2.4). Dean is a chemical pathologist who has done a PhD in the area of reflective learning. He observes that most pathology trainees 'wouldn't know what we mean by learning through reflection', but suggests that this applies to doctors generally:

Most medical practitioners are unfamiliar with reflection and the potential benefits it may have for deep learning.

Ability may be related more to experience than to medical specialty. Some trainees like Rebecca and Martin see reflective learning as quite a familiar process, particularly for newer trainees, like themselves, who have had this experience in their undergraduate program:

> I'd done this kind of thing before, and I think you'll find this more and more because there are a lot of medical schools having journals and log-books and things like that, that our junior trainees have skills in place. Because I already do this to an extent anyway, it wasn't a groundbreaking thing for me to come up against. (Martin)

Given that supervisors and trainees will vary considerably in their understandings of reflection, their reflective skills and willingness to engage, it is essential to provide a framework in which the process can be promoted and learned.

> Taking time to reflect about deficiencies is a good thing, but a skill to be learned over time – actually participating will be a learning tool in itself. (Anatomical pathology supervisor)

In a review of reflection in medical education, it was noted that engaging individuals in reflection is a 'persistent challenge to all educators' (Sandars, 2009). There is no reason to suppose that pathologists are any more or less reflective as learners and professionals compared with any other doctors. In an investigation into medical students' attitudes and barriers to engaging with portfolios, the negative views of students about reflective learning led the researcher to conclude that the culture of medicine *generally* does not support reflective learning. If there is any truth in physician Ken's statement, in the context of a discussion about reflection, that 'I think pathologists overall can be a slightly different group of people', then there is no evidence that this means they are better or worse at it than anyone else: rather, it is the context that differs.

A non-reflective 'technical' approach to professionalism (Coulehan) is not an inevitable consequence of working in a technical discipline. Reflective professionalism is as much part of being an army officer, or an engineer, as of being a doctor (Forsythe, 2005; Harris, C., 2008). Taking account of context is likely to achieve more than adopting a 'one size fits all doctors' approach; providing a conducive framework is the other requirement.

5.4 Impact on supervision and feedback

'It doesn't necessarily help you get any good input from your supervisor, which is part of the reason behind doing it' (Dani)

It is apparent from my data and from previous studies (Driessen, 2007; Snadden & Thomas, 1998; Tochel et al., 2009; Webb et al., 2006) that effective supervision and feedback are critical to support engagement with a portfolio and self-regulated learning processes. Ideally, therefore, the portfolio should enhance interaction between supervisors and trainees: although it is often assumed that this will occur, evidence of it is limited (Pitts, 2007).

Frequency of meetings and supervisor awareness of educational issues may be enhanced (Parsell, 1997), but the quality of meetings is not necessarily improved (Hrisos et al., 2008). Many supervisors have difficulty giving genuine feedback (Kjaer et al., 2006; Snadden et al., 1996). Whilst a good relationship between supervisor and trainee is beneficial and a bad relationship can be harmful, a portfolio may not change this (Snadden & Thomas, 1998).

In my study, supervisors mostly reported good experiences with respect to working on the portfolio with their trainees. Supervisors Henry, Jennifer, Patricia, Beth and Gareth all thought that it provided insight into gaps in training and enhanced opportunities to offer support, particularly to junior trainees and those in difficulty, as Henry explained:

> Not only that, it allows the trainee to go to their supervisor and say – look, I really need some more experience with this or, ... I'm sorry that there's a problem here, or I'm getting too much of this and not enough of the other...If somebody crashes out badly in the Part I exam ... try to work out why that candidate had a weakness in a particular area.

However, for chemical pathologist Dean the format of the portfolio was an obstruction to providing effective supervision:

> What I would like to say is I was able to provide her with some guidance and
> all the rest of it, but I couldn't, because I was really coming to grips with the
> format of the diary.

Dean's trainee Anna, on the other hand, believed that the difficulty related to the fact that Dean was always too busy.

Trainees reported variable experiences with their supervisors. Victor, Mark and Denise very briefly acknowledged helpful input from their supervisors. Nina and Katrina felt that it made their supervisors, Henry and Ian, more aware of their achievements and learning needs.

Martin and Rebecca reported that their supervisor offered very good support, other than with the *Learning Diary* project. He did not participate in the pilot study because he did not see it as sufficiently useful. Hans complained that he was unable to have his supervisor participate because of the supervisor's workload. Dani was sceptical, suggesting that supervisors needed more help from the College to be effective in their roles:

> It doesn't necessarily help you get any good input from your supervisor,
> which is part of the reason behind doing it and I think there needs to be a little
> bit more communication between the College and the supervisors as to what is
> required.

Janet complained that 'the contact people have with their supervisors is so hit-and-miss already' and that in her experience relationships with supervisors could occasionally become 'acrimonious'. She was worried that the portfolio could have the negative effect in a tense situation of 'putting more forced interaction and dependence between supervisor and trainee'.

Whilst there are many good reasons to facilitate the supervisor-trainee relationship, this may not be achieved; because of lack of supervisor time, supervisors' being unengaged, or a portfolio design that is difficult to work with. There is also potential to harm the

relationship. Therefore there is a need to support supervisors in order to improve their skills and alleviate pressures on them.

5.5 Portfolios, trainee agency and the learning environment

'Some of it was me linking up with the managing scientist and organising little tours' (Dani)

In the situated learning environment, the trainee learns from many people in the community of practice and takes advantage of a wide variety of resources within and beyond the workplace (Billett, 2002; Fuller & Unwin, 2003; Lave & Wenger, 1991).

Many workshop participants identified that there may be insufficient resources in their workplace to carry out activities required, though some thought the portfolio may actually provide an impetus or negotiating tool for additional training experiences and quarantined time. Some believed that it would strengthen relationships between peers, scientists and mentors.

Trainee Martin commented on the value of being prompted to discuss matters with other trainees, and supervisor Gareth observed an increase in mutual peer support:

> Just the pure encouraging of the registrars to chat amongst themselves about the points they will need to address.

For Janet the project was a stimulus for her to enlist the support of Gareth as a mentor:

> Gareth was very good but he's one of the different generation who can see the point of doing this and he was very keen after I browbeat him into doing it, but he's not actually my supervisor.

In turn, Gareth encouraged Janet to work with another senior trainee to set up a program for junior trainees that included various aspects of laboratory management:

> In Queensland we actually addressed this when we put together our registrar training program for the pre Part I and post Part I people...We particularly addressed things like lab safety, QA, QC, we tried to address some legislative

things, definitely the things about human resource management, data control and data entry. We didn't really ever think about those things.

Similarly, Dani related how she has enlisted the help of senior scientists in organising activities in the laboratory:

Some of it was me linking up with the managing scientist and organising little tours and things, and we attended a conference at St John's which was organised for everybody, where they also covered things like safety in labs.

Some studies have described how portfolios have impacted on the workplace learning environment. Postgraduate house officers and their consultants established formal training programs where none had previously existed (Parsell, 1997), and postgraduate nurses spontaneously developed collaborative learning strategies and peer support groups as a direct result of portfolio introduction (Tiwari & Tang, 2003).

Learners who have reason to challenge the norms in a workplace may themselves become agents of change, thus transforming themselves and the workplace (Billett, 2004). It is therefore possible that in a workplace where the culture does not give proper affordance to addressing the needs of learners, they may be motivated to seek interaction with others and set about procuring resources, thus being a catalyst for cultural change.

The fifth wave of professionalism (Hafferty & Levinson, 2008) is premised on changing learners to change the learning environment. Perhaps harnessing this potential effect is one of the key ways in which portfolios can be of value.

5.6 Affective responses

'I've got a fairly empty Learning Diary feeling' (Katrina)

Although some researchers have found that portfolios can result in improved motivation, confidence and satisfaction (Fung et al., 2000), others have observed very mixed reactions (Kalet et al., 2007; Pearson & Heywood, 2004; Snadden & Thomas, 1998; Snadden et al., 1996). In most studies, adverse reactions are revealed in questionnaires and relate mainly to annoyance caused by the time taken to complete the portfolio and the difficult processes involved. In my study, interviewing subjects revealed some more intense and personal reactions: feelings like 'empty', 'depressed', 'pissed off', 'lost' and anxious. For some it led to apathy — e.g., 'why bother?'.

A very strong theme to emerge from the workshops was that the portfolio was seen as burdensome — it would provoke stress and resentment. One trainee predicted that it may be seen as 'another burden and more stress in an already stressful training life'; and another felt it would result in 'anxiety generated from the uncertainties regarding the requirements of this *Learning Diary* and unfamiliarity with regards to its operation'.

A number of the trainees who took part in the pilot study came away with very negative feelings. Sam was particularly angry and resentful about the burden of additional assessment:

> The main thing I am pissed off with is the College is just introducing another
> form of assessment – without any real explanation of the benefits.

Like many other anatomical pathology trainees, Sam felt overloaded with examinations: the fact that he regarded the curriculum as largely irrelevant to his work would have compounded his anger, and he would require explanation of the benefits to have any inclination at all to engage with the portfolio.

Apart from examinations, just the stress of daily work can raise anxiety levels about additional work required to complete the portfolio, as anatomical pathology trainee Hans explains:

> It increased my anxiety. I know this will be implemented at some stage during my training career...just adding more stress to one's daily life and existence – that might not be that beneficial.

If the process is not seen to be rewarding relative to effort, it can be profoundly disappointing, as experienced by trainee Katrina:

> I guess I've got a fairly empty *Learning Diary* feeling, I didn't feel I had got a lot out of it for the effort I had to put in.

Disappointment and anxiety may also result from a lack of guidance, and feeling that one's needs are not understood by the College. For Anna this was a significant problem because she was a new trainee, looking for structure and guidance:

> It just made me feel even more lost and does the College really know what we need and want, where we're coming from?

Rebecca, also a new trainee, also felt lost and unsupported, and didn't know how to proceed. Compounded by her lack of interest in the subject matter and her perception that the topics were 'airy fairy', the *Learning Diary* left Rebecca feeling quite depressed:

> Many of these topics are quite vague, airy fairy and boring... and lots of trainees wouldn't have any idea where to start finding out about them. Consequently when you read the *Learning Diary* your heart sinks and you get really depressed.

Negative affective responses reduce self-efficacy (Schunk, 1990) and are therefore likely to impact negatively on motivation. The common underlying factor in all the above responses is that the trainees did not see relevance or value in engaging with the portfolio. Under these conditions, it is unlikely that they would want to expend too much effort, particularly when other goals compete.

A portfolio will not receive much attention if trainees do not anticipate some reward for effort; engagement with self-regulated learning is unlikely where goals are separated from values. In the face of additional pressures such as excessive demands of work and examinations, trainees may become angry, despondent and de-motivated.

Thus far, the themes in this analysis have related to the ways in which participants viewed the curriculum and engaged with the portfolio, and the possible benefits and negative impacts of their engagement or lack thereof. Before moving to consider in more detail the factors that influence the level of engagement and the outcomes, I present a summary — Table 6 — of my findings regarding the impact of portfolios and a comparison with findings from previously published studies.

Possible outcomes of the use of portfolios are listed in the first column. The second column lists the most common findings to portfolio use in postgraduate medical training as reported in empirical studies described in literature relating. The third column summarises my data with respect to the potential or actual impact of the portfolio as anticipated by workshop participants. In the last column, the actual experiences of my pilot study participants are summarised.

Table 6. The impact of portfolios

Outcome	Reported in literature	Anticipated (RCPA workshops)	Experienced (RCPA pilot study)
Articulating outcomes and promoting awareness	Occasionally mentioned	Very strong theme. The curriculum was viewed positively in this respect.	The most frequently acknowledged benefit of participation, probably because the portfolio was linked to a new curriculum with outcomes previously neglected.
Providing structure	Sometimes reported by others: connects to constructivist theories	Strong theme. They hoped that a framework could connect learning to concrete experience.	Disappointing results. Framework not supportive. Not geared to trainee needs.
Enhancing self-assessment and learning needs identification	Inaccurate but useful for awareness and monitoring: external input essential	Strong theme particularly amongst supervisors who anticipated benefit.	Helpful to some but concerns about self-disclosure, objectivity, reliability and appropriateness for purpose. Most beneficial with supervisor input.
Facilitating goal setting	Strong theoretical base: mostly positive in practice though some have difficulty working with goals	Strong theme. Predicted that portfolio would support goal setting.	A few found it beneficial. Others were unfamiliar or uncomfortable with the process. Staged goals and supervisor support important.
Prompting action on goals	Strong theoretical base: mostly positive in practice	Predicted that portfolio would lead to action.	Trainees will do things if told, but only engage meaningfully if the task has value.
Recording and reflecting	Key strategy but variable engagement in practice	Strong theme. Possible benefits outweighed by imposition on time. Wanted tick boxes.	Format did not facilitate recording and reflection. Disappointing and de-motivating experience.
Improving supervision and feedback	Good avenue for feedback, but no clear enhancement of relationships	Predicted that portfolio may improve supervisor-trainee relationships.	Enhanced supervisors' awareness of trainee needs. Trainees' experience was varied.
Impact on the learning environment	Occasionally reported beneficial	Occasionally predicted that portfolio would prompt provision of better resources.	Stimulated interaction with others and sometimes helped to procure resources.
Affective impact	Motivation and satisfaction for some: anxiety, resentment and a burden for others	Strong theme. Resentment about imposition on time.	Disappointment, anger, resentment, anxiety, discomfort, apathy, scepticism and cynicism. Occasional satisfaction.

5.7 Learner-related factors

There have been many studies evaluating factors that influence engagement with and learning from portfolios: they emphasise mainly the design of the portfolio and how it is implemented and supported. Driessen (2008) has identified the top three factors:

1. Regular meetings with supervisors and mentors to diagnose learning needs and set goals.

2. A simple, flexible and efficient format with clear instructions and statement of purpose.

3. Careful implementation with support for users.

Little attention has been given to the way in which acceptability and efficacy of the portfolio relates to individual and cultural values or how it influences goal orientation. Assumptions may be made that the processes and outcomes are valued by the learner as much as by the educator or the mandating institution. My data confirm that the three factors listed above are highly important, but what my analysis adds is the interpretation of human experience to reveal dimensions of personal and cultural values that underlie motivation.

5.7.1 Learning styles:

'The more ways you can do it the better' (Pathologist Dean)

Several participants referred to the fact that trainees are individual in their learning styles, so that the portfolio may benefit some but not others. Dean criticised the portfolio because it was not flexible enough and 'may not fit in with the candidate's own learning style'. He suggested 'the more ways you can do it the better'.

Honey and Mumford (1986) describe four primary categories within which individuals learn most effectively:

1. activists like to get involved in specific projects to develop the skills on the job;

2. reflectors learn through observation and discussing reflections and plans with others;

3. theorists value theory-based courses with well-qualified and experienced trainers, well-written books and articles;

4. pragmatists find that succinct, practical books and open and flexible learning are good ways of quickly putting new learning to practical use.

All these types of learners appreciate support and feedback.

It is beyond the scope of this thesis to evaluate the learning styles of my participants, except to say that all categories were evident.

Dani took an activist approach in organising specific activities like a safety course. Denise, a reflector, appreciated the opportunity to discuss her plans and reflections with her supervisor. Katrina favoured the theorist approach in asking that the college provide some authoritative 'set of documents of recommended reading that helps fulfil the objectives' and speaks of 'information gathering and learning'. Janet expressed a pragmatic approach, saying that 'summaries are good' and that she likes to work through 'Robbins', a succinct and practical textbook.

Learning is enhanced when a learner takes account of her/his style and also explores other strategies in order to create a balance (Honey & Mumford, 1986). Therefore a portfolio tool should be flexible enough to accommodate all styles, and encourage learners to experiment with a variety of approaches.

5.7.2   Self-direction

'Some registrars are self-directed to start with and others are not.' (Pathologist Gareth)

Knowles (1975, p.18) states that adult learners are self-directed when they :

> 'take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes'.

Supervisors expressed the views that trainees varied considerably in how self-directed they are at the commencement of their training:

> One would have hoped that by the time they've reached their registrar years, that they know how to learn in an ongoing basis, but that's not always the case. (Dean)

Gareth believed that most pathology trainees are highly motivated and self-directed, but, along with Dean and Andrew, doubted that the portfolio would actually help trainees to become more self-directed if they were not so to begin with:

> Will the training diary help them be more self directed? This is very much a personality type issue; some registrars are self directed to start with and others are not. So, for the ones that are, the *Learning Diary* will help them, because it will probably make it a bit easier for them. For the ones that are not, I don't know that it will...In my opinion, most AP registrars if you give them a job to do, they get on and do it. It's not like they're tardy, they know what they've got to do, they're organised enough, they get on and do it. (Gareth)

Gareth believes that autonomous learning is a matter of personality.

However, there is evidence that whereas learning styles are relatively stable for the individual learner, self-directedness develops with practice and can be taught (White & Gruppen, 2007). In one study, electronic portfolios assisted specialist trainees to become more self-directed (Fung et al., 2000).

On the other hand, educator Linda expressed the view that expectations to be self-directed may be challenging for trainees because of a shift in the locus of control of learning away from the institution and more towards the learner:

> I think that's going to be a bit of an adjustment for them...They're used to working in a very structured environment and a lot of them try to apply the learning that they need to do for the exams for example, to the *Learning Diary*, which is a completely different purpose. So I think they maybe get a bit scared because there are not really strict parameters about what it is they need to be looking at.

In a review of self-directed learning, Lowry (1989) points out that most adults do undertake self-directed learning projects, although not all prefer it and some find it difficult because they lack independence, confidence, or resources. Self-directed learning depends on whether the locus of control of the objectives and the means of learning rest with the learner. Thus political as well as personal factors may be salient in a learner's choosing a self-directed option. A balance will be required to provide support without being overly prescriptive and restrictive on the institutional side.

Some supervisors in my study predicted that there would be advantages for trainees if they could drive the process and participate:

> For me, it needed to be run by the registrar... it was really important for him to actually participate. I believe that you can lead a horse to water but you can't make them drink – and so, I think that is a potential issue, if you have a candidate who is not willing to enter into the spirit of the exercise. (Jennifer)

It has been demonstrated that medical students are rarely fully autonomous in their learning and tend not to use self-directed strategies when there are alternatives. They are better able to choose how and when to meet their learning needs when they are supported by their teachers (Dornan et al., 2005). The same may apply in the postgraduate setting.

5.7.3 Self-efficacy and motivation

'You're dealing with pretty clever people' (Trainee Martin)

Socio-cognitive theorists emphasise self-efficacy as the key motivator for goal-oriented learning activity: it refers to the beliefs about one's capability to attain certain levels of performance (Bandura, 1986). Learners work on tasks, observe their own performance, and evaluate their progress; achievement leads to growing self-efficacy and setting of new and more challenging goals. In assessing self-efficacy, learners take into account the difficulty of the tasks in relation to their own capabilities (Schunk, 1990).

Many participants referred to some tasks as being 'difficult', 'daunting', 'onerous' or 'overwhelming': in all cases this related to the processes involved in completing the portfolio rather than to the learning outcomes themselves. The most commonly specified difficulty was documentation. Martin explains how for him the process was in fact more difficult than the outcome:

> I didn't think it was structured in a way that made it easy for me to change my behaviour; it was more time consuming and more difficult to fill in the diary than it was to do the things themselves.

Medical specialist trainees are by necessity highly capable learners:

> You're dealing with pretty clever people mostly and you can say – this is what we expect you to produce at the end, find some way that suits you of producing it...we get fairly well trained into doing things quickly and efficiently and when it needs to be done. (Trainee Martin)

For specialist trainees, capability may be seen as a given since they have already derived a good deal of self-efficacy as a result of their medical training.

Pathologist Gareth agrees that trainees are capable and motivated, and that they do derive substantial feelings of self-efficacy from their achievements:

They say you need to do this and you need to do that and they find their own feet and do they really need a supervisor telling them what to do? Sometimes you're better to find your own way. It's a good feeling if you can find your own way and come out on the high side of the street.

But...'why would I bother?' (Janet)

If trainees are strong on self-efficacy and can achieve very difficult goals, why should it be so 'daunting' to fill in a portfolio?: surely they do not see it as beyond their capability?!

Why should Gareth's trainee Janet, despite all capability and self-efficacy, complain of the portfolio that 'it's really hard'?

More than likely it has nothing to do with capability. However, in comparison with her goals of passing exams and 'being a diagnostic pathologist', Janet says, 'This is just like – why would I bother?' It just 'wasn't terribly useful'.

If outcomes are not interesting or useful, then there is no motivation to engage with the processes, regardless of whether they are easy or difficult (Eccles & Wigfield, 2002).

5.7.4 Values, motivation and goal priorities

Self-regulation requires that learners are motivationally active (Zimmerman, 1989). Self-efficacy is the expectancy part of expectancy-value models (Eccles & Wigfield, 2002), whereas the value part recognises that goal-oriented action is primarily determined by the benefits or value of the outcome compared with the costs of pursuing the goal.

In the face of many competing goals, a busy trainee will not engage in goals and activities considered too difficult, uninteresting, unnecessary or ad hoc.

I think when people get busy, ad hoc things just fall off. (Supervisor Gareth)

There has been little research into the motivations that determine the extent to which learners engage with portfolios. One study examined the motives of medical students who went beyond expectations in completing their portfolios. The most important motivators were

internally regulated self-set goals that did not necessarily correspond with those set by the medical school. Some found it useful to maintain records for study purposes; for one student the motivation was political, in providing evidence of poor treatment by the medical school; for others it provided an opportunity to impress assessors, compensating for poor performance in other areas; and for one it was an emotional release. Motivation was never associated with the goal of becoming a doctor. The quality of the portfolio bore no relationship to the virtue of students' motives. The most cynical student presented an immaculate portfolio, and those who claimed to have benefited from reflection showed little evidence of it in their documentation.

My data provide a further dimension by exploring the de-motivating factors that develop in the context of competing values, and the tensions between internally regulated self-set and externally regulated other-set goals.

'How's it going to benefit our pathology?' (Gareth)

Knowles' principles of andragogy (1980) include adult learners' valuing learning that integrates with demands and can be applied to authentic problems of everyday life. Trainees will be less likely to engage with tasks that they do not see as relevant to their work. General Practice trainee attitudes towards portfolios have been found to correlate significantly with the perceived benefits of using them (Hrisos et al., 2008).

Many of my subjects complained that they were not motivated to use the portfolio because they could not see any real benefit in doing so. For example, they regarded it as 'simply another unnecessary requirement' (trainee), 'not always providing obvious positive benefits' (anatomical pathology trainee) and 'not really adding anything, except extra paperwork' (trainee Rebecca).

The phenomenon was well described by trainee Janet:

> If this is going to work, you really have to be able to convince the supervisors,
> and secondly the trainees, from a very early stage, the importance of this
> going in the background… At the moment, it's basically an exercise in
> creative writing and I think a lot of people, if they do not see the point, if they
> cannot be shown the relevance of this to their diagnostic and future life,
> that's all it's going to be.

Janet was unconvinced of the importance of the curriculum, regarding it as 'background'. Consequently the process becomes meaningless for her as 'just an exercise in creative writing'.

Janet pointed out that supervisors had to be convinced of the importance first, suggesting that trainees will take their cue from supervisors in assessing importance. Because of this, it is of concern that a number of supervisors doubted the portfolio would contribute to any useful outcome despite effort involved. For example, supervisor Gareth asks:

> Is it going to value-add, or is it just going to add more work to everybody's
> diaries? ...so do they have to be documenting all this stuff when you're
> already achieving the ultimate outcome – which is a good registrar and a good
> consultant... how's it going to benefit our pathology?

Trainees will not see the point in doing extra work if it does not contribute to what is meaningful to them, i.e., their 'pathology'.

> I think if they can come around to seeing the benefit of doing it and using it
> in that way – therein lies the rub, getting them to see it as something they can
> use to their advantage rather than just being an annoying bit of paperwork
> they've got to fill out. (supervisor Beth)

It is a 'rub' because there is conflict between the potential benefit and an annoying process. Values that motivate the adult learner are primarily internal (Knowles, 1980), and include personal interest, attainment value (the personal importance of doing the task well and confirming self-identity), and utility value (e.g., relevance to career goals). These are

offset by the costs in terms of time, effort and lost opportunities to do more important things (Eccles & Wigfield, 2002).

Not only do trainees and their supervisors need understanding of the importance of the exercise, they actually want the College to 'provide EVIDENCE, not opinion of utility' as one pathologist wrote emphatically. Lack of perceived utility is a strong de-motivator.

'What they really want to be doing' (Gareth)

A couple of the main reasons why doctors choose a career in pathology are intellectual challenge and interest in the science of pathology (section 2.1.2). Supervisors in my study saw trainees as being primarily interested in the scientific aspects and technical skills of pathology. Gareth, for example, commented that:

> What they really want to be doing is getting their teeth into a good case,
> cutting it up well, signing it out well, doing the immunos well, and doing all
> the pathology.

Such intellectual interest is a self-oriented value in that the patient is a 'case' upon which one performs 'pathology'. Whilst motivating to the trainee, it is of concern that this type of attitude may not be patient-focussed.

If on the other hand a trainee has broader interests beyond diagnostic work, it can provide strong motivation to expand the scope of learning, as for Martin with his teaching:

> My parallel interest in medical education and the Graduate Certificate in
> University Teaching and learning that I am doing has also enhanced my
> awareness of the learning process this year...The single most valuable activity
> for me learning wise has been teaching medical students and interns. I find
> this allows me to find my own limitations, pushes me to continually review
> and update my knowledge and they teach me a lot as well.

Even so, Martin's strong interest may have been at risk of being hijacked by the more pressing demands of work and exams, as suggested by his later comment:

> My primary concern at the moment is acquisition of knowledge so I can do
> my job and pass my exams. Although it is valuable spending time on most of
> the learning outcomes as stated, this remains my main priority.

Though intrinsic interest may remain, other goals and values do change over time as dictated by the circumstances and stage of training and the culture to which trainees are exposed.

'Trying to get a grip on the job' (Martin)

When students in a clinical specialty begin training they are usually in a familiar clinical environment, doing largely familiar clinical tasks that gradually increase in scope and complexity. Pathology trainees generally enter specialist training as complete novices in the unfamiliar environment of the laboratory: they must adjust to working with microscopes and analysers rather than patients. Such dramatic change can be stressful and shift focus away from patients. Setting learning goals in a new context can be very challenging for new pathology trainees who 'may not know where to start', as one trainee suggested.

New trainees will have different learning goals to those of more advanced trainees, according to Martin, who explained that 'early on there was a lot of trepidation on my part' and that initially he was mainly concerned with 'just trying to get a grip on the job'.

Anna felt very anxious as a new trainee and did not understand the relevance of the new curriculum that she felt was not pitched at her level:

> I guess because I was just starting, all that stuff seemed irrelevant, it seemed
> like something of relevance to a more senior person...This is not what I
> desperately want help with now – come back in a few years time ... I guess it's
> stuff you need to be aware of but there's other stuff to take seriously at this
> stage. I was just feeling so desperate and lost and confused and please help me
> somebody.

Anna and number of other trainees explained how their goals changed with their stages of training and suggested that the portfolio could be better designed to reflect this evolution and to provide greater support in the early years.

Socio-cognitive theorists stress that setting proximal goals greatly enhances motivation by allowing learners to develop skills in a stepwise fashion, gaining confidence as they work towards the more difficult distal goals (Schunk, 1990).

Anna gives an example of how this could work:

> Certainly communication, at my level that's probably the most relevant one. Maybe things could be introduced in a more staged way, like the relevance of communication at my level is like communicating with the scientists and liaising with doctors, but maybe down the track it's kind of a different style of communication altogether.

'Groaning under exams' (Janet)

Once a trainee has adjusted to the new work environment, priorities change. Trainee Janet explained how for a second- or third-year trainee, learning the technical skills and knowledge in preparation for Part 1 exams takes over, and addressing non-technical areas takes low priority:

> You are too busy trying to learn your new physical skills, relearning or for some learning for the first time, all your anatomy, histology, pathology which seems to be a bit light on the ground in some places, then you're aiming for the exams and the other assessment items. This is just like – why would I bother?

At this stage the goal of passing the exams may be detached from the eventual aim of becoming a pathologist, as Anna explains:

> I think passing the exam as opposed to learning to become a chemical pathologist on the ground are two completely and almost unrelated processes. So, it's becoming clearer to me that they're two entirely different goals that I

think of...What I really am looking for is something to tie the two together –
the whole studying for exams and the on the job.

Existing assessments tend to separate the training experience from taking on the identity of a pathologist. Repeatedly, trainees referred to the way that nothing else could be taken seriously in comparison with the vital passing of exams.

Trainees indicated very frequently that they felt overloaded and pressured by examinations. This was particularly evident in anatomical pathology which is the most heavily-examined discipline. Janet spoke of 'groaning under exams'. Another anatomical pathology trainee claimed to be 'already stretched to the limit studying for exams, etc.', and Sam repeatedly expressed his anger about excessive assessment:

We've got plenty of assessments and a lot of things I have to do I'm just
pissed off about.

The perceived cost of completing the portfolio at the expense of preparing for exams was evident in phrases like 'interfering with the true focus of training and exam preparation'. As one trainee put it,

The major focus is passing exams: if the *Learning Diary* doesn't help in that
regard or takes away from time for study, it will be viewed negatively.

Patricia observed of her trainees that 'the attitude is that if it's not in the exam, why bother doing it?' The examinations define what is valued, as Andrew pointed out:

A lot of the candidates have really only looked at the curriculum as far as it
relates to the examination process and in the absence of more formal
assessment of other elements, it's pretty difficult for them to think that there
are some important things they need to know... I think that they're so
diagnostically focused, because that's where the mandatory assessments sit,
that everything else is peripheral and to be deferred to a time when they
might need to do it.

Thinking about professionalism may have to wait until after the exit examination. This may represent five years'-worth (or more) of missed opportunity to instil the professional values that are not represented in the exams.

'It's very difficult to fit all that in to a day' (Hans)

Apart from preparing for exams, trainees also have a significant service load, particularly in anatomical pathology. Hans explained:

> I work in a very busy department where everybody is under constant pressure from a large work load...We start early in the morning and we are busy with service work until late. Getting time to prepare for teaching, to look and read around cases – it's very difficult to fit all that in to a day, and now this looks like quite an extensive document that will take up quite a substantial amount of time...My supervisor didn't really understand the importance of this whole project. Every time I approached him to sit down and discuss my learning objectives and progress, it was always postponed...Because of workloads because our pathologists are really busy – they don't really think this is that important.

Other participants reported similar experiences of being overloaded with work, impacting on both supervisors and trainees. Such comments were most often from those in anatomical pathology, where the workforce shortage is greatest (Legg, 2008). The relative shortage of supervisors in anatomical pathology is also evident in Figure 3.

'Being a functional pathologist' (Janet)

Having passed the part 1 exams, there are yet more exams to do before the trainee can really think about being a pathologist, as Janet explained:

> Once you've passed Part I, that's a big hurdle – you've survived those three years or four years, you've passed that exam, we can ease off on the regular reassessment things and concentrate on getting through the exit exam and being a functional pathologist. That's my concept of registrar training.

Janet was doing her part 2 exams while taking part in the pilot study. She explained that 'with the exam in the middle I really wasn't paying that much attention to this'.

By the time I interviewed Janet, she had completed her exams and was beginning to think about working as a specialist pathologist:

> I can see the point from now, from me now looking forward, I need to know all those things, but it is completely skipped, most of it, in my experience... There's a difference between your functionality and employability, versus your College requirements of standards of knowledge and performance. There are two areas there that are a bit difficult to work out, where the line should be drawn.

For the first time, Janet began to see the point of 'all those things'. As it was for Anna, there was a separation between the assessment processes and the professional qualities required for practice. Janet went on to say:

> Most of my 'training' is based around learning how to be a diagnostic pathologist. That is the pure and simple goal that has ever been expressed by any of my supervisors or training pathologists or anyone like that. I find it very difficult to engage any of other registrars' interest in this, and again, it comes back to everyone's desperately trying to learn how to be a diagnostic pathologist and this is just not given priority... You're just concentrating so much on learning that diagnostic stuff that all the rest of it washes over you.

Supervisor Andrew also related his observations that it is often only after Fellowship that pathologists really start to think about professional practice:

> I guess the attitude is – yes, I understand we have to learn something about this, but really it's not until we've got our Pathology Fellowship that we'll have either the time or the interest in doing it. Particularly for anatomical pathology which now has at least five formal assessment tasks ... the diagnostic component of the syllabus is getting bigger and bigger...
>
> Trainees see the end point as getting fellowship of the College of Pathologists. If you ask them to expand on what that means, most of them would have great

difficulty and my impression is that most of them would say – I'm diagnostically competent, and that's where they'd finish the discussion.

The goals shift throughout training: from coming to grips with the job in the beginning, to doing the work, passing the exams and attaining diagnostic competence. However, the perceived gaps between participation in learning, exam preparation and identity as a practising pathologist persist throughout training. Janet experienced this as a senior trainee just as Anna experienced it as a junior. In between, the exams are the overwhelming concern. The risk is that professionalism will just fall through those gaps unless it can be seen as relevant from the outset of training and without being swamped by other pressures.

This means aligning goals of training, learning experiences, assessment and the values communicated to trainees with the values that the community expects of the professional pathologist. Because trainees are strongly assessment-driven, alignment of assessment with the overall goals of training will be particularly critical.

5.8 The educational environment

Many studies have indicated that strong support and resource provision are necessary to achieve uptake and benefits from use of a portfolio as reported in two recent reviews (Driessen, 2007; Tochel et al., 2009). Support can take various forms, either personal or physical, and can be provided in the workplace or at an institutional, e.g., College level. The requirement for personal support from supervisors and mentors is strongly emphasised in these reviews. Employer support, particularly in relation to provision of quarantined time and computer access; and institutional support in terms of user training, have been cited as important in some studies. Courses and physical resources such as reference materials are mentioned occasionally.

There was strong and widespread demand for all these types of resources and support in my study. In comparison with other studies my subjects placed much more importance on courses and reference materials to address the curriculum and complete the portfolio; perhaps this reflects pathologists' strong interests in the cognitive domains. One of the positive outcomes of the *Learning Diary* project was that it prompted supervisors and employers to provide required resources.

5.8.1 Supervision

'The actual consultant will be the linchpin' (Janet)

Not only are good supervision and feedback essential for trainees to engage with portfolio learning, but the effectiveness of situated learning in fostering a reflective approach to professionalism depends on having sufficient positive role models who understand what they are modelling and are willing to engage with their trainees' professional development (Billett, 1995).

Trainees, particularly in early stages of training, need a good deal of support in establishing their learning goals and processes (sections 5.3 and 5.7.2). I have cited a number

of examples where working constructively with supervisors proved motivating and beneficial (section 5.3).

The importance of supervisor buy-in was stressed by several participants, and most emphatically by trainee Janet:

> The struggle will be to engage the supervisors, who also have difficulty being engaged in seeing this as relevant to their trainee... If your supervisor thinks it is important and relevant, then the trainee will think it is important and relevant, regardless of whether it's compulsory or not. The actual consultant will be the linchpin to the success or failure of this.

The main reason why supervisor involvement is important is that trainees will assess the relevance and value of goals based on the opinions of supervisors: according to Janet, the influence of the role model is stronger than mandated processes. However, many participants, both trainees and supervisors, identified potential problems with engaging supervisors. Lack of time for supervisors to spend with trainees was a common complaint.

Supervisors themselves may become frustrated and disillusioned with their supervision responsibilities in the face of a heavy workload. Janet's supervisor Gareth explained:

> I've already had two supervisors come to me and say – it's just all too much...
> I'm not going to be a supervisor from hereon in if we have to fill it out.

Even a helpful and supportive supervisor can be thwarted by a process that is cumbersome. Rebecca's and Martin's supervisor declined to participate in the trial for this reason:

> He found it very cumbersome and he found the language a bit difficult. He is a very involved, hands on supervisor, who already has done a prospective training diary for each one of us for every year. He just found it quite time consuming I think. (Rebecca)

Another problem is that the quality of supervision can vary considerably between sites. Trainee Dani found great differences depending where she was working and complained that:

> A lot of their feedback isn't that useful, you just get told a lot of the time –
> just keep doing what you're doing and you'll be fine, eventually, sort of thing.
> Which isn't really helpful at all.

Supervisors Beth and Jennifer noted that some supervisors may lack skills in supervision and would need support and guidance.

> Some consultants or supervisors who might not have skills themselves or
> insight, it might help them if there were options as to how to assess, how to
> evaluate and how to provide skills, or how to access the skills that might be
> required or that might be helpful for the trainee. (Jennifer)

Supervisors were mainly concerned with technical and administrative aspects of teaching pathology rather than supporting general professional development:

> Usually your supervisor, as far as I've had any experience in six years, they
> are not teaching you any of this stuff, they are basically someone who fills in
> the paperwork for you, because we have a lot of contact with all our
> consultants, we get a lot of double heading time, we get a lot of teaching,
> which is excellent but we don't actually get a lot of – how are you going, you
> are not doing well in this. There's not a lot of that goes on. (Trainee Janet)

Educator Roger believes that cultural change at the level of the supervisors will be critical. The culture, he notes, is partly embedded in the hidden curriculum emanating from the RCPA Continuing Professional Development Program: he alluded to this with the reference to 'counting hours':

> 'I was being a bit more subversive – how does one actually change the
> supervisor? It's all very well saying to the trainees – you've got to change – if
> all around them the world isn't changing, and their role models and the people
> whose approbation they require don't believe in any of this stuff, then that's a
> problem...We need to think about where that change should start and how it

can be accelerated, and the College has a role to play in that in terms of the continuing professional development milieu that it sets up and without being unkind or rude, probably counting hours is not a very intelligent activity.

The importance of role modelling by pathologists cannot be over-emphasised where trainees see themselves as apprenticed to supervisors and mentors in the workplace.

Many studies have emphasised the importance of supervisor training (Driessen, 2007; Tochel et al., 2009). Trainee Janet offered a warning consistent with these conclusions:

> Adding yet another assessment item without putting more effort into training your supervisors to facilitate it is fraught with danger.

In most published studies, the recommended support for supervisors entails giving information and explaining how to use the portfolio to students or trainees. What is not emphasised is the fact that supervisors, whether they realise it or not, are instructors in more than simply knowledge and processes: they embody the culture to which trainees aspire to belong (Lave & Wenger, 1991). Technical instruction for supervisors may just translate into technical instruction for trainees unless we address the needs and values of supervisors and trainees together from a cultural perspective, as Roger suggests.

5.8.2   Workplace affordances

'The apprenticeship system was fine when the pace of change was very slow' (Roger)

Workplace affordance has been defined as the way in which the workplace invites and structures individuals' participation in work (Billett, 2002): such affordances are critical to expanded views of the traditional apprenticeship model (Fuller & Unwin, 2003).

Trainees, including Rebecca, Katrina and Janet, referred to their training as an apprenticeship. They understood that within this framework they are self-directed, but their experience was geared towards the acquisition of knowledge and technical skills that are tested at the end in an exam. Within the apprenticeship model they experienced, they found

that non-technical areas had very low priority, consistent with the culture and role modelling I have described.

> My experience in anatomical pathology registrar training has been an apprentice style of learning with self-directed book and slide work. Very little time or energy - on either the registrar or supervisors' part – was given over to the areas which appear to dominate the *Learning Diary*. (Janet)

Roger contrasts this traditional model with his more favoured approach:

> The apprenticeship system was fine when the pace of change was very slow, but what we need now is a generation of apprentice masters, if you like, supervisors, who demonstrate and personify reflection and the ability to continue with the own education in a very proactive way.

Roger advocates a renewal of the apprenticeship model with cultural change, where the supervisors have a strong sense of professionalism and manifest this through reflection and proactive professional development. Roger's model thus draws upon socio-cultural theories that emphasise modelling by supervisors who embody a positive culture (Lave & Wenger, 1991), and also a self-regulating approach to pro-activity in self-education (Bandura, 2001).

In addition to a new generation of 'apprentice masters', trainees will need to be exposed to many role models and supported by a wide range of workplace affordances. In the situated learning model these are considered essential to promote learning, cultural adaptation and progression to expert status (Billett, 1995). Motivation and the development of identity are said to be intricately entwined with opportunities and experiences in the workplace.

Participants in my study emphasised how important it would be for them to have good teaching, provided by a range of people, a variety of educational opportunities, and protected time to carry out activities and documentation.

Whilst in the traditional apprenticeship model, the learner is apprenticed to one person, expansive models advocate a much broader network of contributors doing the training (Fuller & Unwin, 2003): these contributors will be part of the community of practice. There is widespread acknowledgement that many people contribute to the trainees' development, and that their support is vital. Some researchers have found that introducing a portfolio may promote the provision of resources in the workplace and exposure to a wider range of experiences. (Driessen, 2007; Tochel et al., 2009). To some extent this was a positive outcome of the RCPA pilot project (section 5.5).

However, a number of trainees and supervisors expressed concern that some laboratories, particularly smaller ones, would not be able to provide the necessary resources or a broad enough range of experiences.

Provision of resources was seen to be very important for engagement with the *Learning Diary*:

> Having readily available/accessible resources and standards in all areas will be a challenge. However, without these, trainees will be discouraged or be less willing to use the diary. (Immunologist)

Lack of support or resources may be stressful for trainees, as Gareth explained:

> What you've got to worry about though is the fallback if some of them don't actually achieve what the College is saying to them they should be achieving. That can induce all sorts of stress and then they start to get worried that this institution they're training in isn't giving them enough support to do their job. Maybe the institution hasn't got enough staff to help them do it, maybe it hasn't got the resources to do it – there's always a lot of background but sometimes the registrars don't focus on that, they just think nobody's helping me.

A possible lack of exposure to relevant experiences has been cited by Billett (1995) as a potential drawback of the situated learning model. Trainees who are unsupported in the

work environment will not only be deprived of learning experiences, but will feel anxious and not valued as learners.

Variability between sites in the provision of resources and range of experiences available will need to be addressed.

5.8.3 College support and resources
'We think this topic is very important for you to know about' (Rebecca)

A very frequent request from trainees was for the College to provide accessible resources such as online documents, guidelines, web links and learning modules. They also requested face-to-face teaching such as workshops, seminars and courses. As well as assisting the trainee, this would also communicate what is valued at an institutional level.

> If the College wanted to help Trainees feel more supported then the odd formal teaching module or seminar could be useful. Not as another method of assessment but more along the lines of 'we think this topic is very important for you to know about, so here's some information on that'. (Trainee Rebecca)

Another way that the College can communicate the importance of professionalism is by valuing the contributions of those who provide honorary services: they must be backed up with infrastructure to support their contributions. Supervisor Andrew explained the need for the RCPA to address this:

> Compared to other specialist colleges, we have very little educational infrastructure, the people who might be expected to take responsibility for curriculum development often do it on a voluntary basis, the specialist advisory committees have, not through lack of effort, had enormous difficulties getting any output. ...If I can make a recommendation, I believe the College should have an employed specialist pathology education unit with pathologists on the staff and people with an educational background.

I am pleased to say that since the time of the interview I have progressed from being a volunteer to being a paid director of a small but growing professional education unit. In turn it is my responsibility to support our volunteers.

'I do really appreciate the College taking the extra time to fully evaluate it' (Rebecca)

Participants also suggested other ways in which the College could facilitate portfolio implementation — such as by providing administrative and technical support and seeking feedback from users to monitor and improve processes. Consultation with stakeholders is appreciated, according to trainee Rebecca:

> I must say I do appreciate – you know I'm on the Trainee Advisory Committee as well – and I know that it was supposed to be in place this year and I do really appreciate the College taking the extra time to fully evaluate it before starting it – that's great.

A number of participants suggested linking portfolio requirements to laboratory accreditation policy to ensure that sufficient resources and protected time to address the portfolio would be available at training-accredited sites.

> Make the *Learning Diary* a compulsory factor for laboratory accreditation so that the department has to set aside protected time for trainee and supervisor at regular intervals so that we can complete the diary. (Fourth year anatomical pathology trainee)

This laboratory accreditation process is the means by which the RCPA can perform this assessment. The process must therefore be reviewed to ensure alignment with the broad aims of the training program.

The hidden curriculum is partially embedded in institutional policy (Hafferty & Franks, 1994) and backing up the portfolio with accreditation policy may be one way of communicating its value. In fact Hafferty (2006b) argues that assessing the learning environment is part of assessing professionalism.

5.9   Design, assessment and implementation

5.9.1   The formal curriculum

'It wasn't part of the program' (Educator Thomas)

Educator Thomas had participated in RCPA workshops in which responses to the *Learning Diary* from supervisors and trainees were quite aggressively negative. He recounted his experience during the RACP discussion:

> It wasn't part of the program, and perhaps the difference here is that you're doing it (at the RACP) as part of a program. What we (RCPA) are doing is a one-off learning diary and the feeling was that this is an imposition on what we are already doing. 'Oh God, what does the College want us to god-damned do now?' kind of reaction. They were wanting us to cut it down. I was very surprised at the reaction. It wasn't a very revolutionary thing that we were doing. It was a pretty standard reflective diary.

Thomas had identified that lack of integration can generate resentment: should he have been surprised at the reaction…? It has been advised that a portfolio should not be used as an independent instrument, but should be integrated with other activities (Driessen, 2007). However the strength of the reaction in this case was out of proportion to what was expected or has been reported by other researchers.

The most likely explanation is that the portfolio was doubly disconnected. Not only were the processes involved in completing the portfolio unfamiliar and unpalatable, but the curriculum was not seen to be integral to the culture of being a pathologist (section 4.5.2). Unless the content is valued, the processes will not be embraced. This creates a vicious cycle, where the gaps between desired outcomes (professionalism), process (reflection) and identity may grow ever wider. This separation is manifest in the day-to-day experience of trainees (section 5.7.4) and threatens to reinforce a non-reflective identity, where the pathologist separates professionalism from diagnostic skill.

A number of participants noticed this separation and recommended that the *Generic Curriculum* be integrated with the discipline specific curricula, and that the *Learning Diary* encompass some of the technical aspects of pathology.

It was predicted that 'the curriculum may fail because it is too generic' (trainee), and risk 'irrelevance if kept only in generic format' (supervisor). One supervisor suggested 'they have to be very goal-directed — and that would mean actually going into specific disciplines'.

Goals are determined by what is valued (Eccles & Wigfield, 2002). Dean identified the discipline specific areas as being the most valued:

> You might have to make it discipline specific so people can cover topics that
> they're *really concerned about* in their initial training

It is essential therefore that professionalism be strongly tied to diagnostic competence in the curriculum to engage interest.

'In the absence of the big picture statement it's high risk for failure' (Andrew)

The other thing that the curriculum must do is to redefine 'the big picture' of what professionalism means to the pathologist. This was well articulated by anatomical pathologist Andrew:

> Until we have a big picture learning outcome, that not only are they
> diagnostically competent but they are also equipped to be able to manage the
> complexities of the laboratory and relate with all the external and internal
> things...having all these other little learning outcomes there is fine ...but in the
> absence of the big picture statement and also with the recognition that the
> training program is really long, it's high risk for failure at all steps.

In Andrew's big picture, diagnostic competence is linked to all the complexities of professional life as a pathologist.

If this is not made very clear against the demands of a long and arduous training program, our efforts are likely to fail.

'It is the verb that matters the most' (Peter)

Pathologists and trainees are uncomfortable with what they regard as nebulous outcomes relating to professionalism (section 4.3.3). Acknowledging this phenomenon amongst doctors generally, Jha and Bekker et al. (2006) conducted a qualitative study to discover the meanings of professionalism and to operationalise these in practical terms: a similar process may be helpful for pathology or any specific training culture. My study has revealed some of the meanings of professionalism that will help in the operationalisation of outcomes, though more work will be needed to develop a comprehensive picture.

One pathologist hoped that the curriculum would add 'tangible structure to a range of nebulous yet important steps'. This has implications for the way in which we express objectives relating to professionalism. Noting educator Peter's comment that 'it is the verb that matters the most', we need to think about expressing objectives in the most practical and concrete way possible, without trivialising them. For example, it may be that pathology trainees will relate to the instruction type of objective (Mager, 1975). This involves writing specific statements about observable outcomes that can be built up to become a curriculum.

'No jargon or education speak' (Trainee)

There were several complaints that the curriculum contained jargon and was difficult to understand.

For example it was requested by a trainee that the learning outcomes be articulated in 'plain English, no jargon or education speak' and by a pathologist to 'have your document examined by a plain English expert before you unleash it'.

Jargon will confuse people and convey disrespect. The curriculum must be compiled in language that is understood in pathology culture, not that language which is perceived to come from the 'alien' culture of education.

5.9.2 Structure and design of the portfolio

The need for a simple design with a balance between flexibility and clear instruction has been identified in a number of studies (Driessen, 2007; Pearson & Heywood, 2004). Clearly the design and structure of the portfolio was problematic for many of my participants.

Trainee Martin encapsulated many of the common themes in his written feedback following the pilot study:

> Even with my training in medical education, I still found some of the learning objectives to be poorly defined, and the instructions regarding what should be/can be written are not clear...there was not really space to explain your own learning context or comment on this with any depth. I would suggest a less rigid format and better examples of what is expected or acceptable, with more opportunity to comment specifically on what has been learned or what needs to be addressed for the next year...the instructions and examples really do not cover the full breadth of what could be done and what is appropriate. I would also suggest that for things such as 'Pathologist as Manager' that may not be easily covered in daily practice, the RCPA could suggest appropriate resources as part of the trainee handbook...Getting supervisor comments in every box is impossible - is this supposed to replace the supervisor's report? If not, it is an added burden. In short, to do this task properly takes an enormous amount of time for both the trainee and the supervisor, is not clear in its structure, instructions or intent, results in a superficial summary with few opportunities for effective reflection on learning done and future learning, and although it may identify for trainees the relative deficiencies they have, does not provide any possible resources for trainees to ameliorate these areas, or impetus to do so. More consideration of the format and practical implementation of the document is required if the RCPA wants this to be anything more useful than a simple tick box exercise that exists purely for accreditation purposes.

Martin considers himself a reflective learner. But for him, as for some General Practice registrars (Pearson & Heywood, 2004), the portfolio was irrelevant to reflective learning. Martin's concerns can be summarised as follows:

- Not understanding the purpose or expectations,

- Poorly-defined objectives,

- Unclear instructions,

- Need for examples,

- Need for resources,

- A format time-consuming and awkward to complete,

- A format not encouraging of reflection,

- The de-motivating effect of poor design.

If these issues can be resolved, then the response will be much improved, as Martin explained when interviewed:

> They're happy to do things if it's not difficult for them...the main thing is making what you expect the trainees to produce at the end really clear, what they're expected to get out of it really clear as well, and then to make as easy as possible for them to do.

Participants offered many suggestions for improvement as follows:

'Make it as easy as possible' (Martin)

Many participants complained that the format was too long, complex, not user friendly, 'unwieldy', 'texty', 'difficult to understand' and 'painful to complete'.

Rebecca, like a number of other trainees, was frustrated by what she found to be a cumbersome format:

> I found I spent more time trying to figure out what the question meant and how to put down an appropriate answer for that box, than actually achieving the learning goal in the first place...There were too many little subheadings for each category.

A very strong theme was the wish for the portfolios to be simple, succinct, user-friendly, streamlined, easy to fill in and not too 'open-ended'. Trainees wanted minimal writing and documentation. Often this became a plea for a tick-box approach (see section 5.3.5), though this level of reductionism will not encourage reflection.

There was universal support amongst trainees, supervisors and educators for an electronic format that would provide ease of use and portability; allow expansion of spaces to write in; keep secure records over time; and facilitate reflection:

> Electronic interactions have the capacity for great expansion and if they did want to write an account, it could be linked there and there could be a way of attaching a more complete account of these various reflections and interactions. (Peter)

One review (Tochel et al., 2009) cites a number of studies demonstrating that electronic formats encourage enthusiastic and reflective use of portfolios.

'I like to see concrete examples' (Dean)

Recognising different learning needs and styles, it was often suggested that a more flexible and less prescriptive format would be desirable. This is certainly supported by other studies (Deketelaere et al., 2007; Driessen, 2007). Participants asked for concrete examples of what to do and of how to do it; but with the freedom to choose their own goals and record evidence in the form that suited them best as individuals, and flexibility with respect to timing of completion.

Chemical pathologist Dean, having emphasised the need to accommodate various learning styles, also suggested:

> Probably a series of some concrete examples outside the safety zone but also
> pertaining to general chemistry and those sort of issues, because I'm a
> concrete thinker and I like to see concrete examples...People need to
> understand why they're doing it and what the benefits are.

Professionalism may be seen as 'out of the safety zone', with respect to the traditional norms of pathology training. However, if it is linked in a concrete way to the particular discipline it will have relevance.

'Explicit instructions', no 'disturbingly empty boxes' (Janet)

Despite the fact that those participating in the pilot study had time to study the instructions, at least half of the trainees still seemed quite confused about the purpose of the *Learning Diary* and what they were expected to document. They did not understand the objectives, finding them too non-specific; and the language was often challenging for them. Janet felt very uncomfortable with a 'whole page of disturbingly empty boxes' and was very anxious about how she was going to fill them. She stressed the need for 'explicit instructions...otherwise you will get people running around'. Janet and many others requested examples so that they would know what they were expected to write in the portfolio:

> That was one of the things with respect to the format and what could be more
> helpful, is perhaps much more concrete, written examples from you guys of
> how to actually write what you've done.

Though it was emphasised that the curriculum was based on non-technical competencies, some became confused because they assumed at the outset that the *Learning Diaries* were intended to address their technical knowledge and skills. Jennifer reported that some supervisors thought it was meant to be a logbook for recording technical procedures, and had explained it to their trainees in these terms:

> I know already there is some confusion about the *Learning Diary* and some
> supervisor colleagues of mine have said to their registrars that they want them

to write a diary – I came in at 9 o'clock, I read three Gram stains, I ran two blood cultures – all that sort of stuff.

Apparently it is natural for pathology trainees and supervisors to assume that all educational and assessment activities will be geared towards technical competence. It will therefore be a challenge to communicate intentions to address 'the big picture' outcomes to which Andrew referred. Because the ideas of addressing non-technical competencies and of writing a reflective portfolio are both unfamiliar activities, the need for clear instructions is particularly critical.

Equally critical is balancing clear instruction and concreteness with flexibility. Over-prescriptiveness rings of bureaucracy and can discourage engagement and reflection (Driessen, 2007).

'Put the harder edge on it... steering between minimalism and a burden' (Peter)

If professionalism is considered nebulous, then putting 'the hard edge' on reflection may help. Educators in particular warned that this would not be achieved with a simplistic tick-box approach.

I interviewed Peter late in the course of the project when the format of the portfolio had been simplified. He was concerned that it was becoming a passive exercise. Such a format, advised Peter, is particularly likely to result in a cursory, non-reflective effort in the face of lack of time, cynicism and nebulous objectives. Peter was emphatic that some recording of detail and some creativity in choosing learning activities would be necessary to stimulate reflection. Again, finding the right balance is the challenge:

> I do worry about the cynicism of it that they'll say I observed and I reflected - tick, tick with a date...if they were a little bit cynical about this and basically wanted to get on with the lab work, it would be all too easy in the current format to see a scattering of dates and comments and nothing much there. I

do feel that capturing the detail of at least some of the things in each category will put the harder edge on it...

I think you'd have to put your shoes in the situation of people that aren't particularly fussed about it and just take some minimum step that would require to be done, but not to be overwhelmingly in their face... I have to be careful not to recommend something that is going to add hours by asking for detail, but it's almost worth nothing if it's so trivial that they could make up dates and never write any comments. It's steering between minimalism and a burden.

Again, balance is the key. Insistence on too much narrative will be counterproductive for those who are uncomfortable with it, but tick boxes will encourage passivity.

'Some education about education' (Dean)

Chemical pathologist Dean suggested:

I think it would probably have to be more in instruction or upfront, to give them some education about education...So in addition to giving an outline of Schon's approach to reflection, I think it might be useful, if you want people to take up reflective practice, to explain the potential benefits of this approach for learning and integrating information and knowledge into practice.

For those who are unfamiliar with reflective learning, some education may help, but perhaps the most important aspect of Dean's suggestion is to explain the benefits.

'To draw out reflection in those to whom it doesn't come naturally' (Ken)

Physician Ken, again concerned about reductionism, suggested that it is the educator's role to encourage reflection:

The learning comes through that process of reflection and getting underneath it rather than reporting and ticking off, in a sense, a whole lot of procedures which you have done...The challenge is going to be can we equip our professional developers with the skills to draw out reflection in those to whom it doesn't come naturally, and that is to be tested as to whether it actually eventuates.

Ken described how he had conducted workshops for trainees and supervisors throughout Australia and New Zealand, explaining the benefits and processes of reflection. His experience with physicians was very positive:

> Amongst the physician and paediatric community there is an acceptance that this is actually a good way to proceed. And it may be true for you College too. Dunno. I think pathologists overall can be a slightly different group of people, in general.

My experience of conducting workshops throughout Australia and New Zealand was different from Ken's — the response in my workshops was very negative. Was it because pathologists are different? I have no reason to believe that they are any less able than their clinical colleagues to reflect, as Ken has implied (section 4.2.4): rather, I believe they operate in a different context and culture. With a better understanding of that culture, the marketing of reflection in a 'pathology package' rather than a 'physician package' may be more effective.

'This is actually going to help you to pass your exams' (Roger)

Roger had some suggestions for contextualising reflection and making it relevant for pathologists, rather than acceding to pressures for tick-boxes.

> While we insist on those rather simple minded measures of process, then we really can't expect anything to change much... I would like suggest for consideration – the introduction of one bit of overt reflection, so that they have to stop and think about something and write something personal about it – just one – and see what happens.

Roger recommended posing professional problems for solution — perhaps relating to quality control or laboratory safety — and asking for them to be solved in a practical way, to internalise the learning. Another suggestion was to have the trainees complete Biggs' Study

Process Questionnaire (Biggs et al., 2001), and reflect on the implications for their study and exams. This would put reflection into the context of something familiar and valued:

> That's not too personal and that might be a gentle way in to a bit of reflection...that would be fairly unthreatening and you can say to them – this is actually going to help you to pass your exams.

5.9.3 Assessment of the portfolio

'The main thing I am pissed off with is the College is just introducing another form of assessment... without any real explanation of the benefits.' (Sam)

The importance of contextualising the curriculum and making it relevant for the discipline has been emphasised. The next step, as suggested by supervisor Andrew, is to assess it appropriately:

> What should happen is that the curriculum materials need to be developed in relation to what actually happens in the workplace. Then, sitting between the curriculum materials and current good practice, some ways of assessing people's competence to practise needs to sit.

Since trainees are strongly assessment driven, getting the balance right with respect to assessment is critical.

Portfolios can be assessed in various ways, depending on the purpose (Pitts, 2007). They may be formally assessed by examiners who inspect the contents and give a score, or portfolios may be used to support self-assessment and/or formative assessment by a supervisor or other assessor.

The reliability of scoring portfolios has been evaluated (Roberts, 2006), and found to be unsuitable on its own for high stakes assessment. This was never the intended use of the RCPA *Learning Diary*, and strong opinions were expressed that this should not happen. Furthermore, there are validity concerns because the apparent quality of a portfolio does not

necessarily correlate with the virtue of the motives for putting effort into it (Deketelaere et al., 2007).

Trainee Sam articulates a number of themes relating to assessment that were commonly expressed by participants in my study:

> I think definitely those three things should be combined into one perhaps – the training program, the supervisor's report and this *Learning Diary*. The *Learning Diary* we did required assessment with the supervisor anyway. The main thing I am pissed off with is the College is just introducing another form of assessment...without any real explanation of the benefits... I can just make up something and go and do whatever I felt like and it may or may not be helpful in the end... It's a bit hard to grade some of these things. I found that a bit difficult, a bit artificial.

> The supervisor's report – mainly because it's compulsory – it's probably the thing we spend a bit more time on, so I'd be getting more feedback. If it's not compulsory, then I would rather keep it separate, but if it's made compulsory, then it might be better perhaps trying to combine them into two.

This series of quotes from Sam expresses the following themes:

- The need for efficiency of assessment processes;

- Anger and resentment about additional assessment;

- Not understanding purpose or benefits;

- Scepticism about reliability of marking;

- Lack of compliance if not compulsory;

- Need to keep summative (supervisor's report) and formative elements separate; and

- Potential for dissatisfaction if the above are not addressed.

'Some people think it's not necessary.' (Gareth)

Formal summative assessment of the portfolios could result in considerable resentment because many trainees feel that they are already over-assessed and are stressed by examinations. Furthermore, they very commonly believe that the current exams already assess everything that needs to be assessed — a very strong theme, expressed by both supervisors and trainees.

Some feel that the current supervisors' reports are adequate as in-training assessments, while others believe that more data are needed to inform them. However, there is scepticism about whether assessment of portfolios will impact on standards:

> Some people think it's not necessary. We do pretty well with getting our registrars through, so, whatever we're doing, we're doing pretty right I think. And, I look at the senior registrars who come out and become junior consultants and I can assure you that they would know this stuff one way or the other, just by simply having undergone their five years of training and going through all of the rigours of training that we present to them. (Supervisor Gareth)

This approach is consistent with the traditional apprenticeship model. There is an assumption that five years' exposure and passing examinations is the measure of success. The model does not take account of the kind of socialisation that occurs over the five years, and does little to assess it. As our conceptions of the professional apprenticeship change, so must our approach to assessment change (Hafferty, 2006b). We need authentic ways of assessing that which consists of both practice and identity, and is transmitted through formal, informal and hidden curricula.

'It doesn't assess people's competence, all it does is assess people's inertia' (Andrew)

My participants expressed some concerns about possible 'bias and conflict of interest' as well as concerns about validity:

> The diary doesn't assess people's competence; all it does is assess people's inertia, or perhaps one individual's subjective judgment of whether they've done enough. (Anatomical pathologist Andrew)

The perceived nebulous nature of professionalism is also seen to be problematic in assessment:

> (It is) difficult to define how to achieve some of the more nebulous objectives (and also how to assess whether those goals have been met) e.g. communicates effectively. (Anatomical pathology supervisor).

Trainees — for example, Martin — sometimes stated that portfolios could be easily manufactured:

> I don't think the diary itself should be considered as a piece of assessment, because I can write down – 'Martin is a fantastic trainee and really knows lots of stuff', but it's meaningless because it's not actually true.

Martin also feared that honest personal disclosure may be detrimental to oneself:

> You do hear and meet people who've made the wrong comment to the wrong person at the wrong time and it has hurt them in the long term. Pathology is such a small community; people are sometimes justifiably concerned about what they put on paper because they don't know necessarily who's going to be reading it.

The possibility of unintentional detriment to a doctor's career or possible litigation has been raised (Nagler et al., 2009): disclosure of suboptimal performance could result in allegations of malpractice.

Even if assessment of a portfolio did accurately reflect professional behaviour, the issue remains that behaviour does not necessarily reflect professionalism as identity. Hafferty (2006b) points out that 'there is a meaningful (and measurable) difference between *being* a professional and *acting* professionally'.

'Formal assessment is likely to minimise usefulness as a learning tool' (Rebecca)

There are potential conflicts if combining formative and summative assessment. Some argue that there is no conflict (Driessen, 2007), whereas others have found that the learning benefit would be negated if portfolios were to be formally marked (Pearson & Heywood, 2004; Snadden & Thomas, 1998).

Some of my participants believed, as one trainee stated, that 'formal assessment is likely to minimise usefulness to trainee as a learning tool'. They often stated that portfolios would be manufactured to look good and impress assessors rather than being used reflectively. Another problem may be that:

> Supervisors will be reticent about documenting weaknesses in a document for examination purposes. (Supervisor)

Rebecca suggested that summative assessment would negate the purpose of self-assessment:

> They just have completely different philosophies behind them. You can't take a subject of self assessment and suddenly say – we're going to mark you on this... I can see that it has value, purely as a self assessment tool... but I really have grave reservations about it being used as any kind of assessment tool. At the Update, the Chief Examiner said – perhaps in the future, we might be able to use the *Learning Diary* as an assessment tool and then cut out some other assessment or something. That absolutely horrified me because this is supposed to be a self assessment tool and we're supposed to feel free to be honest about whatever stage you feel you're up to. No-one is going to be honest about what they feel they're up to if it's potentially being used as an assessment tool and might count towards your grade...I'm just very nervous with all this talk from the Chief Examiner that they will start off with the intention of this being a self assessment diary for monitoring processes and to help the College decide where it needs to place extra resources or provide more formal or less formal teaching, or whatever, and then all of a sudden two or three years down the track they go – alright, now you're used to this idea, we're going to use it to mark you. I was incredibly uncomfortable with that.

If the assessment process is not transparent, it will lead to lack of trust, fear and anxiety. Whether the Chief Examiner communicated erroneous information or whether it was misinterpreted by trainees is unclear, but the consequences of ambiguous purposes is clearly apparent.

'If they don't have some form of "currency", they will not have a high priority' *(Pathologist)*

Whilst trainees were very apprehensive about the possibility of formal assessment of portfolios, supervisors were more likely to recognise the benefit of at least some formal assessment in order to achieve compliance, and for them to be given priority:

> If they are not examinable or to be assessed, or if they don't have some form of "currency", they will not have a high priority. (Pathologist)

Some form of portfolio assessment was seen to be important

1. to extend the breadth of coverage of existing assessments:

    a. Possibly a small component (should be formally assessed) to ensure breadth of knowledge is covered. Non-medical aspects are rarely assessed through examination process. (Supervisor);

2. to maintain standards:

    a. Should be available to an assessor (the RCPA) for some element of standardisation across the board (Supervisor);

3. and to make trainees feel that their efforts are valued:

> If people are going to go to the trouble of filling out these diaries, they need to be assured that this information is going to be used. Otherwise they'll feel – why did I do all this stuff, and it hasn't been examined or whatever. Not so much examined as eye-balled or looked at by the Board of Censors or Council or whoever. (Supervisor Patricia)

Peter maintains that the portfolio should be assessed to demonstrate that professionalism is taken seriously at an institutional level:

> If you're serious that the dimension of professionalism, CanMEDS type of properties, are being taken more seriously, and certainly all Colleges are trying to do that and AMC is encouraging it. I don't see any problem, even if it's a fairly soft barrier, of saying – this is now required and it's one of the factors that will be reviewed and has the capacity to block your successful training if it is seriously unsatisfactory...It's never going to be in an exam room context, is it, with supervisors with limited capacity to check what's going on, so I think it's always going to be largely self-driven, self-reported, and you need a format that's robust.

There are good reasons therefore to assess portfolios in some way, and therefore the processes must be sufficiently robust. The purpose, requirements and processes must be clearly communicated.

'It's very reasonable to link them' (Peter)

Given the potential for conflict between different purposes of a portfolio, some have strongly recommended that a portfolio should contain separate but linked components with clearly-defined purposes such as formative assessment, private reflection, and possibly some elements for summative assessment (Carraccio & Englander, 2004; Kjaer et al., 2006).

This approach can be efficient, reduce risk of dishonesty, provide an avenue for feedback and send the message that the curriculum and processes are important and valued. The desirability of linking portfolio assessment to the supervisors' reports was a common theme in my study: this could be done by appending a portfolio summary to the supervisor's report and/or by providing a basis to inform the supervisor's report. For example, supervisor Jennifer suggests:

> If the College wanted to make it compulsory, then my suggestion would be that they say – each year your supervisor should read it so you have to present

your training diary to them and the supervisor's report is a piece of assessment.

Educator Peter agreed that this would be a good idea, and would be helpful in dealing with problem trainees in the workplace situation:

> The supervisor's report is accepted and the standard way of marking progress. And you are going to require this (the portfolio) to be raised between trainees and supervisors? If you are going to do that, it is immediately an obvious pathway for assessment to say it was done and it will also draw attention to the fact that it needs to be done...I think it's very reasonable to link it to them. Let's say later on in the course of training, someone is emerging as a problematic trainee – and that does happen – someone that a number of different labs have said they have doubt about his honesty or something, I think you need to be able to have a record.

A further non-contentious suggestion is that some of the content could be addressed in exams:

> The content of the *Generic Curriculum* should be examined, either through incorporating elements in written and oral papers as a separate exam question. (Supervisor)

A more contentious suggestion was that it could be shown to examiners in event of borderline exam performance:

> I think in the borderline situation, it might be useful. Working with one's colleagues, they know what your strong points and weaknesses are, and that can probably be of more objective or subjective guidance for examiners. (Trainee Hans)

In view of previous discussion, this approach may deter honesty. However there was no disagreement from trainees, supervisors or educators to its being an acceptable and workable solution to keep separate but linked components for various forms of assessment, provided that all processes are transparent.

5.9.4   Regulation and mandating

'It's the level of mandating that's in doubt.' (Peter)

Though there may be an expectation that doctors will regulate their own learning and professionalism in the absence of external controls (Hafferty, 2006b), we have no guarantee that professionalism is internalised to the extent that faith in such autonomy is warranted. Whilst self-determined goals are motivating for trainees, these goals may not correspond to those of the institution (Deketelaere et al., 2007). This raises the question as to whether the portfolio or some mechanism to address professionalism should be compulsory in order to ensure compliance with defined standards. As Peter suggested, 'It's the level of mandating that's in doubt.'

External regulation may be at the level of the College or external bodies such as the AMC that represent the medical profession and the community.

5.9.4.1   *At the College level*

'They're going to resent it regardless, don't worry' (Janet)

Supervisors generally recommended caution in making the portfolio compulsory, and tended to be fairly trusting that trainees would comply. For example, supervisor Gareth said:

> In my opinion, most AP registrars if you give them a job to do, they get on and do it.   If you present them with a list of objectives in your diary, and say you must achieve this, I'm sure that they'll just get on and knock them over as time goes by. So, I think it's a fairly self fulfilling type of thing. I don't know that there is an absolute need for the College to be there ramming it down people's throats saying – you must do this, you must do that.

In an ideal world, doctors will be self-regulating and will not need requirements to be 'rammed down their throats'. Short of this, however, we must have some way of sending the message that we are serious about professionalism. Whilst supervisor Dean has reservations about making it compulsory, he also expressed concern about lack of compliance. This

concern may be well-founded in view of comments made by a number of trainees. Dean's own trainee Anna reflected the likely response of several trainees when she said:

> Unless it was compulsory I would probably make all sorts of excuses not following it anyway.

Hans believes that this is just human nature:

> If the College implements it, it should be compulsory; otherwise people won't do it, which is the nature of human beings.

Some degree of mandating by the College appears to be necessary. When I asked trainee Janet if it would make a difference whether or not the College made completion of the portfolio compulsory, she replied cynically:

> They're going to resent it regardless, don't worry. I think it's something that I don't think should be introduced to people who are already in the process because that way you will get resentment and cheating – someone will create a diary and that will be basically reproduced.

Here we have a dilemma. There will be non-compliance if it is not compulsory, but there will be resentment if it is compulsory.

Janet's view was that relevance as determined from one's role models was a greater motivator than making the portfolio compulsory. Forced compliance may achieve just that, without engaging hearts and minds. However some form of compulsory element is needed to communicate that it is valued and taken seriously by the institution.

One must accept that mandating any change is not likely to be quick and easy. We require a very careful change management strategy that takes account of all of the practical and cultural context and values. Ken's suggestion is that it should be done gently:

> Maybe gently, because in a sense we have to allow doctors who want to hide from a lot of self-reflection around the   front-end stuff like communication – I

guess you don't want to push it too hard... If we try to push it, they've got

nowhere to hide, nowhere to go.

My argument is that no doctor, pathologist or otherwise, can hide from the need to reflect and communicate. We cannot afford to be too gentle in the sense of succumbing to all pressure to being reductionist. However I agree with Ken that we can push gently, though in the right direction with the right support, and emphasising the right values.

5.9.4.2 External regulation: the role of the AMC

'The feeling I get from the current diaries is that the College just wants us to prove we are learning something to keep the AMC happy.' (Rebecca)

The AMC is a collegial body of medical professionals that represents the standards of the medical profession and upholds the healthcare interests of the community. As such they embody the philosophy of profession-led regulation. However, my participants did not express any appreciation of the fact that meeting AMC standards represented accountability to the community: rather, the AMC was commonly seen as an instrument of bureaucracy, imposing an unwanted requirement for meaningless documentation. Pathologists expressed opinions like 'this seems to be an exercise in documentation for the sake of the AMC'.

Trainee Rebecca complained:

> The feeling I get from the current diaries is that the College just wants us to
> *prove* we are learning something to keep the AMC happy.

The AMC is seen to be alien to the College in its culture, and wielding a stick. One pathologist expressed fear about what the AMC might do if we don't accept regulation at College level, regarding the portfolio as a 'better option than what the AMC will require if we do not agree'.

If a curriculum to address professionalism is to be seen as more than a bureaucratic requirement it will be necessary to address some misunderstandings about role of AMC and stress accountability to the community. Peter, as a representative of the AMC pointed out:

> The AMC is a group of colleagues – all of the colleges send various people and there are staff to facilitate the process, but there's no one there who is like an educator per se. It is basically a collegiate organisation with good administrative support, and it also looks internationally as you know. In the College of Pathologists' case we had what was thought to be the UK and Canada's top training experts, both active pathologists, so it's not like from outer space or something. Those people and indeed the colleges as a group have agreed that there has been inadequate attention on things other than the technical side. They all supported that being put into the guidelines, the standards for college accreditation and it appears that people think it's a good idea...It is worth telling people that the AMC doesn't house some perfect being who gives out educational things – it came from giant conferences and multi-organisation panels and so on, who felt that our standards for colleges needed to improve some of this.

5.9.5 Summary

The most frequently cited benefit of the portfolio was that it drew attention to the previously neglected 'generic' areas of pathology practice; but it was not generally seen as the best way to achieve the stated outcomes of the curriculum. Though there were some significant benefits in practice, a better design is needed to avoid the type of negative responses that arose.

In the face of many competing goals, trainees have to select those which are most important or least likely to interfere with what they value. Forced compliance would result in a cursory effort at best, and fabrication of evidence at worst. Positive motivation and perception of relevance are needed for meaningful engagement. The strongest value that drives goal-selection is that of becoming a diagnostically competent pathologist: to that end,

doing the work and passing the exams take top priority. Anything that interferes with these will be seen as a cost and will take low priority.

Clearly the most positive outcomes were achieved when supervisor and trainee worked together on the portfolio. In some cases, trainees were prompted by the supervisor to tackle new goals such as organising training for junior trainees, or tours and activities for laboratory staff, thus being agents for influencing the learning environment. Other trainees were prompted by their supervisors to undertake activities to support their personal development.

No real benefits were realised without supervisor engagement: even highly motivated trainees became disillusioned without supervisor support. Trainees take their cue from their supervisors about what is relevant or important; and in the absence of that, they may feel lost, unsure about what to do, or become anxious or despondent.

Self-assessment proved difficult for the trainees, particularly at a junior level. In consultation with the supervisor, however, it could provide an effective means of identifying learning goals. Some trainees did feel that with support they could become better at self-assessing (with practice).

Trainees indicated that having structure in their training program would be motivating; they expressed a need for clear goals, staged according to their level of need. They were generally disappointed that the portfolio did not provide this.

If a portfolio is to be used, then the design is critical to achieve simplicity and efficiency, whilst still requiring some reflective comment. The requirements must be very clear, but there should be flexibility, to cater for a variety of learning styles. Assessment of the portfolio itself is unlikely to be beneficial, but it should be linked to other assessment processes in a transparent way.

Some trainees noted that doing exams and becoming a pathologist were two different processes. If all the focus is on the exams there is little time to reflect on what it means to be a good and broadly competent pathologist. It was observed that often this does not happen until after all exams have been completed.

Along with the powerful socialising forces of role-modelling, stereotyping, work practice and institutional culture, an onerous assessment system that de-values professionalism may be shaping a non-reflective professional identity.

Whilst negative socialising forces can be counterbalanced through effective role modelling and feedback from supervisors, my evidence suggests that some supervisors and other pathologists may focus almost exclusively on technical areas in practice and/or teaching, or lack skills in giving feedback: thus they do not model a full range of professional values to trainees. This may be due to workload, the pathologist's own professional identity, or prevailing culture. Supervisors themselves need some means of addressing their own professionalism and teaching skills.

Some of my participants touched on institutional factors that may play a role in promoting a more positive culture: e.g., resources and quarantined time provided by the employer convey messages about what is valued. Similarly, resources provided by the RCPA and policies for monitoring standards in training institutions also communicate professional values, as do the AMC's accreditation processes; and these must be promoted as a positive peer regulation process rather than a bureaucratic imposition.

Conflicting values discourage reflection, so it is necessary to consider the alignment of values at many levels: not only with respect to the formal curriculum, but in terms of the many personal, cultural, educational and institutional factors that comprise the hidden curriculum.

6 Discussion and recommendations: Pathologists, professionalism, portfolios and progress

At this point I feel rather like an apprentice mechanic.

I have been given a car called 'professionalism in pathology training' that was not performing well. Perhaps there was something wrong with the components or the way they functioned; perhaps the car was not being driven correctly; or maybe it was just not the right model for the purpose. In trying to fix it, I have found that it is much more complex than anticipated. I have taken it apart and carefully examined the pieces, so that now I have a better understanding about what parts are there, how they work, what is missing, and what type of vehicle is actually required. It now remains to put the car back together. This chapter presents a discussion of my findings and blueprint for the construction of the new model.

My primary research question was as follows:

What social and educational factors shape professional identity and how do they inform development of a model to promote the development of professionalism in specialist pathologist training?

To answer this question, I have covered three main areas: the nature of professionalism in pathology, the determinants of professional identity, and the experience of pathologists with a portfolio designed to address the standards of professionalism set out in the pathology training curriculum. These themes — pathologists, professionalism and portfolios — are embodied in my alliterative thesis title, where 'progress' points to my recommendations for future development. A fifth 'P', professional identity, has emerged as a key concept linking pathologists to professionalism.

The key themes and concepts of this thesis have been laid out in the form of a concept map (see section 3.4.5), showing the logical links as labelled arrows between the concepts

contained in the bubbles (Figure 23). The map provides a thematic representation of the interrelationships between professional identity and the progress of pathologists towards professionalism evidenced by portfolios within the healthcare context.

Figure 23: Concept map linking the main themes of the thesis

6.1 The meanings of professionalism

My investigation began at the level of the third and fourth waves of professionalism (Hafferty & Levinson, 2008), i.e., assessment and institutionalisation at the level of competency-based frameworks. I had first to return to the second wave to clarify definitions and meanings.

Contemporary definitions of professionalism emphasise the responsibilities of medical specialists to the community in return for the privileges they enjoy, particularly with respect to profession-led regulation (Cruess 2006). This privilege implies that medical specialists are expected to self-regulate with respect to learning and professional behaviour. Postgraduate medical programs must have clear strategies to address these aspects of education and training, and there is a great need to develop effective and feasible models for each specialty.

Whilst all medical specialist training colleges are facing the challenges of designing and implementing curricula to support the development of professionalism, there are particular challenges in pathology.

Medical professionals have negotiated definitions and models of professionalism with the community, but it is difficult to engage pathologists and patients in this negotiation because patients usually do not know pathologists as 'real doctors'. Pathologists are associated with blood tests, commercialism and dead people, and do not have the caring compassionate image that traditionally goes with the 'doctor' model.

If professionalism is framed simply in terms of the direct clinician-patient relationship, a resultant one-size-fits all model may not capture the essence of professionalism in pathology, and will not be embraced by pathologists. My evidence has shown this to be the case, with our implementation of the CanMEDS model.

Diagnostic expertise is critical for pathologists. Whilst they justifiably take pride in their ability to focus on the minutiae of cells and molecules, they may fail to see the big picture of patient care and safety. They often see non-technical areas as peripheral, or supplementary to their 'real job' as diagnostic experts.

Whilst some pathologists and trainees seem to have a clear grasp of the meanings of communication on many levels, it appears that others have internalised the 'backroom' identity. My data suggest that pathology trainees who associate communication solely with patient interaction may become cynical; whereas those who have a broader view of their communication roles are more likely to take a positive attitude. Clinicians and pathologists need to understand the breadth and depth of different communication roles, rather than oversimplifying according to stereotypes.

Health advocacy is an area that pathologists find particularly difficult to relate to (Ringsted, Hansen et al. 2006), though it is of key importance in view of political issues relating to funding and patient access to quality services (Graves 2007; Legg 2008). These broader implications of pathology practice were only mentioned by one junior trainee, who was rapidly becoming overwhelmed by more immediate concerns, and one senior pathologist who lamented that there would be no advocates to take up the cudgel after he retired.

Pathologists as managers are responsible for much of the data that drive medical decision-making; hence they have a great responsibility for patient care and safety. There is evidence from overseas literature and from my data that these areas have been neglected in training, and may take low priority in an exam-laden curriculum.

Most opportunities to impact on patient safety occur before and after rather than during the testing phase (Hilborne, Lubin et al. 2009): it is in these phases that pathologists'

interactions with others are most critical. Management, communication and collaboration are therefore closely interrelated.

Pathologists face many specific ethical issues in addition to those faced by clinicians (Domen 2002). New technologies and the rise of business models in pathology bring particular challenges (Swick 1998; Murphy 2003) and as pathology is linked to commercialism, this may be seen as antithetical to professionalism. Pathology trainees may take ethical issues for granted, but they need to be made aware of the extent of their ethical responsibilities, and the particular issues they face as pathologists.

In their learning role, pathologists and trainees need to be highly adaptable to rapidly evolving technology, able to critically appraise and apply research to practice and to be mindful of implications for patients (Murphy 2007). With respect to reflection, many trainees have difficulty, but despite negative stereotyping there is no evidence that pathologists are any different from any other specialists in this respect. As teachers, pathologists need to be highly aware of the critical role they play in the socialisation of trainees.

If professionalism is a partnership between medicine and society, we must recognise that patients no longer know pathologists as doctors, like I knew Dr Sugerman (*cf.* Foreword). One may also ask whether, in fact, pathologists know their patients. If partnerships between pathologists and patients are to be re-established in the inevitably commercial world of pathology, then a model that takes account of the true roles of pathologists is needed, rather than a poor fit that reinforces stereotyping.

In seeking a definition of professionalism for pathologists, it became clear that a decontextualised set of competencies would not constitute an adequate model. Rather it was necessary to explore the development of identity within the socio-cultural environment of pathology

6.2   The determinants of identity

I have defined professional identity in pathology as:

> A pathologist's (or trainee's) self-construction comprising value orientations
> and commitment to goals, reflecting both group norms and the individual's
> beliefs about what it means to be a good pathologist.

Professionalism is the ideal of what it is to be a good doctor or a good pathologist, but I have shown that socially constructed meanings do not always correspond to values at the level of the individual or the specialty group.

Because professional identity involves values, it influences goal orientations and hierarchies, and therefore has strong educational implications, especially with respect to self-regulated learning (Eccles & Wigfield, 2002). Thus it is important for educators to understand the determinants of professional identity.

Professional identity may be partly founded on pre-existing traits that determine self-selection for the specialty: both published literature and my evidence support this possibility. Stereotyping places further selective pressure on specialty choice.

The hidden curriculum comprises tacit values and experiences and is a powerful socialising force in terms of developing professional identity (Hafferty 1998). Understanding and addressing these socialising forces and how they interact with individuals and the formal curriculum in complex learning environments is a key challenge for medical educators.

My study suggests that stereotyping is a likely component of the hidden curriculum: non-pathologists use strongly negative language, suggesting pathologists are emotionally immature ('infantile') or blunted ('Asperger's syndrome'), with respect to their professionalism and communication skills.

Stereotyping is common amongst health care professionals, often representing exaggerations of reality through misunderstanding of roles. Suboptimal communication

between professional groups can be both a cause and a consequence of the perpetuation of stereotypes in the health care environment, undermining the professionalism of all parties and having potentially damaging consequences for patients (Preston, Smith et al. 1996; Lingard, Reznick et al. 2002). This is particularly true for non-technical attributes.

Social identity theory suggests that pathologists may selectively accentuate the positive attributes of the ingroup, whilst chronically internalising the negative attributes, leading to reduced self-efficacy / motivation for self-regulated learning.

There is clear understanding of and respect for pathologists' technical knowledge and roles; but because clinicians see them as 'different', and remote from patient care, they may think that pathologists don't need to be good communicators or reflectors.

This marginalisation of pathologists appears to correspond to a marginalisation of these aspects of a pathologist's identity: factors that may reinforce this are evident in my data.

The assessment system places heavy emphasis on technical knowledge and skill, leaving little time or motivation to pursue anything else. The demands of work require strong focus on technical procedures. It is apparent that the nature of work — e.g., the extent of involvement with patient care, time spent at the microscope or engaged in quality management activities — influences the nature of professional identity. This will also determine the nature of learning experiences. If workplace affordances are suboptimal and there is an inappropriate mix of activity, this may constrain the trainee's vision of the roles of pathologists.

The potential for the RCPA to exert an influence at an institutional level, through defining standards, accrediting training sites and providing resources, was often noted by participants.

Probably the most profound influence is the supervisor. The key role of the supervisor in guiding learning processes and prompting transformative experience was very evident as I was evaluating engagement with the portfolio: trainees spoke of strong positive or negative experiences regarding interaction or lack of interaction with supervisors. However, supervisors vary in their supervisory skills and commitment and the time available for teaching. Many are unfamiliar with reflective learning. Any efforts to change culture must therefore take account of supervisors at least as much as trainees. Perhaps supervisors could even benefit from using a portfolio, in the same way as teachers in higher education do.

The formal curriculum also plays a significant part in defining professional identity. In my research setting, the curriculum was strong in the areas of technical competence, but for a long time it had been weak in the non-technical areas. It was quite apparent from my data that the strength of the curriculum will depend much on the way it is constructed and worded. Clear, concrete statements are needed. They must be operationalised and related to pathology practice in a way that is seen to be relevant. If the outcomes are not linked to that which is valued, i.e., being a pathologist and doing the work and assessments, then they will not be taken seriously and the necessary goals will not take their place in the hierarchy. For this reason I strongly recommend that technical and non-technical goals and values be tightly integrated in the curriculum.

In my study, a dichotomy between technical and non-technical outcomes in the formal curriculum correlated with dichotomous values in the hidden curriculum and in professional identity. Such dichotomy is manifest in language, and in turn becomes part of the discourse that influences identity development. Conflicting values are likely to constrain the development of a reflective identity that is responsive to the complexities of clinical care in pathology. Failure to address this will mean the perpetuation of unhealthy stereotypes that may become internalised and played out as a reality in clinical care.

My research has thus become part of the fifth wave of understanding professionalism, taking account of the learning environment as well as the motives of the individual learner (Hafferty & Levinson, 2008). My results contribute to the growing awareness that learning to embrace professionalism takes in the context of a highly complex environment where many educational and social factors contribute in an interconnected way to the formation of identity.

6.3   Portfolios and self-regulated learning

Pathology training has traditionally adopted the model of an apprenticeship, but the RCPA has recently followed the trend towards developing a competency-based curriculum. Moreover, there is a prevailing discourse, both within the RCPA and the medical postgraduate sector generally, that emphasises *training* above education. Training implies a competency and skills oriented approach, underpinned by socio-cognitive learning theories, emphasise self-regulation and learner autonomy (Bandura 2001). However, such theories do not adequately address the complexities just described (Bleakley, 2006; Swanwick, 2005).

Situated learning theories on the other hand emphasise the importance of learning culture and participation of learners in communities of practice, leading to transformation of identity through the socialisation process (Lave and Wenger 1991). Like the socio-cognitive models, situated learning emphasises reflective practice.

Portfolios are largely aimed at promoting self-regulation and reflection. Published experiences of portfolio application in medical postgraduate training settings have been very varied regarding achieving engagement with reflective learning processes. Reasons may be related to the learners themselves, the design of the portfolio or the support given by supervisors and the workplace.

Another possible reason, that has received little attention in published studies but is highlighted in mine, is that the portfolios and the curriculum may not be aligned with the work practices and values of the learners, thus undermining motivation. In my study, poor engagement and negative attitudes were due in many cases to beliefs that the portfolios would not contribute to the most valued goal of becoming a diagnostic pathologist, and represented a cost value in getting the work done and passing the exams. For some trainees, the *Learning Diary* led to considerable anxiety and demotivation.

However, my evidence suggests that supervisors are the key to trainees' engaging with and benefiting from self-assessment, learning needs identification and subsequent action. Such action could change both the learner, other people and resources in the workplace. This is more than just practical support. Supervisors exert their influence by imparting the fundamental values that motivate learning; but they may themselves be immersed in a negative culture and may also need support with their teaching. Perhaps they would themselves benefit (as earlier suggested) from using well-designed portfolios.

The place of portfolios in the overall assessment scheme is crucial. Assessing the portfolio itself would be seen as intrusive and would discourage reflective recording; but formative assessment in the context of discussion of the portfolio between the trainee and the supervisor can certainly be beneficial. The portfolio can also provide evidence to assist the supervisor in making more formal assessments through his/her report. These measures would be well accepted. We must avoid being too heavy-handed with assessment, as it will be seen as another unnecessary burden.

It was clear from my investigation, as in previously published studies, that the design of the portfolio is critical: it must be clear in its purpose, flexible and simple to complete, without being just a tick-box exercise.

Institutional values should align with what is expected of trainees. My participants advised that commitment to professional values should be demonstrated through training site accreditation policies, provision of resources and championing of initiatives to promote professionalism.

6.4   Beyond self regulation

Aside from the pragmatics of designing a portfolio that works, it is pertinent to review the assumption that the development of autonomous, self-regulated reflective learners will actually guarantee that trainees are embracing the values of professionalism.

Some of the shortcomings of individualist learning theories were highlighted in section 2.4. The fourth wave of professionalism has emphasised competency-based frameworks and the development of the individual professional. It has been grounded largely in theories such as self-regulation and experiential learning that emphasise autonomous acquisition of knowledge and skills. Whilst this was the starting point of my thesis, I have shown that, consistent with Bleakley's contention (2006), becoming a medical professional is far more complex than individualist theories imply.

Self-regulated learning theory, though applauded, is flawed if divorced from professional and social values (Bleakley 2006). Even a psychopath like Harold Shipman can be self-regulated (Jackson & Smith, 2004). Self-assessment is dangerous in the absence of social conscience and peer review. Therefore it is essential that any self-assessment is tempered by external review. Further the nature of social norms and conscience, and the factors impinging on them, must be well understood.

My findings as represented in Figure 23 illustrate the multitude of factors recognised as the fifth wave of professionalism, linking structure and agency (Hafferty and Levinson 2008). In this case the learner is seen to develop an identity through participation in multiple communities of practice within social and organisational environments. The model recognises that the values and motives of individuals may be constrained by these factors, and illustrates the power of the hidden curriculum, comprising many of these elements and operating in conjunction with formal and informal curricula.

6.5   Implications for progress

It now remains to recommend a model that takes account of educational and social factors identified in this study that impact on the development of professional identity.

The key, I believe, is to strive for alignment at all levels of the social and educational environments and the curriculum, closing gaps between identity and professionalism, processes and outcomes, hidden and formal curricula. This will extend Biggs' constructive alignment model to the workplace and beyond (Walsh 2007) in communicating and instilling consistent professional values.

The CanMEDS model with its striking logo has been highly successful, worldwide, in drawing attention to the broader areas of professional competency in many medical and paramedical professions (Frank, J. & Danoff, 2007). It initially had this impact in the RCPA context, but did not sustain members' commitment. The main reasons, my evidence indicates, were that it was not integrated into the RCPA curriculum and it did not capture the essence of professionalism as seen by pathologists — which is not to say that we should define professionalism according to what pathologists think they need, because they may not know what they do not know.

However, to achieve a better alignment of values we need to develop a model pathologists can relate to that is amenable to tighter integration with the pathology curriculum.

The ACGME model offers some advantages, in that it does not separate the roles of communicator and collaborator as CanMEDS does; it accommodates both technical and non-technical competencies and places them side by side, rather than in a form that may put the non-technical areas at the periphery. This model has been the basis for many published pathology curricula already. Given the evidence of a dichotomy of values and identity

observed in my study, perhaps even this side-by-side structure will not be enough to achieve the level of integration that we need: adaptation in the Australasian context is also desirable.

One Australasian adaptation has been made by the RACP, with which the RCPA collaborates closely. In some ways it would be advantageous to align models, particularly for the sake of joint training; however, the RACP *Professional Qualities Curriculum* is treated separately from the specific specialist curricula. This is likely to be problematic for the RCPA.

Perhaps something old can become new again. Dedication, Accuracy and Service (DAS), as mentioned in the Foreword, was a very good model in the days when the pathologist was closer to the patient. Dedication represents commitment to values, accuracy concerns technical knowledge and skills, and service represents our relationship to the community. This does not, however, take full account of the dynamic social and political context of pathology practice and training in the 21st century, where technology is more complex and the pressures of commercialism are increasing. We need a very strong model that addresses the social and organisational environments to ensure that 'DAS' actually happens.

The ideal model will integrate professionalism as part and parcel of what it means to be a pathologist — i.e., communication, management and learning skills and committed ethical practice are embodied in the work of a pathologist and need to be articulated in the curriculum in this way. The formal curriculum should be structured around the actual functions of the pathologist; in addressing the hidden curriculum we must strive to establish an environment where positive things can happen (Cruess 2006).

Since the social and educational factors shaping the development of professional identity are many and interact in dynamic ways, my model is multidimensional, involving

both cultural change and educational reform. Shaping these dimensions will take time and careful change management strategies.

One model for cultural change management has been proposed to support safety in health care (Carroll and Quijada 2004; Hafferty and Levinson 2008): it recommends linking new, desirable values to existing strengths, and drawing upon existing cultural values. Pathologists are leaders in scientific knowledge and skill; they are diligent, and pay great attention to detail and accuracy; they are greatly concerned that their diagnostic information is correctly applied in patient management. To be leaders in patient care, pathologists must link these strengths to effective communication and management, all underpinned by reflective professionalism and accountability.

6.6 Recommendations

My recommendations are primarily relevant to the RCPA context and could be implemented by the management and committees of the College, but they also have relevance for other medical training contexts. They draw from a range of social and educational theories, and I have found evidence of many factors that interact in a complex manner to influence the ways in which pathologists embrace the required standards of professionalism as part of their identity. Thus the overarching recommendation arising from this study is that to the degree possible we should try to understand and align these factors. This must occur at multiple interwoven social and educational levels as follows:

6.6.1 The curriculum framework

- Established models of professionalism reflect the expectations of the general and health care community and must inform any model for pathology. However, the structure and operationalisation must be tailored for the purpose.

- Both technical and non-technical competencies should be embedded within a structure that conforms to the functions pathologists fulfil and responsibilities they carry. Separation of domains like communication and professionalism from the technical aspects of pathology has proven unhelpful, probably reinforcing conceptions that professionalism is peripheral to the identity of a diagnostic pathologist. Integration will increase the likelihood that all aspects of the curriculum are seen as relevant, important and part of the identity to which the trainee should aspire.

- Outcome statements in the curriculum should be clear and concrete to counter conceptions that professionalism is soft or nebulous.

6.6.2 Assessment

- Formal summative assessments should be reviewed to ensure that whilst rigour is retained in the assessment of knowledge and technical skill, this does not detract from the broader aspects of the curriculum. The number and the timing of examinations should not constitute such a burden that the trainee is constantly overwhelmed by the necessity to focus almost exclusively on technical knowledge and skills. Formal assessment should incorporate authentic processes, such as problem-solving and communication of diagnostic information, requiring the integration of technical and non-technical skills.

- The requirement to demonstrate professionalism can be built into existing tools such as autopsy assessments, case reports and research projects, thus optimising efficiency and linking to existing values; however, a variety of new tools and approaches will also be needed to cover areas that are currently under-assessed.

- There must be greater emphasis on formative assessment. Trainees have indicated that feedback from supervisors is highly motivating: its power can be further enhanced by linkage to summative assessments — e.g., documents used for formative assessment can provide evidence to support assessment in the supervisor's report. This was suggested by a number of participants as a simple and acceptable approach.

- Guided self-assessment should be encouraged as a means of facilitating learning needs' identification. Though self-assessment may be difficult and unreliable if used in isolation, it has proven beneficial in motivating trainees to pursue appropriate goals negotiated with the supervisor. With support, trainees are more likely to develop their ability to self-assess and self-regulate.

6.6.3 Portfolios

- Portfolios should continue to be used, but in modified form. A portfolio has potential to empower both trainees and supervisors to identify resource needs and be agents in improving aspects of the training program. It should be designed with this purpose in mind, encouraging trainees to take some responsibility for their own education and that of others.

- The portfolio must be very simple to use, but require more than box ticking. Brief reflective comment should be required.

- The purpose and instructions should be very clear, without being overly prescriptive.

- Suitable activities should be suggested, but flexibility is needed to cater for a variety of learning styles, preferences, activities, and to give scope for creativity.

- The portfolio should include authentic problem-solving exercises linked to existing activities, thus making efficient use of time and encouraging trainees to identify learning opportunities in everyday practice.

- We must recognise that all trainees are assessment-driven, and give them reflective tasks that will assist in passing formal assessments.

- Activities should be challenging, but appropriate and achievable for the level of training: staged goals and tasks will promote self-efficacy and motivation.

- An online format may be advantageous.

6.6.4 Supervision issues

The key role of supervisors has been highlighted, but one of the difficulties with situated learning is to find enough role models with the right values and the willingness and

capacity to spend time with trainees (Billett, 1995). I have presented strong evidence of the key roles played by supervisors, and shown that their input and support are critical to the uptake and effective use of portfolios. Therefore the supervisors must be supported as follows:

- Since supervisors and other role models may lack skills or confidence in providing feedback, the College must provide educational support in these areas. Training should emphasise the importance of giving effective feedback.

- Supervisors must be made aware that they can be instrumental in trainee development by helping them to choosing relevant goals that are challenging but appropriate to the trainee's level and achievable. Such goals may be a little out of the trainee's comfort zone, but support from the supervisor can greatly enhance learning, self-efficacy and motivation; and such motivation is more powerful and meaningful than forced compliance.

- Trainees indicated strongly that they look to their supervisors to determine what is important and relevant, and that they would find it very difficult to be motivated without support and feedback. On the other hand, some supervisors may themselves be poor role models because of the values they have themselves internalised. The College must communicate its values as much to supervisors as it does to trainees.

- Supervisors may lack time to devote to training. Relief from routine duties to provide teaching is desirable — though difficult to achieve in the context of a workforce shortage.

6.6.5 The workplace

Training institutions should be encouraged to:

- Promote trainee and pathologist involvement in multidisciplinary meetings where there is shared responsibility for decisions impacting on patient care. As well as being directly beneficial to patient care, this will enhance the visibility of pathologists, help address misunderstandings about roles, reduce stereotyping and miscommunications, encourage mutual learning, and help pathologists to focus on patient needs.

- Whilst the RCPA must set and monitor standards, employing institutions have a responsibility to meet those standards and provide workplace affordances to encourage the development of professionalism at all levels. The workplace constitutes a culture and a community of practice in which the learner will undergo socialisation: it should provide not only opportunities to learn technical skills, but also resources and activities for learning and protected time to address the non-technical areas. Trainees may be overwhelmed with work that does not contribute significantly to their learning. Whilst they have duties to fulfil, they must be respected as learners and not overloaded with routine tasks. They must also be recognised as potential proactive agents of change within the workplace.

6.6.6 Institutional support

Participants have identified a number of ways in which the RCPA can communicate and demonstrate commitment to the values that it espouses:

- The College should provide resources to support trainee learning, particularly in the non-technical and broader areas of leadership and practice. Trainees have indicated that they would appreciate a variety of resources such as face-to-face teaching and seminars, online interactive courses, and documents with summaries to point them in the right direction.

- Participants suggested that there should be continuous monitoring and evaluation of training programs. This should include seeking input and feedback from trainees, Fellows and other stakeholders, engaging them in planning and decision-making.

- The College should set clear standards for training institutions, and assess compliance on a regular basis. My participants referred to great variability between training sites; and some suggested that processes could be improved to ensure that standards of professionalism are specified and properly monitored in all institutions accredited for training. The College currently does this through site visits and annual returns from laboratories, but resources are limited. More efficient and effective processes are needed.

- College members, including trainees, should be encouraged to participate in college-led activities at the community and political levels to enhance understanding of the roles of pathologists and address workforce and funding issues.

- Senior pathologists should champion the College's educational efforts.

6.7   Strengths and limitations of this study

The main strengths of this study stem from the methodology used: qualitative research to address questions of meaning and identity in medical education is a relatively new endeavour.

Phenomenological methods are particularly suited to aims that require discovery of hidden meanings in everyday human experience. The experiences in this case were interactions with a curriculum and *Learning Diary*. Using these as proxies for bigger issues of professionalism and self-regulated learning gave me the opportunity to approach my subjects closely, eliciting authentic sentiments rather than motherhood statements about professionalism: such insights would have been inaccessible via direct questioning. It is hard to say how legitimate these proxies were, but it seemed to be an effective strategy for discovering inconsistencies between the professed and the internalised.

Hermeneutic strategies allowed me as an involved researcher to draw upon my own insight, reflecting iteratively on the language of my participants and the theoretical underpinnings of my research. The synthesis of social and educational theories added depth to the analysis and richness to the interpretation.

The other advantage of the hermeneutic phenomenological approach was that it enabled a paradigm shift in my analysis. Through reflective processes, what began as a 'third wave' approach to the assessment of professionalism (Hafferty & Levinson, 2008) not only extended back to discover more of the 'second wave' of definition, but also propelled me forwards into the 'fifth wave', to reveal social and environmental influences.

One limitation of this study is that the world of pathology has essentially been viewed from the inside. Pathologists Hilborne and Lubin et al. (2009), advise that we should 'approach every issue through the patient's eyes' with respect to patient safety in laboratory medicine. In exploring the meanings of professionalism in pathology, it must be

acknowledged that in my study there are no data upon which to ground a community perspective. This is a difficult area to explore, since most patients do not encounter pathologists as 'real' doctors. Nevertheless, patients have real experiences as consumers, and these experiences must inform the definition of professionalism for the pathologist as much as for any other doctor.

Whilst the research is immediately applicable in my own area of pathology education in Australia and New Zealand, it must be acknowledged that this is a very specific setting. It is not clear if my findings can be generalised to other specialties and/or countries where educational models and work environments are very different. Nevertheless the study raises questions and points to a need for further research in broader settings.

6.8   Suggestions for further research

Many of the educational strategies recommended in this thesis are currently being implemented or planned at the RCPA. Monitoring the outcomes over time is not only necessary to inform ongoing improvements, but will constitute valuable research to test the validity of my recommendations.

The lack of the patient's perspective in this study has been noted. Exploring patients' needs with respect to pathology services, and how pathologists can fulfil these needs in a professional manner, warrants further investigation.

There is also a need to define professionalism at an institutional level in pathology, since professional identity is strongly influenced by institutional culture. The majority of pathologists in Australia work within commercial or semi-commercial enterprises, so we cannot afford to accept the assumption that commercialism is antithetical to professionalism. Research is needed to discover strategies to embed professionalism within the commercial structures and other institutions in which pathologists work.

My study was situated within the pathology training environment but may have implications for other specialties. Radiologists, e.g., are also often negatively stereotyped with respect to remoteness from patient care, and there is anecdotal evidence that this compromises interprofessional relationships (Kenny & Pacey, 2005). Qualitative studies may be of value to further explore this phenomenon and to gain deeper understandings of the nature of professionalism in radiology and other specialties.

Perhaps the most exciting avenue for further research is the application of complexity theory to the study of professionalism in medical education, considering how identities are constituted through activity (Engestrom 2004). .In Figure 23, every arrow, though neatly labelled, actually represents a complex interface of varying nature and quality. It seems too

complex to contemplate, yet by studying such dynamic interactions in a complex naturalistic environment we may be propelled forward by the sixth wave of professionalism (Bleakley, 2006; Hafferty & Levinson, 2008). My study has only just begun to explore these interactions.

Complexity science as a research perspective in medical education is in its infancy, but may be a powerful tool to further understand the formative experiences of medical professionals in their complex learning environments. It reminds us that professionalism is not just a set of values that are embodied by any individual or organisation, though these are important elements, but that 'professionalism exists within the dynamic interplay of system actors, system structures and broader environmental influences (Hafferty & Levinson 2008)

There are currently many definitions and models of medical professionalism. These models could be further evaluated to determine which 'waves' they are riding, with a view to possibly extending their thrust into the more dynamic 'sixth wave'.

7 Afterword

This project has been part of a remarkable professional journey for me over the past five years, since my passion for teaching prompted my decision to undertake a research degree in medical education. Involvement with the *Generic Curriculum* and *Learning Diary* projects, together with my honorary and contract work for the RCPA, provided unique opportunities for research as well as providing opportunity for a sea change in my career.

I am proud and privileged to have become the inaugural Director of Education for the RCPA and to have the opportunity of expanding my professional development through this challenging but most rewarding research project. Writing this thesis has made me profoundly aware of my challenges and responsibilities; particularly as I have been, simultaneously, very involved in preparing for the AMC reaccreditation of the RCPA in 2010. My work on this thesis has directly informed my work for the College, and has been very much aligned with the AMC's standards of professionalism. Many of the recommendations I have made in this thesis are already being implemented.

The project has not only greatly enhanced understanding that directly informs my work, but has also greatly expanded my knowledge in the field of medical education generally. None of the time I spent deliberating over my research question and reading the hundreds of papers that never made it to my literature review was wasted: I have developed many skills that I can apply in my daily work and in future research.

Never before has time management been so crucial; and though I still struggle to meet many demands, I have learned much about prioritisation. I have developed my skills in researching, reading and critically appraising literature in my field — in particular, relating to the theoretical perspectives underlying research and practice in medical education.

If I had to choose an epiphanic highlight of undertaking this thesis, it would be when I first came to grips with the theoretical perspectives underlying my research. It took some time to appreciate what this meant and why it was so important; but from then on my understanding grew deeper and more meaningful, and the journey became more rewarding.

One of the aims of PhD research is to become a highly self-regulated scholar. Supervisors of research students play a key role in this, just as do clinical supervisors for their specialist trainees (Stracke & Kumar, 2010).

I cannot speak too highly of the challenging, encouraging and insightful feedback from my supervisors, Chris Roberts and Tim Shaw: they provided just the right amount and type of feedback for me to find my own way. To quote one of my interviewees, pathologist Gareth:

> It's a good feeling if you can find your own way and come out on the high
> side of the street.

Where to now?

There are papers to write and publish arising from this research, and there is much work to do as I look to riding the new waves of complexity (Hafferty & Levinson, 2008) in medical specialist education.

But right now, I need a little break, so I must just head out and literally catch a few waves!

Figure 24: Preparing to ride the sixth wave

Wendy at South Curl Curl

8   Glossary and list of abbreviations

ACGME	Accreditation Council for Graduate Medical Education
AMC	Australian Medical Council
Anatomical pathology	Discipline of pathology that deals with the tissue diagnosis of disease
BOC	Board of Censors (RCPA)
CanMEDS	A project of the Royal College of Physicians and Surgeons of Canada to define generic roles and competencies for medical specialists (Frank, J. E., 2005)
Chemical pathology	Discipline of pathology that deals with the entire range of disease through measuring chemical components of blood, body fluids and tissues.
CIPHE	Centre for Innovation in Professional Health Education (University of Sydney)
Forensic pathology	Discipline of pathology that focuses on medico legal investigations of sudden or unexpected death
FRCPA	Fellow of the Royal College of Pathologists of Australasia
General pathology	A broad discipline that includes all aspects of pathology
Genetic pathology	Discipline of pathology concerned with diagnosis of genetic disorders and the detection and sequencing of genetic material
Haematology/Haematopathology	Discipline of pathology that deals with diseases which affect the blood such as anaemia, leukaemia, lymphoma, and clotting or bleeding disorders.
Immunopathology	Discipline of pathology concerned with allergy and disorders of the immune system
Joint trainee	A trainee who is registered in a joint training program with the RACP and RCPA — overseen by the JSAC
JSAC	Joint Specialist Advisory Committee
Microbiology	Discipline of pathology dealing with diseases caused by infectious agents such as bacteria, viruses, fungi and parasites.
Pathologist	A medical specialist who has undergone a minimum of 5 years' specialty training in laboratories approved by the RCPA and completed all assessment requirements for the award of Fellowship of the RCPA (FRCPA). Some pathologists are also trained as physicians and hold joint Fellowships with the RCPA and the RACP.
Pathology	The branch of medicine involved in understanding the cause and processes of disease. It does this by looking at changes in the tissues of the body, in blood and other body fluids. Some of these changes show the causes while others reflect the severity of the disease and are used to follow the effects of treatment.
RACP	Royal Australasian College of Physicians
RCPA	Royal College of Pathologists of Australasia

RCPA Generic Curriculum	A statement of competencies designed by the RCPA, based on the roles defined in the CanMEDS model (Frank, J. E., 2005). The roles include Medical Expert Communicator, Scholar, Collaborator, Manager, Professional and Health Advocate. The curriculum has been tailored to the needs of pathologists and includes constructively aligned learning activities.
RCPA Learning Diary	A cumulative record, compiled and maintained by the trainee, of his/her own learning needs, his/her learning activities undertaken to meet those needs, and feedback from the trainee's supervisor on the success of the learning that has taken place. It is designed to complement the College's examination system, enabling the trainee and the College to be confident that the trainee has achieved those competences that are essential for practice as a specialist Pathologist, but are either difficult or impossible to test through traditional examinations. (Definition provided by CIPHE)
RCPath	Royal College of Pathologists (UK)
RCPSC	Royal College of Physicians and Surgeons of Canada
Supervisor (RCPA)	An individual, usually a Fellow of the RCPA, approved by the RCPA, to supervise the educational activities of RCPA trainees.
The College	In this thesis, refers to the RCPA
Trainee (RCPA)	A medical graduate registered with the Royal College of Pathologists of Australasia (RCPA) to train as a specialist pathologist. Some may also be registered with the Royal College of Physicians of Australasia (RACP) to train under the Joint Specialist Advisory Committee (JSAC) provisions.

9 Appendices

9.1 Appendix 1: Thesis alignment

Alignment between research aims, questions, literature review, research findings, recommendations and conclusions

Aims	Questions	Literature	Analysis	Themes
1.To define the meanings of professionalism for pathologists by comparing expectations, perceptions and lived experience of training and practice in the medical specialty of pathology	1. What are the meanings of professionalism in pathology?	2.1 Perceptions and stereotyping	4.2 Pathologists and stereotyping	The pathologist as a proceduralist Knowledge and skill Non-communicators? Unreflective?
		2.2 Professionalism	4.3 Meanings of professionalism 4.4 Pathologists and their professional values	Knowing, doing or being? CanMEDS A nebulous concept Professional roles Diagnostic expertise Management Communication Ethics

2. To develop a comprehension of the social and environmental factors that influence the development of the professional identities and understandings of the roles of pathologists	2. What social and environmental factors impact on the development of professional identity in pathology training?	2.3 Socio-cultural theories	4.5 Socialisation and professional identity	Professional identity Being a pathologist Professionalism as peripheral The 'well-rounded' pathologist Work environment Interdisciplinary differences
3. To illuminate the pedagogical factors that impact on the development of professionalism through self-regulated learning by exploring trainees' and supervisors' use of a formative assessment tool designed to address the standards of professionalism set out in the training curriculum.	3. How do pathology trainees engage with a self-regulated learning model to assess the standards of professionalism set out in a specialist training curriculum and what are the potential benefits and challenges of such an approach?	2.4 Educational theories 2.5 Empirical studies	Chapter 5. Pathologists and portfolios	Portfolios Promoting awareness Supporting learning processes Supervision and feedback Impact on learning environment Affective responses Learner-related factors Environmental factors Design and implementation

Overall aim: To recommend strategies to provide an educational framework in which to situate the development of professionalism in pathology specialist training setting	Primary question: What social and educational factors shape professional identity and how do they inform development of a model to promote the development of professionalism in specialist pathologist training?		Chapter 6. Discussion and recommendations: Pathologists, professionalism, portfolios and progress	The meanings of professionalism in pathology Determinants of professional identity Portfolios and self-regulated learning Implications for progress Recommendations Strengths and limitations Further research

9.2 Appendix 2: Research timeline
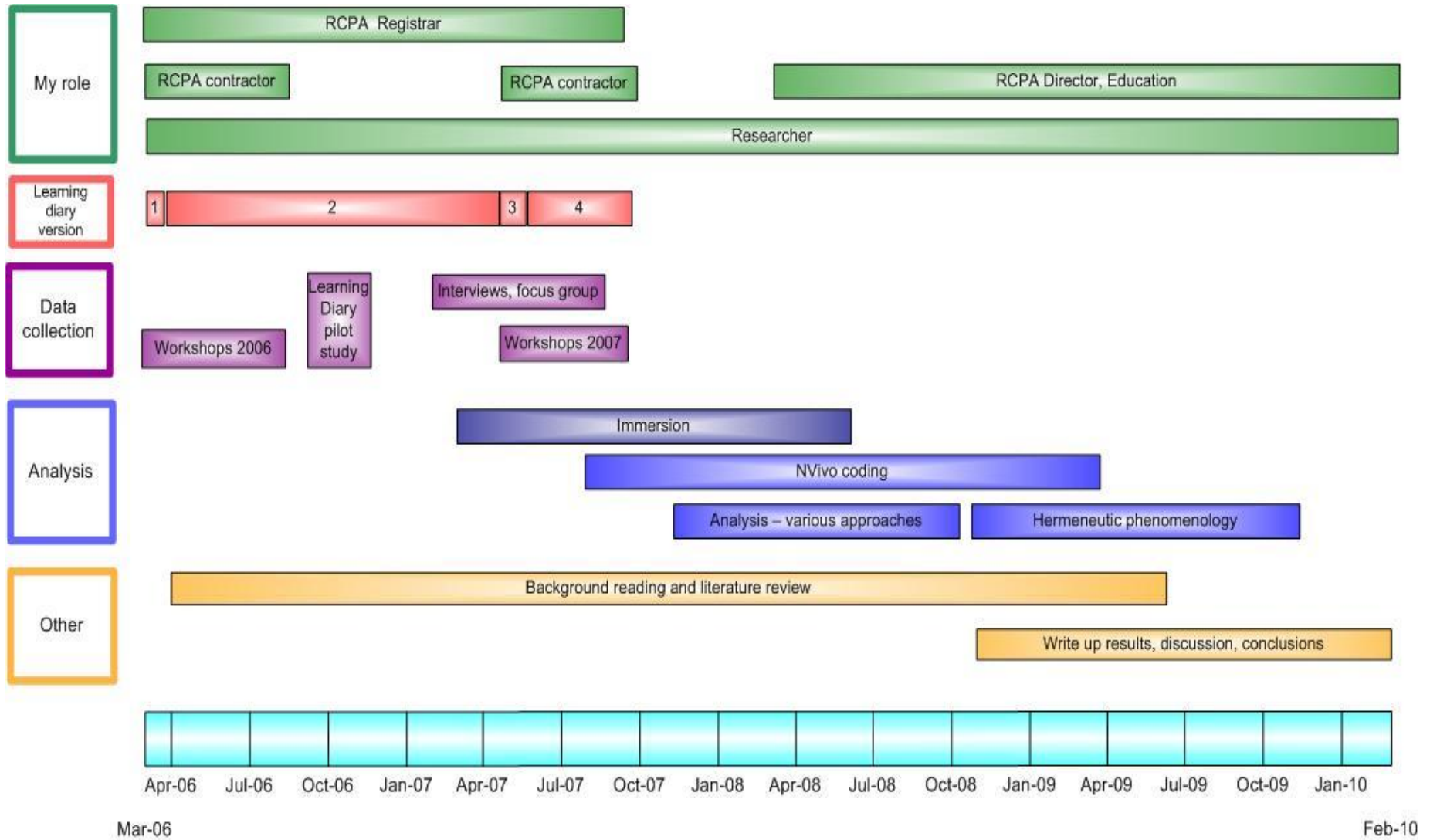
9.3 Appendix 3: RCPA Generic Curriculum

Following is the complete version of the RCPA *Generic Curriculum* as modified following the 2006 series of workshops. This version was used as the basis of the *Learning Diary* (version 2, Appendix 5) that was pilot tested.

THE GENERIC CURRICULUM

	LEARNING OUTCOMES	SUGGESTED LEARNING ACTIVITIES	POTENTIAL ASSESSMENT METHODS
CORE FUNCTIONS OF THE PATHOLOGIST IN THE LABORATORY			
As Manager			
Laboratory Safety	Apply laboratory safety procedures, to protect self and staff against infection, radiation, toxic and fire hazards.	Participate in orientation program for new staff members. Schedule meeting with OHS Officer Participate in drills and meetings where occupational health and safety issues are addressed. Locate and ensure ability to use equipment for biological, chemical and fire safety, first aid and resuscitation. Review incident reports if available	Learning diary documentation Integrated in discipline examinations
Quality Management and Quality Assurance	Review and apply quality control strategies for monitoring processes and outputs in the laboratory as appropriate to discipline. Recognise the cost-effectiveness of current and proposed laboratory procedures and equipment in the context of limited resources.	Review summaries of relevant requirements for lab accreditation and performance, for example the NATA Checklist for Laboratory Accreditation. Participate in case/slide reviews, peer review meetings, external quality assurance (e.g. RCPA QAP) and continuing professional development	Diary documentation Also tested in formal examinations

		activities	
		Identify location of current literature on QC strategies, risk management, informatics and evidence based medicine in laboratories.	
		Participate in workflow checks to ensure effective and efficient laboratory function.	
		Recognise, report and analyse quality problems when they arise in the laboratory	
		Participate in the implementation of a plan for testing and evaluating new technology or advances that may improve the quality of laboratory practice and patient care.	
Legislation	Demonstrate **basic** knowledge of requirements of Approved Pathology Provider (Australia) or other relevant undertakings. Recognise the basic legal aspects of medical litigation and the potential role of pathologists as defendants or consultants in such action. Identify acceptable standards of billing practice appropriate to the work setting	Review summaries and seek advice from appropriate senior staff. Locate sources of pathology financing information, e.g. Medicare Benefits Schedule. Document incidents and discussions that may have medicolegal implications and discuss with supervisor or a senior colleague	Learning diary documentation

Human Resource Management	Review and use orientation and training protocols for new staff. Identify techniques to provide constructive feedback to staff Identify principles of conflict resolution in the workplace.	Participate in human resources management as directed by Head of Department Observe administrative procedures in relation to selection and appointment of staff. Reflect on observation of interactions in the workplace. Participate in conflict resolution course or read articles on the subject Senior trainees assist in the orientation and mentoring of junior trainees	Learning diary documentation
Providing Data for Planning for Health Care Service Delivery	Identify requirements for reporting clinical and laboratory information (e.g. pathology laboratory reporting to registries) and the provision of new services.	Assemble clinical information to assist in health care service delivery	Documentation of participation in learning diary
As Professional			
Ethics and Confidentiality	Practice ethically, which includes: - promptness of reporting - interacting appropriately with clinicians, laboratory staff and other health professionals - knowing when to seek opinion from others Comply with legal, ethical and medical requirements relating to patient records and documentation, including confidentiality, informed	Review appropriate literature and guidelines including the National Patient Safety Education Framework	Document participation in learning diary

3

	consent and data security.		
	Differentiate between ethically appropriate and ethically inappropriate procedures.		
	Identify appropriate courses of action in regard to unprofessional conduct by or ill health in a colleague.		
	Comply with copyright and intellectual property rules.		
	Recognise and respect cultural and religious factors impacting on professional practice.		
As Communicator			
Communication	Employ effective oral, written and electronic communication strategies, including the production of concise, grammatically correct written reports.	Participate in a communication and or presentation skills workshop	Document participation in learning diary.
	Advise clinicians on the choice and performance of laboratory procedures and the interpretation and relevance of pathological findings.	Compose written reports at an appropriate level of responsibility and seek feedback from supervisor, colleagues and clinicians	Report production, communication etc. formally tested in written, practical and oral exams.
	Comply with guidelines for handling sensitive information.	Document telephone communication of pathological findings, interpretations, clarification of requests and complaints where appropriate, seeking feedback from supervisors and colleagues.	
	Demonstrate good interpersonal communication skills such as active listening and giving and accepting appraisal		

As Collaborator			
Collaboration and teamwork	Demonstrate effective participation as a member of health care teams within the laboratory and the wider clinical setting.	Identify the roles of health care team members. Identify the elements of an effective team Identify whether these elements exist in your team. Apply available technologies to share information and to network with colleagues. Plan and construct learning diary activities in collaboration with supervisor, peers and laboratory staff.	Documentation in learning diary
As Health Advocate			
Patient Safety and Health Advocacy	Advocate for, and protect, patient rights. Promote understanding of health and disease, including relevant epidemiology and public health issues, to patients, clinicians and the community.	Access and read relevant sections of the National Patient Safety Education Framework document.	Documentation in learning diary

As Scholar			
Self-Education and Continuing Professional Development	Practice the habit of identifying and documenting own learning needs and planning educational strategies to meet them. Identify own learning style, apply it to learning activities. Plan, implement and monitor a personal continuing education strategy, including self-assessment activities. Critically appraise the medical literature, and apply it clinically as a medical specialist, teacher and researcher. Demonstrate an up to date knowledge of medical and pathological literature.	Formulate a learning plan in accordance with the learning diary structure Complete an online learning style inventory and , and explore a variety of ways to learn Participate in clinical and pathology educational meetings and journal clubs. Apply various computer-based instructional tools, such as electronic tutorials for confirming or updating knowledge and skills. Review RCPA CPDP documentation to identify and apply activities and recording strategies that may be applicable.	Learning diary documentation/ verification of involvement. Appraisal of medical literature assessed primarily via casebook / dissertations Also tested in formal examinations – ie the accumulation and application of theoretical and practical knowledge needs to be tested through formal examination
Educating Colleagues, Staff and Patients	Employ effective oral, visual or written modes as appropriate to educate laboratory personnel, peers, medical students and other health professionals, incorporating the principles of adult learning.	Participate in teaching, clinicopathological meetings and, conference presentations Review literature on principles of	Learning diary documentation/verification of involvement

	Translate and convey pathology-related concepts and information to non-pathologists.	adult learning	
		Prepare posters or educational articles of scientific investigations in pathology and present to peers and other health professionals.	
		Facilitate patient education if relevant to discipline.	
As Researcher			
Accessing and using sources of Information for education and research	Appraise different sources of medical information, discriminating between them in terms of their currency, format, authority and relevance. Develop a personal strategy, using IT software where appropriate, to discover, store, access and share information resources Apply and interpret basic statistical and epidemiological concepts and data	Use clinical and laboratory databases for research for collecting, organising and analysing data. Use a standard bibliographic application (eg EndNote) to download citations from a search and organise them into a personal database. Read reference material on basic statistical concepts including distribution, mean, median, standard deviation, statistical significance, confidence intervals, correlation, sensitivity, specificity, predictive values, incidence and prevalence Consult a medical librarian, statistician or researcher	

9.4 Appendix 4: Extract from RCPA Learning Diary version 1

Trainee Learning Plan - **The Pathologist as Manager**

COMPETENCY 1.1 **Managing a laboratory as a safe work environment for all staff**

Required knowledge

Which of these required knowledge elements will I be able to gain in my current workplace?	
A general understanding of:	
1.1.1 the priority of safety in the workplace	☐
An applied knowledge of:	
1.1.2 relevant occupational health and safety regulations	☐
1.1.3 local emergency procedures	☐
1.1.4 statutory regulations governing transport and storage of dangerous goods	☐
Additional:	

Demonstrated performance

Which of the following will I be expected to perform in my current workplace?	
1.1.5 Ensure safe work practices in accordance with relevant occupational health and safety legislation	☐
1.1.6 Implement and monitor procedures to protect laboratory staff against infection, radiation and toxic chemicals	☐
1.1.7 Conduct regular exercises to practice precautions against fire and other laboratory hazards	☐
1.1.8 Ensure that the proper procedures are followed in the transport and storage of dangerous goods	☐
Additional:	☐
....	☐

Agreed performance standards

What is the agreed level of professional responsibility at which I will need to perform in my current workplace?					
My agreed level of responsibility is: Performance element:	1.1.5	1.1.6	1.1.7	1.1.8	Other
• Supervisory	○	○	○	○	○
• Assisting supervisory	○	○	○	○	○
• Contributory	○	○	○	○	○
• Participatory	○	○	○	○	○
• Other type of responsibility....................................	○	○	○	○	○

Assessment of performance

How will my performance be assessed?					
My performance will be assessed by: Performance element:	1.1.5	1.1.6	1.1.7	1.1.8	Other
• Contribution to a new work practice	○	○	○	○	○
• Compliance with existing work practice	○	○	○	○	○
• Demonstrated skill level in specific tasks	○	○	○	○	○
• Ability to problem solve	○	○	○	○	○
• Ability to communicate with fellow workers	○	○	○	○	○
• Other assessment method...........................	○	○	○	○	○

Review of existing knowledge and experience

What is the extent of my existing knowledge and experience in managing a laboratory as a safe work environment for all staff?	
My existing understanding of the required knowledge is:	
Extensive	☐
Adequate	☐
Introductory only	☐
My prior workplace experience in this competency is:	
Comprehensive	☐
Moderate	☐
Slight	☐

The most obvious gaps in my knowledge and experience in terms of this competency are (in priority order):

1. ....
2. ....
3. ....
4. ....
5. ....

Workplace learning conditions/resources issues

Are there sufficient resources and learning opportunities in my current workplace to meet these learning needs?

Yes ☐   NO ☐

If not please identify any specific local workplace conditions or resource issues which could affect the development of an effective learning plan?

_____

_____

_____

_____

Learning Plan checklist

What do I need to do to prepare my Learning Plan for this competency?   DONE
Include:
1. Make an outline of both workplace and independent study learning activities to be undertaken ☐
2. Arrange mentoring/tutoring with other workplace staff ☐
3. Decide on the duration of the learning plan; roughly how long to be spend on key learning activities and what the best sequence would be for these activities ☐
4. Determine a review schedule, in agreement with my supervisor ☐

What else do I need to decide to ensure the Learning Plan is effective?   DECIDED
Include:
5. How understanding of required knowledge will be documented – reference list, literature review, update critique etc ☐
6. How workplace practice in the performance elements will be documented – session summaries, skills analyses, personal reflection etc ☐
7. How any formal performance outcomes agreed with my supervisor (refer to "agreed level of professional competence" in 3 above) are to be met ☐
8. What the review schedule for my plan will be to document progress or any major variations ☐

PLEASE COMPILE YOUR FULL LEARNING PLAN USING THE SEPARATE TEMPLATE PROVIDED

COMPETENCY 1.1 Managing a laboratory as a safe work environment for all staff

1. Trainee's understanding of knowledge and performance requirements

   How clear an understanding do you feel that both yourself and the trainee have of:

	Unclear	Clear	Very clear
a. the required knowledge needed for this competency	☐	☐	☐
b. the performance elements required for this competency in the context of this workplace	☐	☐	☐

2. Agreement on level of responsibility and assessment approach

   To what extent are you satisfied that agreement has been reached on:

	Dissatisfied	Satisfied	Very Satisfied
a. the level of responsibility to be demonstrated for this competency	☐	☐	☐
b. the nature of the assessment for this competency	☐	☐	☐

3. Accuracy of assessment

	Poorly reflect		Closely reflect	
	1	2	3	4
a. How accurately do you think the trainee's proposed self-assessment for this competency reflects actual workplace performance requirements?				

	Quite difficult		Quite easy	
	1	2	3	4
b. How easy would it be to replicate this type of assessment over time in this workplace?				

	Yes	No
c. Do you feel that any of the proposed assessments for this competency are inappropriate for this workplace?	☐	☐

   Please Comment

   ----

4. Performance outcomes

	Yes	No
a. Have any formal workplace performance outcomes been negotiated for demonstrating competence	☐	☐
b. Does the trainee's Learning Plan acknowledge these outcomes	☐	☐

5. Reflection on prior experience

	Poor		Thorough	
a. How thoroughly do you feel the trainee has reflected on				
- their existing level of knowledge relevant to this competency	1	2	3	4
- their prior experience relevant to this competency	1	2	3	4
- any gaps in the above that need to feature in their Learning Plan	1	2	3	4

6. Learning resource issues

	Agree		Disagree	
a. To what extent do you agree with any workplace learning conditions or resource issues the trainee has identified as having potential impact on their learning for this competence	1	2	3	4

7. Appropriateness of Learning Plan
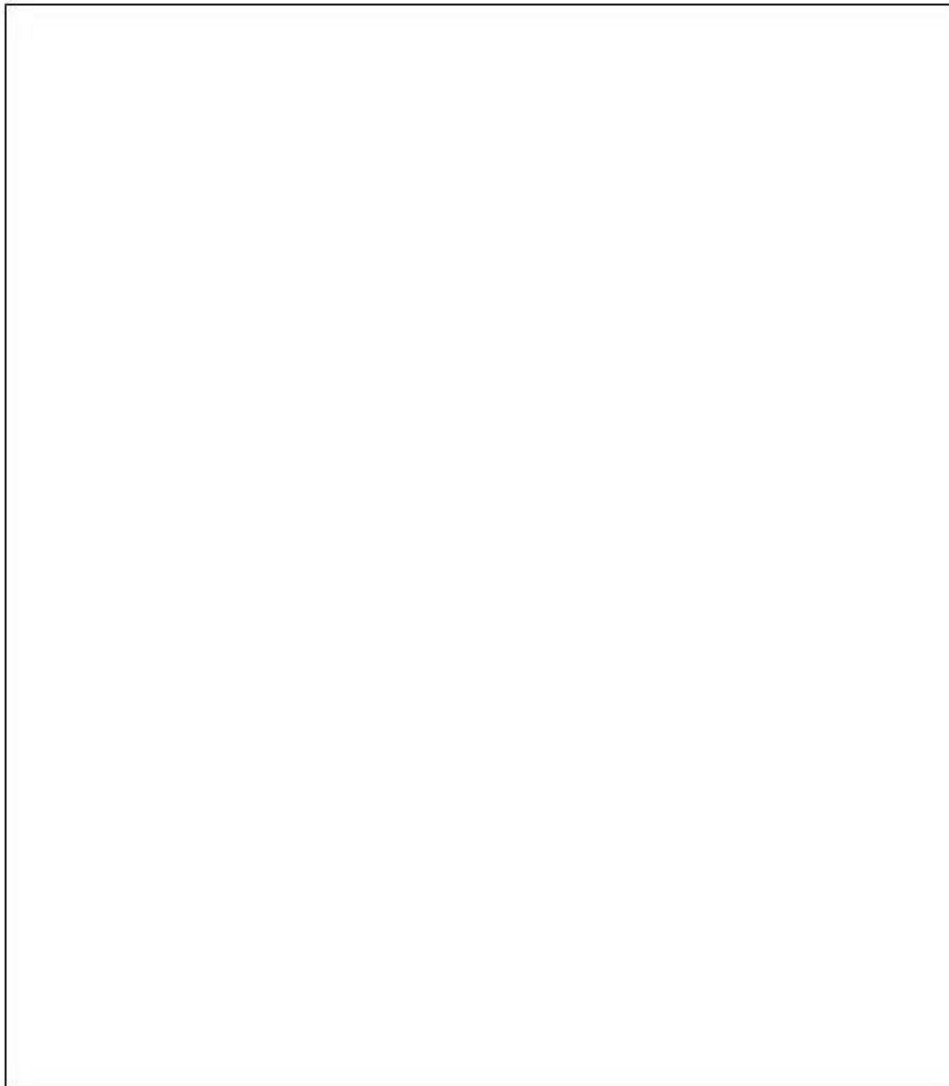
	Inappropriately		Very appropriately	
a. How appropriately do you feel the trainee's Learning Plan reflects				
- their learning needs for this competency	1	2	3	4
- the learning context of your workplace	1	2	3	4
- their capacity to complete it effectively	1	2	3	4

8. Monitoring the Learning Plan

DURING AND ON COMPLETION OF THE LEARNING PLAN ACTIVITIES

a. To what extent are you confident that the trainee can now

	Not confident			Confident
- demonstrate the knowledge and understanding required for the competency	1	2	3	4
- perform the key elements of the competency in the context of your workplace	1	2	3	4
- demonstrate competency to the agreed level of responsibility and performance	1	2	3	4

b. Please elaborate on your responses above with any feedback you feel will help the trainee to further review or develop their performance ability in this competency.

9.5 Appendix 5: Extract from RCPA Learning Diary version 2 as used for pilot test

RCPA
The Royal College of Pathologists of Australasia

GENERIC LEARNING DIARY

Trainee's Name:			Year of training:				
Placement dates:			Location:				
Agreed review dates:							

GENERIC CURRICULUM AREA: As Manager

Learning Outcomes	Level of Proficiency at Beginning of Rotation	Learning Needs	Learning Activities	Evidence of Learning	Level of Proficiency at End of Rotation	Supervisor's Comments*
Laboratory Safety Apply laboratory safety procedures, to protect self and staff against infection, radiation, toxic and fire hazards.	1 2 3 4 5				1 2 3 4 5	
Quality Management and Quality Assurance Review and apply quality control strategies for monitoring processes and outputs in the laboratory as appropriate to discipline.	1 2 3 4 5				1 2 3 4 5	

9.6 Appendix 6: Demographics - interviewees & discussion group participants

PSEUDONYM	ROLE	DISCIPLINE	COMMENTS
Martin	Trainee	Anatomical	Year 1
Hans	Trainee	Anatomical	Year 1
Katrina	Trainee	Anatomical	Year 1
Denise	Trainee	Chemical	Year 1
Anna	Trainee	Chemical	Year 1
Rebecca	Trainee	Anatomical	Year 2
Nina	Trainee	Haematology	Year 2
Victor	Trainee	Microbiology	Year 2
Mark	Trainee	Anatomical	Year 4
Sam	Trainee	Anatomical	Year 4
Janet	Trainee	Anatomical	Year 5
Dani	Trainee	Anatomical	Year 5
Gareth	Supervisor	Anatomical	Supervisor of Janet
Andrew	Supervisor	Anatomical	Supervisor of Mark and Sam
Ian	Supervisor	Anatomical	Supervisor of Katrina
Beth	Supervisor	Anatomical	Supervisor of Dani
Patricia	Supervisor	Chemical	Supervisor of Denise
Dean	Supervisor	Chemical	Supervisor of Anna
Henry	Supervisor	Haematology	Supervisor of Nina
Jennifer	Supervisor	Microbiology	Supervisor of Victor
Roger	Academic	Education	University
Peter	Physician	Education	AMC/University
Linda	Administrator	Education	RCPA
Ken	Physician	Education	RACP
Richard	Professional staff	Education	RACP
Margaret	Physician	Education	Royal College of Physicians (UK)
Thomas	Academic/ consultant	Education	RACP/University
Amelia	Professional staff	Education	RACP
Liza	Administrator	Education	RACP

9.7 Appendix 7: Interview schedule for trainees

Note: The interviews were semi-structured. The following questions were used as a guide, but the discussion often diverged from the schedule.

_____

1. What do you see as potential educational benefits of the *Learning Diary*?
2. Did anything change as a result of using the *Learning Diary*?
   - Learning strategies (Explore self-assessment, needs identification, planning, recording evidence, self-direction, reflection, seeking feedback);
   - Learning outcomes;
   - Identification of resources;
   - Getting feedback from supervisors.
3. Do you feel that the process involved in the *Generic Learning Diary* could be applicable for any other educational purpose? (e.g., specific disciplinary training, CPD)
4. How could the format of the diary be improved? (Layout, clarity of purpose and instructions, ease of use, value of each component)
5. Did you find the rating scales helpful in assessing and monitoring your level of proficiency?
6. Could the *Learning Diary* replace or be integrated with any other RCPA documentation or assessment?
7. How do you feel about making the *Learning Diary* compulsory? Will you put effort into it if not summatively assessed? If not, what might make you more enthusiastic?
8. Do you have any suggestions for optimising the relevance of the diaries to your future role as a pathologist?
9. What steps could the RCPA take to make the *Learning Diary* worth the time and effort?

9.8 Appendix 8: Interview schedule for supervisors

Note: The interviews were semi-structured. The following questions were used as a guide, but the discussion often diverged from the schedule.

_____

1. What do you see as potential educational benefits of the *Learning Diary*?
2. Do you think trainees will change any behaviour or attitudes as a result of using the *Learning Diary*?
3. What impact do you think the *Learning Diary* might have on the relationship between supervisors and trainees?
4. How do you perceive the role of the supervisor with respect to the *Learning Diaries*? How can the RCPA support this role?
5. Do you feel that the process involved in the *Generic Learning Diary* could be applicable for any other educational purpose? (e.g., specific disciplinary training, CPD)
6. How could the format of the diary be improved?
7. Could the *Learning Diary* replace or be integrated with any other RCPA documentation or assessment?
8. How do you feel about making the *Learning Diary* compulsory?
9. Do you have any suggestions for optimising the relevance of the diaries to Trainees' future roles as pathologists?
10. What steps could the RCPA take to make the *Learning Diary* worth the time and effort?

9.9 Appendix 9: Workshop feedback survey

Evaluating the feasibility and utility of a Learning Diary for trainee pathologists - Pilot study

☐ **Supervisor**

☐ **Trainee** Year of training:_____

Discipline:_____

Participant Consent

I (the participant) have read and understand the Participant Information Statement, and any questions I have asked have been answered to my satisfaction. I understand that my participation is voluntary and I agree to participate in this research, knowing that I may withdraw at any time. I have been given a copy of the Participant Information Statement to keep.

Sign:_____ Date:_____

What are the best features or potential benefits of the Learning Diary?

Apart from the time and effort involved, what are the worst things about the Learning Diary?

What can be done to maximize the benefit and minimize the pain?

9.10 Appendix 10: Demographic details of survey respondents, 2007

DISCIPLINE	TRAINEE YEAR 1-3	TRAINEE YEAR 4-5	SUPERVISOR	TOTAL
Anatomical pathology	21	3	37	61
Microbiology	7	2	18	27
Haematology	5	2	14	21
Chemical pathology	5	0	3	8
Immunology	2	0	7	9
Forensic pathology	0	0	3	3
General pathology	2	0	0	2
Genetics	1	0	1	2
TOTAL	43	7	83	133

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