# Peer feedback on professional behaviours in the undergraduate medical curriculum: a case study of tutor and student views at the University of Liverpool.

Thesis submitted with the requirements of the University of Liverpool for the degree of Doctor in Philosophy

By

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I would like to dedicate this thesis to my parents, Tony and Lily Clough, in recognition of their support, encouragement and love.

Abstract

The General Medical Council (GMC) is the UK's independent regulator of doctors, ensuring that proper standards in the practice of medicine are maintained to safeguard the public. The GMC sets and accredits the undergraduate medical curriculum in the UK as detailed in the *Tomorrow's Doctors* documentation. This specifies the standards of professional behaviour to be delivered as part of the undergraduate medical curriculum.

*Tomorrow's Doctors* (GMC, 2009) places emphasis on the use of formative and summative feedback, with students' knowledge, skills and professional behaviours being assessed as part of their learning experience. Peer assessment has emerged as an effective mechanism for delivering feedback on professional behaviours (Schonrock-Adema *et al*, 2007). However, clear guidance from the GMC on how to incorporate peer feedback on professional behaviours in the undergraduate medical curriculum is absent.

This thesis will examine different ways that peer feedback on professional behaviours can be incorporated within the existing curriculum at the University of Liverpool with reference to the latest GMC guidance and the views of staff and students. The research used a social constructionist approach informed by action research theory (Carr and Kemmis, 1997). This sociological approach aimed to produce recommendations for curriculum change that were relevant and achievable. The interpretation and analysis of data is presented to highlight how peer feedback on professional behaviours is and can be incorporated into the undergraduate

medical curriculum at Liverpool, other medical schools regulated by the GMC, and related medical and health care courses.

The study population consisted of two undergraduate medical student cohort groups in their second year of study (2007/8, 2009/10), contemporary Problem Based Learning (PBL) and communication skills tutors. A mixed methods research methodology was employed using qualitative and quantitative methods in the form of interviews, online surveys and Problem Based Learning (PBL) evaluation data to elucidate the mechanisms that exist in relation to peer feedback on professional behaviours. The thesis demonstrates what students and staff think of peer feedback generally, and how this would fit into the delivery of PBL with reference to current GMC guidance. Recommendations are made for how peer feedback could fit into the Liverpool - and other - undergraduate medical curriculums.

By examining the same material from different viewpoints, the research has produced a set of methodological triangulated qualitative data to provide detailed information about the peer feedback of professional behaviours. Tutors and students expressed some concerns about the delivery and use of peer feedback on professional behaviour but did appreciate the value of these comments for reflective learning. The results suggest a formative model of peer feedback on professional behaviours supported by training for students and tutors would be the most effective way to implement this aspect of curriculum change. This model should link to the communication elements of the MBChB course explicitly referring to outcomes of GMC guidance

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The help I received from the Northern PPD Group – particularly Dr Jean McKendree at HYMS – was really useful conducting the pilot study and focusing the research topic. I have also been lucky enough to work with Dr Gabrielle Finn and Dr Marina Sawdon at the University of Durham who actually made focus group analysis fun!

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GLOSSARY/ABREVIATIONS

AMEE – Association for the Study of Medical Education in Europe

ASME - Association for the Study of Medical Education

CETL – Centre for Excellence in Teaching and Learning, University of Liverpool

CEDP – Centre of Excellence Developing Professionalism, University of Liverpool

GMC – General Medical Council

LMSS – Liverpool Medical Students Society

HEFCE – Higher Education Funding Council for England

HYMS – Hull York Medical School

MBChB – Bachelor of Medicine and Surgery

MSC – Medical Schools Council

OSCE – Objective Structured Clinical Examination

PAL – Peer Assisted Learning

PBL – Problem Based Learning

PDP – Personal Development Planning

PMQ – Primary Medical Qualification

PPD – Personal Professional Development

RCP – Royal College of Physicians

SPSS - Statistical Package for the Social Sciences

VITAL – Virtual Interactive Teaching at Liverpool

WHO – World Health Organisation

## CHAPTER 1 – INTRODUCTION

The purpose of this thesis is to examine critically how the General Medical Council's (GMC) guidance on peer feedback and professional behaviours is currently integrated into the Problem Based Learning (PBL) undergraduate medical curriculum at Liverpool and to make recommendations for how this can be more effectively incorporated into Liverpool and other medical schools curricula. Two new methods of delivering peer feedback on professional behaviours in PBL were conducted and evaluated with second year students using online surveys. In depth interviews were conducted with tutors to explore their experiences and understanding of professional behaviours, peer feedback and GMC guidance as part of data collection informed by an action research approach. The following diagram provides an overview of the research process:

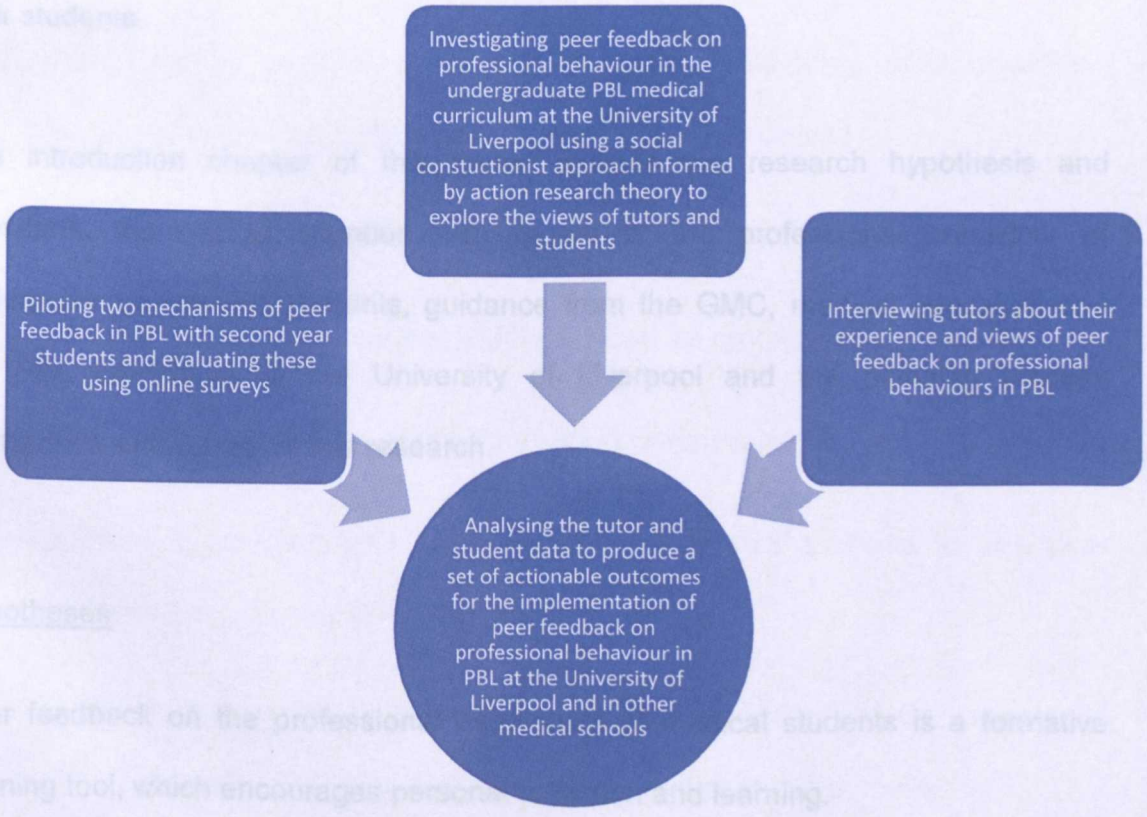


Figure 1 - Overview of the research process

The findings of these investigations are discussed to establish how peer feedback can be positioned within the existing PBL curriculum at Liverpool to meet GMC guidance, and what training and support students and tutors will require to ensure the exercise is meaningful for developing reflective lifelong learning and communication skills. The resulting recommendations are of interest to other medical schools in the UK following a PBL curriculum (Glasgow and Manchester), and all medical schools who currently use small group learning sessions as a mechanism for meeting the GMC's requirements with regard to providing opportunities to practice peer feedback and professional behaviours. The importance of appropriately engaging tutors to deliver peer feedback on professional behaviours is one of the key findings of this research, and will be of interest to medical educators looking at the impact of role modelling and the "hidden curriculum" on the learning outcomes of their students.

The introduction chapter of this thesis outlines the research hypothesis and questions, the current situation with regard to the professional behaviour of undergraduate medical students, guidance from the GMC, medical education and the PBL curriculum at the University of Liverpool and the planning process undertaken with regard to this research.

Hypotheses

Peer feedback on the professional behaviours of medical students is a formative learning tool, which encourages personal reflection and learning.

Students who are prepared through training and discussion to complete peer feedback on professional behaviours are better prepared to meet their obligations as doctors and future educators as directed by the GMC in *Tomorrow's Doctors* (2009).

Undergraduate medical educators benefit from peer feedback data as it can assist in the identification of unprofessional behaviours and provide evidence for supporting and assisting struggling medical students.

Research questions

The research questions to be answered are as follows:

1. Can peer feedback be integrated into a PBL curriculum?

2. What barriers prevent undergraduate medical students from objectively feeding back on the professional behaviours of their peers?

3. How can peer feedback best be used to support the PBL process?

4. a) Are tutors aware of current GMC guidance on professional behaviour?

   b) How does the "hidden curriculum" affect behaviours?

5 a) What is the best time for undergraduate medical students to give peer feedback on professional behaviours?

   b) What training do undergraduate medical students and tutors need to effectively undertake peer feedback, and how should this be delivered?

The hypotheses of the research will be revisited as part of the discussion chapter, with the research questions being directly addressed in the conclusion chapter of this thesis.

Current concerns with professional behaviour

The role of the doctor in relation to professional behaviour has long been documented, as highlighted by Marshall (1939) in a paper entitled 'The recent history of professionalism in relation to social structure and social policy'. He noted that clients trust professionals and professional ethics to develop for the service of the general public.

This pattern has continued, with Wear and Kuczewski (2004) describing how the topic of developing professionalism has dominated academic medicine publication and conference agendas over the past decade, and how the theory of professionalism must be constructed with those who are currently being educated.

Work by the Royal College of Physicians (RCP, 2005) describes how medicine involves the experience, feelings and interpretations of human beings in extraordinary moments of fear, anxiety and doubt, with medical professionalism underpinning the trust that the public has in doctors. The importance of professional behaviour by doctors is therefore of paramount importance to the profession.

A link has been suggested between unprofessional behaviours at medical school and disciplinary action against postgraduate doctors (Papadakis, 2008). As such, effective ways to define, monitor and assess professional behaviours is a key challenge in medical education (Arnold, 2002). Yet, with different teaching and learning methods employed across medical schools (Wagner *et al* 2007) there are issues regarding validity and transferability. How professional behaviours can best be developed and assessed has been a matter of significant interest to medical educators. Furthermore, objectively measuring attitudes and behaviours relating to professionalism remains a key challenge for medical educators, as acknowledged by Martimianakis *et al* (2009).

Peer feedback (sometimes labelled peer assessment, peer review or peer appraisal) has been used in higher education to provide valid and reliable information, and has shown positive formative effects on student achievement and attitudes (Topping, 1998). Peer feedback on professional behaviours has been reported and evaluated in current medical education literature, with North American practitioners such as Arnold *et al* (2007) extensively investigating undergraduate medical students' attitudes to assessing the professional behaviours of their peers, and the best methods for doing this in a fair and accountable way.

Peer feedback has also gained increasing credibility with medical educators as a method of evaluating professional behaviours and as a reflective learning tool (Papinczak *et al* 2007, Schonrock-Adema *et al* 2007, Hughes *et al* 2008). Yet student attitudes have been mixed (Arnold *et al* 2007, Shue *et al* 2005) and there is

a gap in the research literature on the attitudes of medical educators and clinically based staff to peer feedback on professional behaviours and how peer feedback can be utilised in effecting change. This will be fully explored in the literature review. This area is of key importance, as the extent to which medical educators can role model professional behaviour (Park *et al*, 2010) and demonstrate their attitude to exercises such as peer feedback can impact on how seriously students take these requests.

Project plan

A project plan was produced which included ethical considerations, a literature review, investigation of methodological issues, a pilot study, the main research project, discussion of results and conclusions. Recent estimates suggest dropout rates of doctoral level research are between 30%-50% (McAlpine and Norton, 2006). This statistic highlights the importance of adequate planning and particularly allowing sufficient time to write up the thesis and allow for re-workings and changes.

The original focus of the thesis did change over the duration of the project, as can be expected in research of this nature (Gill *et al*, 2009). Originally, the focus of the research was to develop a model for the peer assessment of professional behaviours which undergraduate medical students felt comfortable using. During the course of the research pilot study, it became apparent that this was too vague – defining 'comfortable' was subjective. Guidance from the GMC indicated that regardless of whether students felt comfortable or not, they would increasingly be accountable for the professional behaviours of themselves and their peers.

The terminology of peer assessment came under scrutiny, as it was suggested to have summative connotations (feedback from a University of Liverpool School of Medicine Symposium workshop session facilitated by the author on 06/02/08). Other related terms such as peer review, peer evaluation and peer appraisal also had a formal subtext or could involve some kind of rating or scales. Feedback has more of a reciprocal association – it can be constructive, informal or unstructured. The Compact Oxford English Dictionary (2010) described feedback as information given in response to a product or performance which could be used as a basis for improvement. This definition is entirely appropriate in the context of medical students and professional behaviours, so peer feedback replaced peer assessment as a key term in the research.

Data collected from the first part of the research showed that the attitude and approach of tutors was crucial in the successful delivery of peer feedback. This was also reflected in the literature review in relation to the "hidden curriculum", a current area of writing in medical education looking at informal learning in relation to student development (cf page 60).

Without the 'buy in' of tutors, peer feedback was not administered and delivered correctly. Yet an evaluation of a group of medical educators in Lancaster and anecdotal evidence from tutors in Hull York Medical School (HYMS) showed how useful the peer feedback information had been in identifying unprofessional behaviours and other problems being exhibited or experienced by medical students.

It became clear that the role of the tutor in peer feedback was crucial, yet little information was available in current medical education literature on the engagement of tutors in facilitating peer feedback on professional behaviours. Therefore, it was decided to incorporate this issue as a focus in the thesis.

Guidance from the GMC and consultation on additional guidance for *Tomorrow's Doctors* (2009) also strengthened the focus of the research, highlighting the importance of assessment and of providing opportunities for undergraduate medical students to give and receive feedback. The author led on producing a response for the *Tomorrow's Doctors* (2009) consultation on behalf of the Centre of Excellence in Developing Professionalism (CEDP) team, and the updated version of *Tomorrow's Doctors* does reflect elements of this input.

As such, the original focus of the thesis has altered during the course of the three years. These changes have made the research more relevant and linked to policy change, directly addressing the challenges of medical education policy and delivery using the latest guidance and research evidence available.

Medical Education at the University of Liverpool

Medical education in Liverpool began during the late eighteenth century with the founding of the Medical Library, followed three years later by the Liverpool Medical Society. Developments eventually led to the University College being founded in

Liverpool during 1881, with the School of Medicine being incorporated as a Faculty of the College in 1882. The University College was granted a charter in 1903, creating the "University of Liverpool" which could issue its own degree in medicine and surgery (Ross, 1972).

Up until 1996 Liverpool offered a didactic lecture based curriculum, providing distinct clinical and pre clinical sections with a clear emphasis on basic sciences, anatomy and physiology. From 1996 Liverpool was one of the first medical schools in the UK to offer a PBL curriculum (Watmough *et al* 2009).

Liverpool reformed the MBChB structure in 1996 (Watmough, 2008) introducing a community based, integrated PBL curriculum. This change was based upon the GMC's references in *Tomorrow's Doctors* (GMC, 1993) on preparedness to practice and reducing the 'factual' burden which characterised the previous curriculum. Variations of PBL have been explored by Maudsley (1999) (1) who identified a lack of clarity about use of the term. Her paper subsequently formulated ground rules for PBL, namely that it was a method and philosophy, it aims for the acquisition and structure of knowledge, builds on integrated learning and critical thinking and achieves goals by small group and independent work.

The Liverpool curriculum is problem based, integrated with early clinical contact. PBL is based on the "Seven Steps" approach originally formulated by the University of Limburg (now the University of Maastricht) curriculum, based on the McMaster

model (Van der Vleuten and Verwijnen, 1990). The steps are: clarify terms, define the problem, analyse the problem in light of the data presented, suggest hypotheses, identify learning objectives, go away and study, report back to the group (Taylor and Miflin, 2008).

During PBL tutorials, a group of eight students meet and allocate the roles of chair and scribe to facilitate the session. The group then develop their own learning objectives under four key themes:

- Structure and function in health and disease
- Population perspective
- Individuals, groups and society
- Personal and professional development

Students are given a scenario by their PBL facilitator which they research independently supported by plenary sessions/lectures, on line resources and the Human Anatomy Resource Centre (HARC). The PBL group meet to check their progress and share information. PBL sessions are structured across year groups to include: simulated patient role play, reflective discussion, one-to-one video-enhanced student feedback delivered by tutors, reflective discussion on students'

encounters with real patients, and in the fourth year critique of pre-recorded videos, focussed feedback and reflective discussion.

Teamwork is learnt throughout the PBL process, along with knowing when to ask for help and being aware of limitations. Science teaching is integrated throughout the course and clinical exposure increases over the duration of the course. Students learn practical communication and clinical skills from the first semester and while they are on placement in hospital clinical skills centres in subsequent years of the course (Watmough, 2008). In particular, emphasis is placed on the application and continual refining of communication skills, with students having encounters with patients recorded and played back to them in the second year and assessment of these skills through annual OSCEs (Objective Structured Clinical Examinations).

Students learn to use a systematic and incremental approach to clinical management in the context of social, psychological, ethical, cultural and physical factors. They can then collect and analyse information, rationalise diagnostic and management options for their patient and evaluate outcomes and personal performance (University of Liverpool, 2009).

A recent curriculum review of the course (University of Liverpool, 2010) described the aim of the University of Liverpool School of Medicine is to produce competent graduates from the course for the Foundation Programme, a two-year training programme that all UK medical school graduates are required to undertake in order

to practice medicine in the UK (The Foundation Programme, 2010).The curriculum at Liverpool is designed to produce graduates who:

- are lifelong learners
- possess appropriate knowledge and skills to deliver patient care and practice evidence based medicine
- have professional values and the ability to exercise leadership skills
- aspire to academic excellence

According to a review conducted at the University of Liverpool (Maudsley, 2001), the PBL curriculum should be reflective, iterative and progressive with clear meaning and expectation to avoid chasing elusive outcomes and save expending additional effort. There have been further evaluations of the curriculum at Liverpool in order to continuously improve the course. Lloyd-Jones *et al* (2004) conducted a multiple case study at the University of Liverpool exploring the experience of students entering the PBL course. Using focus groups and interviews and participant observation, findings demonstrated student insecurity and dependence on faculty rather than conforming to the PBL principles. The paper concluded that student learning was agreed upon amongst the student peer group, and was directed by faculty given resources rather than being self directed. Therefore rigorous attention to educational principles was required to fulfil GMC recommendations.

A research programme at the University of Liverpool has been meeting the requirements of the GMC and ensuring the preparedness of graduates to practice. Issues such as how prepared graduates feel for their foundation training and if communication skills training has improved through curriculum reform have been extensively monitored and explored (Watmough *et al* 2006, Watmough *et al* 2009, Brown *et al* 2010). The Research Strategy for the School of Medical Education written in 2006 identified the following research themes:

- Assessment
- Clinical skills
- Communication skills
- Pastoral care
- Reflective portfolio development
- Problem Based Learning (PBL)
- Professionalism
- Transition from undergraduate to postgraduate

This thesis incorporates several of these areas: assessment, communication skills, and professionalism. It also addresses aspects of portfolio development as it includes reflection and problem based learning where students are encouraged to actively participate in their own self directed learning.

At Liverpool there are various working and curriculum groups to consider how this guidance can best be implemented within existing structures. A report was produced by the Faculty of Health and Life Sciences entitled 'Creating Tomorrow's Doctors' (University of Liverpool, 2010). The report reviewed the MBChB programme at Liverpool and how it should be developed in accordance with the latest GMC *Tomorrow's Doctors* guidance (2009) to deliver a patient based curriculum. Key recommendation number nine from the report is as follows:

> *"Assessment and feedback – there should be an ongoing review of assessment which will enable it to drive and support appropriate, sustained learning. At the same time, processes will be put in place to enhance feedback to students". p5*

The quantity and quality of feedback on assessment is important in the overall satisfaction of the student learning experience. Student satisfaction surveys consistently report lack of feedback on assessment. Evidence from the review demonstrated that students may not perceive self marking and formative examinations as feedback. This questions how these methods are used and highlights the need to make changes in the assessment feedback process that will address the mismatch between the methods used and student perception.

This research is timely in relation to the review as it investigates tutor and student awareness of current GMC guidance, peer feedback and professional behaviours. The issue of feedback in the curriculum is of key importance and exploring this from the perspective of tutors and students will produce information to develop

appropriate and useful methods of peer feedback on professionalism for future students.

Developing professionalism – CEDP

The University of Liverpool Centre for Excellence in Developing Professionalism (CEDP, also known as CETL) was set up in 2006 as one of the 74 Centres for Excellence in Teaching and Learning (CETL), funded by the Higher Education Funding Council for England (HEFCE). The School of Medical Education was awarded £4.5 million from HEFCE to set up the CEDP for 5 years to develop, assess and implement learning and teaching methods to further develop medical students' professional attitudes and better prepare them for their future careers (CEDP, 2010). This funding ended in July 2010, and the centre has been core funded to support the faculty in evidence based learning and teaching.

The key aims of the centre were as follows:

- To develop graduates who can demonstrate improved levels of professionalism;
- To develop a sector wide definition of professionalism and tools to assess it that are robust and transferable;
- To enshrine within the undergraduate curriculum a system for personal development, career planning and reflection of professionalism that allows a seamless progression to postgraduate practice;

- To recognise and reward excellence in medical education;
- To be recognised nationally and internationally as a leading Centre for research and publication in professionalism in medical education.

The themes of assessing professional behaviour and personal reflection have featured in several projects across the work of the CEDP, including investigating how peer feedback on professional behaviours could be successfully developed and incorporated into the undergraduate medical curriculum.

A key recommendation of the MBChB review conducted in 2010 (number six) is Professionalism, which specifically links to the work of the CEDP, one of the benefits of which is described as providing further opportunities to produce innovative approaches to developing professionalism and improving the transition from medical student to junior doctor. As the literature review in the following chapter will illustrate, the peer feedback of professional behaviours fits in with the key aims of the CEDP and medical education in the UK generally. However, an effective way to incorporate this mechanism into the Liverpool undergraduate curriculum has not been investigated or developed until this research.

GMC guidance and professional behaviour

The GMC is responsible for ensuring standards in the practice of medicine in the UK to protect, promote and maintain the health and safety of the public (GMC, 2009).

The GMC was established as part of the 1858 Medical Act to decide criteria for entrance into the medical profession, regulate national standards of medical education and hold a register of practitioners (Watmough, 2008). The Council is independent of government and is fully accountable to the general public for its function and service delivery. It determines the principles and values that underpin good medical practice and has legal powers to remove any doctor from the register if they fail to meet relevant standards. The main functions of the GMC under the 1983 Medical Act (GMC, 2010) are outlined as:

- Keeping up to date registers of qualified doctors
- Fostering good medical practice
- Promoting high standards of medical education
- Dealing firmly and fairly with doctors whose fitness to practice is in doubt

The GMC first published *'Tomorrow's Doctors'* in 1993 in response to a series of international pressures to reform medical education, such as a report published by the WHO, which emphasised a greater sharing of learning between health care professionals (WHO, 1988) and challenged the large amounts of basic scientific knowledge being taught in the undergraduate curriculum (Bullimore, 1998). The PBL small group learning approach had been successfully implemented in countries such as Canada and Australia, illustrating that movement from more traditional lectures to curriculum reform was an international trend (Parsell and Bligh, 1995).

The *Tomorrow's Doctors* documentation outlined what the GMC expected medical schools to deliver, and what employers could expect from new medical school graduates. The guidance moved away from simply acquiring knowledge to a learning process where the student can evaluate information independently and communicate effectively with colleagues, patients, their families and carers.

The release of this guidance was followed by informal visits to UK medical schools to monitor progress of the guidance implementation and identify any good practice or causes for concern. A further series of visits was undertaken between 1998-2001 to consider developments in educational theory, research and professional practice. Findings resulting from these visits were incorporated into *Tomorrow's Doctors* (GMC, 2003). The documentation identified the knowledge, skills, attitudes and behaviours expected of new graduates:

- Put the principles set out in *Good Medical Practice* at the centre of the undergraduate education;
- Make it clear what students will study and be assessed on during undergraduate education;
- Make it necessary for all medical schools to set appropriate standards; and
- Make necessary rigorous assessments that lead to the award of primary medical qualification (PMQ)

The guidance highlights professionalism as a key issue for medicine in the UK and included the principles of professional practice – good clinical care, maintaining good medical practice, relationships with patients, working with colleagues, teaching and training, probity and health.

The guidance has been updated twice since 1993. The current version of *Tomorrow's Doctors* (GMC, 2009) focuses upon improving the training and assessment of undergraduate medical students and is the guidance to be followed in this thesis. Publication of this updated guidance also emphasised leadership and teaching as skills medical students should be equipped with during their undergraduate course. The guidance further emphasises assessment and feedback as a key mechanism for undergraduate students to learn more about their practice:

> *"Students must receive regular information about their development and progress. This should include feedback on both formative and summative assessments. All doctors, other health and social care workers, patients and carers who come into contact with the student should have an opportunity to provide constructive feedback about their performance. Feedback about performance in assessments helps to identify strengths and weaknesses, both in students and in the curriculum, and this allows changes to be made". (111)*

Further instruction on this topic states that students' knowledge, skills and professional behaviour must be assessed and details how this contributes to overall assessment of curricular outcomes (112); a range of assessments should be designed and delivered to provide valid and reliable judgement of a student's performance (113); students should be provided with guidance about what is

expected of them in any exam or assessment (114); and examiners must be trained to carry out their role consistently and given criteria to indicate how a student performs compared to targeted curriculum outcomes (115). Particularly relevant to the aims of this thesis is:

> *"Medical schools must use evidence from research into best practice to decide how to plan and organise their assessments from blueprinting and choosing valid and reliable methods to standard setting and operational matters. Medical schools must be able to explain clearly their schemes of assessment and demonstrate a wide understanding of them among their staff. Medical schools must therefore have staff with expertise in assessment or access to such staff in other institutions to advise on good practice and train staff involved in assessment". (120)*

The guidance in *Tomorrow's Doctors* (GMC, 2009) uses the headings of *Good Medical Practice (*GMC, 2006), the guidance that outlines the principles and values of good clinical care and standards of medical professionalism expected of doctors registered with the GMC. Standards relating to appraising and assessing colleagues are defined as:

> *"You must be honest and objective when appraising or assessing the performance of colleagues, including locums and students. Patients will be put at risk if you describe as competent someone who has not reached or maintained a satisfactory standard of practice". (18)*

> *"You must provide only honest, justifiable and accurate comments when giving references for, or writing reports about, colleagues. When providing references you must do so promptly and include all information that is relevant to your colleague's competence, performance or conduct". (19)*

The responsibility of doctors to report a colleague for any issue relating to fitness to practice is clearly presented in the guidance:

> *"You must protect patients from risk of harm posed by another colleague's conduct, performance or health. The safety of patients must come first at all times. If you have concerns that a colleague may not be fit to practise, you must take appropriate steps without delay, so that the concerns are investigated and patients protected where necessary. This means you must give an honest explanation of your concerns to an appropriate person from your employing or contracting body and follow their procedures". (43)*

The Medical Schools Council (MSC) represents the interests and ambitions of UK Medical Schools as they relate to the generation of national health, wealth and knowledge through biomedical research and the profession of medicine (MSC, 2010) The GMC and the MSC published *'Medical Students: professional behaviour and fitness to practice'* (GMC, 2007), focusing on the importance of good professional behaviours expected of medical students. The guidance summarised the expected professional behaviours of medical students alongside procedures for medical schools when misconduct occurred. The guidance acknowledges that:

> *"Medical students have certain privileges and responsibilities different from those of other students. Because of this, different standards of professional behaviour are expected of them. Medical schools are responsible for ensuring that medical students have opportunities to learn and practise the standards expected of them". (3)*

All this guidance is available on the GMC's website (GMC, 2010), and is distributed to designated contacts within medical schools and other medical education

networks. It is promoted through various publicity channels such as press releases and relevant journals. Yet how this information should be shared with tutors and students at individual medical schools is not specified.

The range of GMC guidance presented here demonstrates the emphasis currently placed on assessment, feedback, professional behaviours: the accountability of doctors and medical students. This provides evidence that there is a strong rationale for the main objectives of this research.

## Research Design

This research takes a mixed methods approach (Cresswell, 2003). This offers a more comprehensive set of data than could be collected using either qualitative or quantitative methods independently. It also allows for some flexibility in the structuring of the research so the project is not limited by previous studies on similar topics.

Rather, a grounded theory approach (Lingard *et al*, 2008) with elements of social theory and experiential learning models can provide a more detailed and structured methodology to ensure the research is valid and reproducible. This will be explored further in chapter 4 on methods (cf page 84).

Study population

For the pilot research, undergraduate medical students at 6 North of England medical schools were invited to participate in an online survey. First year students at 1 of these medical schools were invited to attend a focus group.

For the main research at the University of Liverpool, second year undergraduate medical students (academic years 2007/8 and 2009/10) piloted 2 methods of peer feedback on professional behaviours in PBL. Tutors from academic year 2009/10 were invited to be interviewed.

The participants involved with this research have volunteered their involvement, and have been free to withdraw from the research at any time. All participants have remained anonymous.

Author's position at the University of Liverpool

Although this research is based within the School of Medicine, it has been developed using different disciplines to inform the methodology. The author has a first Degree in Sociology and a Masters degree in Social Research methods, and these have influenced large parts of the methodological approach.

It should be acknowledged that the author is using a theoretical approached informed by action research as a researcher, not a practitioner. This will be further explained in the methods and theory chapters as part of the thesis narrative.

## CHAPTER 2 - LITERATURE REVIEW

The introduction chapter outlined the purpose, background and context of this research. This chapter discusses the literature review; how literature was systematically searched for and selected; definitions of professionalism; current interpretations and writing on medical professionalism relating to this thesis; if and how professional behaviour can be taught; the "hidden curriculum"; the use of peers in measuring and feeding back on professional behaviour and the context of learning in PBL. The literature review encompasses both sociological and medical education writing to ensure a balanced presentation of information. Literature concerning the research methodology is included in chapter 4 (cf page 84).

### Systematic literature search

The purpose of the literature review was to inform the subsequent primary research into peer feedback and professional behaviour. This was to avoid duplicating previous studies and ensure the research was original and valid. The main aim was to identify and critically analyse previously published work on professional behaviour and the undergraduate medical curriculum.

Rather than attempting an exhaustive search to critique existing theory and/or suggest new or modified theoretical perspectives, the purpose of the review was to capture and interpret current empirical evidence on these topics and inform the thesis research questions. Following the Centre for Reviews and Dissemination guidance for undertaking reviews in health care (2008), the approach undertaken was to initially establish the research question and exclusion criteria.

Research question: What current published literature exists on defining, teaching and assessing medical professionalism in the context of curriculum development, peer assessment and learning?

Exclusion Criteria: It was decided to exclude all documents which:

- Were pre-1990 (This date was chosen because professionalism as a topic in the medical education literature has emerged over the past 2 decades)
- Were in languages other than English (due to time and resource constraints)
- Originated from non health related or non educational sources for relevancy

Following consultation with a subject specialist librarian it was decided to conduct an initial search using the Web of Science database specifying the following citation databases: Science Citation Index Expanded (SCI-EXPANDED); Conference Proceedings Citation Index- Science (CPCI-S). All database searches and terms have been clearly presented to ensure that they are transparent and replicable.

An inclusive approach was taken to title screening – all titles that appeared as if they might be relevant were selected for abstract screening. Titles that upon examination were not relevant to clinical education were excluded. All titles that were considered worth investigating further were acquired in full text.

There was awareness that limiting the research literature review to databases risked excluding much of the grey literature. Therefore, a hand search of conference abstracts from ASME (Association for the Study of Medical Education) and AMEE (Association for Medical Education in Europe) from 2007-2009 was conducted to identify current writing and research on medical professionalism and peer assessment. A small number of key texts on medical professionalism such as Stern (2006) and Cruess *et al* (2009) were identified to familiarise the author with relevant concepts and terminology and any additional material. Both conference abstracts and published texts were used to inform the database search terms.

The focus was on specified terms across several databases, so reasonable confidence was felt that most items of major significance would have been captured in the academic journals. A similar argument informed the decision not to systematically search further for books for the literature review, although this approach was used for the theoretical aspects of the thesis. Search methods varied; where appropriate or unavoidable the entire collection of reports was browsed. In other cases it was possible to restrict the search to specific categories. This resulted in a total of 636 titles being retrieved and screened on title employing the exclusion criteria detailed above. A cross check for duplication removed 10 of these records. 120 were selected as worthy of further examination. On abstract screening 38 papers were rejected because they did not directly relate to medical education, professionalism, peer assessment or problem based learning. This resulted in 82 shortlisted reports which were then acquired in full text.

| Date | Search term | Hits | Title screening | Abstract screening |
|---|---|---|---|---|
| Web of Science | | | | |
| 09/08/11 | Professional behaviour* (Topic) AND Undergraduate medical student* (Topic) from 1990 onwards AND Language = English | 70 | 26 | 22 |
| 09/08/11 | Peer assessment* (Topic) AND medical professionalism* (Topic) AND post-1990 AND Language = English | 51 | 18 | 14 |
| 09/08/11 | Hidden curriculum* (Topic) AND Medical Student professionalism* (Topic) AND post-1990 AND Language = English | 59 | 43 | 32 |
| 09/08/11 | Problem based learning* (Topic) AND Assessment* (Topic) AND post- 1990 AND Language = English | 456 | 33 | 14 |

Figure 2 – Web of Science literature search

Additional searches were conducted on medicine related databases. These used the same search terms and selection criteria as the Web of Science search and did not select previously identified papers to avoid duplication.

| Date | Search term | Hits | Title screening | Abstract screening |
|---|---|---|---|---|
| CINAHL Plus | | | | |
| 16/08/11 | Professional behaviour* (TX all text) and Undergraduate medical student* (TX all text) from 1990 onwards AND Language = English | 48 | 2 | 2 |
| 16/08/11 | Peer assessment* (TX all text) AND medical professionalism* (TX all text) AND post-1990 AND Language = English | 181 | 6 | 3 |
| 16/08/11 | Hidden curriculum* (TX all text) AND Medical Student professionalism* (TX all text) AND post- 1990 AND Language = English | 6 | 1 | 1 |
| 16/08/11 | Problem based learning* (TX all text) AND Assessment* (TX all text) AND post- 1990 AND Language = English | 844 | 9 | 3 |

Figure 3 – CINAHL Plus literature search

| Date | Search term | Hits | Title screening | Abstract screening |
|---|---|---|---|---|
| Scopus | | | | |
| 16/08/11 | Professional behaviour* (keywords) AND Undergraduate medical student* (keywords) from 1990 onwards AND Language = English in Health Sciences | 7 | 0 | 0 |
| 16/08/11 | Peer assessment* (keywords) AND medical professionalism* (keywords) AND post-1990 AND Language = English in Health Sciences | 18 | 2 | 1 |
| 16/08/11 | Hidden curriculum* (keywords) AND Medical Student professionalism* (keywords) AND post- 1990 AND Language = English in Health Sciences | 4 | 0 | 0 |
| 16/08/11 | Problem based learning* (keywords) AND Assessment* (keywords) AND post- 1990 AND Language = English in Health Sciences | 385 | 7 | 3 |

Figure 4 – Scopus literature search

| Date | Search term | Hits | Title screening | Abstract screening |
|---|---|---|---|---|
| Medline | | | | |
| 16/08/11 | Professional behaviour* AND Undergraduate medical student* (keywords) | 9 | 0 | 0 |
| 16/08/11 | Peer assessment* AND medical professionalism* (keywords) | 0 | 0 | 0 |
| 16/08/11 | Hidden curriculum* AND Medical Student professionalism* (keywords) | 0 | 0 | 0 |
| 16/08/11 | Problem based learning* AND Assessment* (keywords) | 10 | 0 | 0 |

Figure 5 – Medline literature search

In total 95 papers were acquired through the systematic literature review. Additional papers were acquired at this stage of the literature review by accessing the references appearing in the selected papers to be relevant and valid to the research questions. All the papers which had passed abstract screening and additional

selection were then grouped under the main themes that emerged from reading the abstracts. These were as follows:

- Professionalism and medical professionalism
- Teaching medical professionalism
- The "hidden curriculum"
- Assessing medical professionalism
- Peer assisted learning/assessment/review/appraisal/nomination
- PBL and learning theory

These headings form the basis of this literature review and a brief overview of the research studies and findings are followed by an interpretation of the research in the next chapter. Some papers identified during the literature review process are referred to in different parts of the thesis as appropriate and relevant.

Professions and professionalism

The Compact Oxford English Dictionary (2010) defines a profession as a paid occupation usually involving training and a formal qualification. Historically there were three main professions – law, medicine and divinity - however this has broadened as formal education and examination structures have developed

alongside the creation of regulatory bodies to oversee and discipline practitioners. Established professions now include architecture, accountancy, engineering and other highly specialized disciplines (Perks, 1993).

The work of Olgiati *et al* (1998) assert that professions are involved in birth, survival, physical and emotional health, dispute resolution and law based social order, finance and credit information, educational attainment and socialization, physical constructs and the built environment, military engagement, peace-keeping and security, entertainment and leisure, religion and our negotiation with the next world. Evetts (2003) elaborates how the professions deal in work associated with risk and risk assessment through use of expert knowledge to enable customers and clients to deal with uncertainty.

Rees Jones (2005) writes that sociologists identified features such as altruistic values, high standards of ethics and a body of specialist knowledge obtained by lengthy training. Added to this list could be high social status, control over their niche market and control over their working conditions. As this description makes clear, a lot of idealism and material reward are linked to the concept of professions and their place within society. Certainly, the public perception of the professions is they require a university education and carefully monitored quality systems (Rees Jones, 2005).

Professionalism is described as a vocation governed by a code of ethics and requiring a commitment to competence, integrity, altruism and working for the public good by Cruess *et al* (2004). They write about the contract between society and the

medical profession, whereby the profession is granted a monopoly over its knowledge base and the privilege of self regulation and autonomy in practice.

The work of Friedson (2004) describes how professionals are permitted to make a living while controlling their own work, as it is believed the work they perform is different to that of most workers so self control is necessary. This description highlights the autonomy involved in a professional role, but also makes clear this position is inferred by the beliefs of other members of society who believe the professional role is so much more specialized it can be self regulating.

As illustrated in the introduction of this thesis (cf page 14), the trust that society has placed in the medical profession as a whole has been challenged in recent years. This has resulted in ongoing debates (academic and political) to clearly define what medical professionalism is. As the construct of professionalism is by its nature subjective, a universal definition has yet to be agreed across different socio-cultural environments, although there are overlaps and gaps amid the descriptions (Tsai *et al,* 2007).

Definitions of medical professionalism have been proposed by medical related organisations, professional bodies and external independent sources. Meakin (2007) surmises current themes relating to medical professionalism from regulatory bodies, professional societies and empirical research include patient welfare and autonomy,

honesty, commitment to confidentiality, responsibility, accountability, continuous improvement and team working.

The aspirations and expectations involved in the professional role were explored by Abrandt Dahlgren *et al* (2004) who wrote about knowing and understanding how to act and behave socially, technically and ethically. Further emphasis suggests becoming a professional is a cultural learning process as essential as cognitive knowledge.

The context and learned nature of professional behaviours is discussed by Holtman (2008) in relation to the acquisition of social norms with professional adjustment such as communication skills, empathy and cognitive moral development and how the individual's ability to learn is constrained by social cues.

Sociological writing continues to challenge professionalism not as a stable construct that can be isolated, taught, and assessed but as something which is socially constructed through ongoing interaction (Martimianakis *et al*, 2009). This perspective encompassed the wider contexts of the economic and political goals of professional organisations and health care institutions, as well as the individual behaviours and traits of doctors as professionals themselves, their patients, families, other health care professionals and society as a whole.

Further sociological discourse has provided detail about the professional expectations of doctors and society. Hafferty and Castellani (2009) outlined that sociology had held a contested debate about whether medicine was becoming de-professionalised, proletarianised, corporatized or, conversely, was maintaining its professional powers. They concluded that both sociology and medicine had a great deal to learn from each other about the complicated issues relating to professionalism.

The sociological perspective of Parsons is explored by Latham (2002), who describes how the public looks to medical schools, societies and journals to secure the competence and ethical behaviour of professionals, and to help ensure the professional's authority isn't influenced by private financial interests or by political power. This issue is discussed further by Cohen (2006) suggesting that the traditional doctor – patient relationship could be replaced by a vendor – purchaser transaction to the detriment of the profession generally.

Hafferty (1998) similarly warns that there are important moral and ethical questions about the 'culture of commercialism' invading medicine's 'culture of professionalism'. These are current issues relating to medical professionalism and have featured in related professional guidance such as the publication in 2002 of the 'Medical professionalism in the new millennium: a physicians charter' (Louhiala, 2002). The responsibilities listed in the charter includes commitments to professional competence, honesty with patients, patient confidentiality, maintaining appropriate relations with patients, improving quality of care, improving access to care, just

distribution of finite resources, scientific knowledge, maintaining trust by managing conflicts of interest and professional responsibilities. The summary of the charter concludes:

> *"To maintain the fidelity of medicine's social contract during this turbulent time, we believe that physicians must reaffirm their active dedication to the principles of professionalism, which entails not only their personal commitment to the welfare of their patients but also collective efforts to improve the health care system for the welfare of society". (p. 246)*

The emphasis in this charter is interesting, as it spans different health care systems operating under different economic conditions. Yet the overarching principles of professionalism include the welfare of patients and improving health care systems generally.

A clear distinction between professionalism (a way of behaving in accordance with certain normative values) and humanism (an intrinsic set of convictions about one's obligations towards others) is made by Cohen (2007). These issues were also the focus of Goldberg (2008) who wrote about humanism and professionalism, and the moral and cultural components of this such as empathy, respect and compassion alongside dress, demeanour and language.

Similarly, Barilan (2009) highlights the role of the doctor in relation to responsibility as a meta virtue in regard to medical professionalism. The paper acknowledges that

being a professional sometimes involves going against established norms and values, personal interests and virtues for the benefit of patients, and also a demonstration of professional values.

The RCP (2005) propose the following definition of medical professionalism:

> *"Medical professionalism signifies a set of values, behaviours, and relationships that underpins the trust the public has in doctors". (p.14)*

This reflects elements of the comprehensive definition of medical professionalism provided by Arnold and Stern (2006) which is clear about the key elements of professionalism and how it is practiced, combining aspects of clinical duty with elements of reflection, continuous learning and the reasoning involved with practicing medicine:

> *"Professionalism is demonstrated through a foundation of clinical competence, communication skills and ethical and legal understanding, upon which is built the aspiration to and wise application of the principles of professionalism: excellence, humanism, accountability and altruism". (p. 19)*

Research by Jha *et al* (2006) highlights the perspective of the patient as previously described by Wagner *et al* (2007) and Cohen (2007) as key to understanding what professional behaviour means. Schachter (2009) writes about courtesy and respect for patients, relatives and other professionals, being reliable, unprejudiced, punctual

and honest. Hilton (2004) reviewed existing literature and concluded that professionalism could be described as a broad attribute incorporating six domains; ethical practice, reflection/self awareness, responsibility/accountability, respect for patients, teamwork, and social responsibility.

Student views of professionalism were explored in a recent paper by Finn *et al* (2010). Based upon 13 semi structured focus groups with undergraduate students at 2 UK medical schools, the study identified 7 themes regarding student's perception of professionalism: context, role modelling, scrutiny of behaviour, professional identity, 'switching on' professionalism, leniency for students with regard to professional standards and sacrifice of individual freedom. Students saw professionalism as being relevant in 3 contexts: University, clinical and virtual. The authors conclude that understanding how students construct their personal and professional identities in online and offline environments could enhance the development of a student focused professionalism curriculum.

A recent paper by van Mook *et al* (2009) investigated current definitions of medical professionalism and concluded that there was no universal understanding of the term and it was unlikely that one definition could cover all relevant contexts and situations. The contrasting approaches to professionalism – as a concept or set of behaviours – requires assessment of both inner values and outward demonstrated behaviours.

In conclusion, defining medical professionalism offers a variety of perspectives and raises issues relating to the personal motivations and responsibilities of doctors, and as has been demonstrated, is an ongoing debate in the medical education literature. The importance of online environments is increasingly becoming an issue in relation to professional identity. The next stage of this literature review will consider the challenges in teaching medical professionalism to undergraduate medical students.

## Teaching medical professionalism – approaches and ideals

Discussion about the teaching of professionalism, and if it can be taught, is highlighted by Wagner *et al* (2007). As increasing public attention is paid to the professional behaviours of doctors, the inclusion of professionalism in the undergraduate curriculum is a key issue. Yet work by Goldie *et al* (2007) found that integration of professionalism was included in the domains of vocational studies, but was not integrated in the PBL core. The paper concludes that reflection is integral to professional development, along with early clinical contact and positive role models exhibiting consistent and high standards of professional behaviour. The issue of integrating the professionalism agenda into the existing curriculum is a challenge for this research.

International writing offers further descriptors in the components and delivery of professionalism at an undergraduate level. In Turkey, Elcin *et al* (2006) wrote about a white coat ceremony similar to those conducted in American medical schools.

Students then complete a four day course based on a problem based learning model to prepare them for the course.

The work of Parker *et al* (2008) in Australia wrote about their integrated approach to teaching, developing and assessing professionalism while also managing instances of unprofessional behaviour using a 'pyramid of professionalism' which covers a formal curriculum of ethics, professional practice, personal and professional development. This makes an explicit commitment to the identification and promotion of professional behaviours.

The principles of teaching professionalism are given as factors to be considered, as elaborated upon in a paper by Cruess *et al* (2006). These are listed as institutional support, the cognitive base, experiential learning, continuity, role modelling, faculty development, evaluation and environment. They conclude that there is a cognitive base to professionalism which must be taught explicitly and reinforced through experiential learning. While this aspiration is highly laudable, it is challenging to incorporate it into an overcrowded existing undergraduate medical curriculum.

The research of Foster (2009) recognises that what students learn in theory will not necessarily correlate with what they see senior colleagues and role models doing in practice. Foster concludes while it is possible to get positive outcomes from poor role modelling, proper reflection on experiential learning and feelings generated in working situations is crucial when learning about medical professionalism.

Assessing and evaluating medical professionalism

Reasons for assessing, evaluating and measuring professionalism were highlighted by Papadakis *et al* (2005) who used case control groups to investigate the association of disciplinary action against practicing physicians with prior unprofessional behaviour in medical school. The research found that disciplinary action by a medical board was strongly associated with prior unprofessional behaviour in medical school. The authors conclude that disciplinary action among practicing physicians by medical boards was strongly associated with unprofessional behaviour in medical school.

This work was followed up by Papadakis *et al* (2008) with a retrospective cohort study to determine if performance measures during residency predict the likelihood of future disciplinary actions against practicing interns. It concluded that poor performance on behavioural and cognitive measures during residency are associated with greater risk for state licensing board actions against practicing physicians at every point on a performance continuum.

This work is very interesting as it emphasises a link between unprofessional behaviours at medical school and subsequent unprofessional behaviours by graduate doctors. It suggests that medical educators need to observe and address unprofessional behaviours at an early stage to ensure the student is supported in understanding why their behaviour is unacceptable, thus resulting in better long term patient care. While both studies are comparatively small, the inferences from the

results do have wider implications for how lapses in behaviour are recorded and addressed within medical education.

A retrospective cohort study identifying a range of outcome measures including review board identification of professional problems, and pre clinical predictor variables such as students' performance on standardized patient (SP) exercises was undertaken by Stern *et al* (2005). Using multivariate regression, they found that failing to complete required course evaluations and failing to report immunisation compliance were significant predictors of unprofessional behaviour found by the review board in subsequent years.

The challenge of future measures and predictors of professional behaviours include what dimensions of professionalism are outcome and behaviour based and how these can be used to create a new framework for assessing and understanding the professional behaviours expected of medical students and practicing doctors.

Participation in and perceptions of unprofessional behaviours among incoming internal medicine interns was studied by Arora and Anderson (2008). Respondents reported participating in behaviours that they recognise as unprofessional, although they were less likely to perceive their behaviour as inappropriate. The authors suggest there may be confusion or disagreement regarding what is unprofessional. Therefore, learning environments may promote participation in unprofessional behaviours (such as fraud and making fun of patients). What emerges from the study

is that medical students are not clear on what constitutes unprofessional behaviour and how they perceive this.

The work of Arnold (2002) remains a key text on the challenges and issues relating to the assessment of professional behaviours. Her conclusion is that tools to explore rigorous qualitative and competence quantitative based assessment should be explored in future research. These have not yet been fully realised. Her question of how to best measure professional behaviours, at what stage and in which environment remain topics of continued discussion in medical education.

Overall, the process of evaluating professionalism creates a clear challenge in developing the undergraduate medical curriculum. This is not only problematic in terms of finding effective methods of assessing professional behaviours which are robust, transferable and valid. It is also how the assessment is used and reflected upon. Anvik *et al* (2007) wrote about the generic problems of assessing behaviours and attitudes. While their focus was on communication skills, their issues also relate to assessing professionalism more generally. The authors conclude that learning and importance in the Communication Attitudes Scale (CSAS) may be applicable for testing affective and cognitive components of student attitudes. They suggest this may be useful for monitoring attitudinal change amongst students during medical school as well as allowing for comparisons between different medical schools to improve and refine curricula, teaching methods and communication skills.

Programmes designed to assess the performance of practicing doctors in Canada, Australia, New Zealand and the UK were compared by Finucane *et al* (2003). They conclude that while producing a uniform international performance assessment may not be feasible, international comparison of current practice should encourage further debate on the development of better performance assessment processes.

The use of summative assessment was discouraged by Verkerk *et al* (2007) as this method fails to take context into account. The authors suggest three types of instrument to assess the deliberative and normative dimensions of professionalism – sound argumentation and proper application of the theory in everyday practice assessed by written case analysis, a reflection enhancement tool to assess the deliberative components of professionalism, and portfolio assignments.

Issues have arisen about the relevance of these mechanisms for assessing professional behaviour, and if such measures are appropriate. Martimianakis *et al* (2009) write that professionalism is too complex to be reduced to a simple checklist of individual characteristics and behaviour so psychometric measurements may not be the best way to capture professionalism. Yet the opposite of this is argued by Morrison *et al* (2009) who write that checklists are part of a drive towards ensuring that students are fully aware of their professional responsibilities.

Meakin (2007) writes there is little evidence that existing methods of assessment are effective in assessing attitudes towards professionalism in medicine. He highlights

the work of Coulehan (2005) who suggests that instead of teaching rule based professionalism, a narrative based professionalism using role modelling, fostering self awareness and socially relevant service orientated learning would be more beneficial. Mazor *et al* (2007) investigated how different raters (including doctors and lay people) assessed the professionalism of 20 third year medical students. Their findings concluded a wide range of verbal and non verbal behaviours were considered in the evaluation of professionalism, and that inviting multiple viewpoints were critical in evaluation.

The theoretical challenges of assessing professionalism are considered in a paper by Holtman (2008) who also highlights the issue of rater bias. Different situation contexts and social reactions to conduct are linked as inseparable when assessing professionalism.

A key issue in the evaluation and assessment of professionalism has been that methods rely on abstract and idealised definitions referring to people rather than their behaviours, implying that professionalism represents a stable set of traits. Ginsburg *et al* (2000) write that evaluation of professionalism is context-dependent, and suggests developing situations where the student handles a conflict of values and then reflects on the thought processes that lead to their decision. This understanding could be used to develop effective teaching on professionalism generally.

Another paper using an assessment method to measure professional behaviours was presented by Schubert *et al* (2008). They found the main disadvantage of the rating scale they used was it did not force experts to select one best answer which led to inconclusive results. The authors add that a multi dimensional approach is necessary to ensure the validity of assessment instruments of professional behaviour. They also refer to the link between measuring the theoretical basis of student knowledge and anticipated behaviour, concluding that further studies must prove the predictive value of tests for performance.

A systematic review of professional attitude measures was undertaken by Jha *et al* (2007). They concluded that future studies should take into account the need to measure more general attitudes rather than attitudes towards specific professionalism issues, and the need to track these attitudes throughout the curriculum. The work of Gauger *et al* (2005) developed an instrument to measure specific aspects of professionalism using a 7 point ordinal scale demonstrating extreme behaviours which could not overtly be classed as good or bad (this included being too early, overt breach of confidentiality and being an 'apple polisher' with faculty staff). The results showed a high reliability rating (coefficient alpha 0.85), and the authors concluded the instrument was a means to measure professional behaviours requiring repeated use to thoroughly establish validity and reliability.

Another way to obtain feedback on professional behaviours emerged from work by Frohna and Stern (2005) that analysed written feedback on student's professional behaviour. Their data identified new elements of professionalism including initiative,

composure and self improvement. They concluded that written feedback proved to be insightful and wider reaching in substance than other standardised or numerical forms of evaluation feedback.

The emphasis on numerical scale measures for professional behaviours was not necessarily seen as positive by Ginsburg *et al* (2009) who wrote that professionalism, as a subtle and complex construct, does not reduce easily to numerical scales. Instead of concentrating on creating the 'perfect' evaluation instrument, educators should perhaps begin to explore alternative approaches, including those which do not rely on numerical scales.

The work of McLachlan *et al* (2009) accepts that measuring professionalism is problematic because of difficulties defining this concept. They developed a measurement tool using a range of objective measures such as attendance and submission of work. The validity of this index was then tested against staff views of individual student professional behaviours and critical incidence reports. The index is reported to be objective and easy to collect information, making it a simple and uncontroversial method to explore the professional behaviour of students.

The importance of reflection as a mechanism for learning and understanding professional behaviours has been increasingly investigated and written about in medical education literature (Howe *et al*, 2009).

Elliott *et al* (2009) reported the introduction of a 2 year course in medical professionalism using the conceptual framework of constructivism, principles of adult learning, experiential learning and reflective practice. Assessment of learners was completed using self, peer, and mentor evaluations and a student portfolio. Programme evaluation was done by course and faculty evaluation. They concluded the course had been a success, and helpful for reflection.

How feedback can most effectively be given to students is an ongoing source of discussion in medical education. Bing-You and Trowbridge (2009) summarised that currently learners might not be provided with effective feedback on their practice because of unsuitable measures such as quantitative Likert models or measures and insufficient faculty development to deliver feedback effectively. They suggest that this lack of good feedback has a detrimental impact upon reflection which could lead to inflated self appraisal and contribute to incompetence. They conclude their paper by stating;

> *"Effective feedback may require a mutual and trusting bio directional negotiation process with give and take. Medical educators should take a renewed look at feedback, and a rigorous discourse is needed on further study of this crucial educational and social interaction". (p. 1331)*

The "hidden curriculum"

The "hidden curriculum" is described by Tekian (2009) as a set of influences on the organisational structure and culture of the medical school, and the informal curriculum is an unscripted form of teaching and learning. The "hidden curriculum" constitutes the identity of an institutional culture, where role modelling and emphasis

on the preservation of traditional value systems are of immense importance on students and are often unchecked.

Different ways the "hidden curriculum" can impact upon students based on previous research were investigated by D'Eon *et al* (2007). They found discrepancies between the agenda to develop professionalism in students and the poor role modelling, unresolved ethical dilemmas, debilitating academic stress, and emotional and physical harassment of students. These findings were supported by a qualitative study undertaken by Stephenson *et al* (2006) about the teaching of professional attitudes within UK medical schools. They concluded that the "hidden curriculum" – particularly negative role modelling on clinical placements - undermines the teaching of the formal curriculum.

Studies such as Suchman *et al* (2004) demonstrate that students emulate the behaviours they see senior clinicians display which can be unprofessional. They reported introducing an initiative with the aim of promoting mindfulness on the part of all faculty students and staff about the values they exhibited and taught in everyday interactions. Although the study does not have data robust enough to draw solid conclusions due to a small scale study in one medical school, it does indicate that addressing issues relating to the informal or "hidden curriculum" can instigate positive changes to professional behaviours.

The work of Goldberg (2008) referenced research where students witnessed various levels of unprofessional behaviour and were ill equipped to recognise or challenge it. Shrank *et al* (2004) reaffirmed this point after observing that the culture in academic medicine and behaviours of some faculty members did not demonstrate professional ideals. They conclude that the medical education community should engage in dialogue about how to best adjust the formal as well as the informal curriculum, and to be aware of the connectedness of both.

Values taught as part of the formal patient centred curriculum, and the behaviour of role model supervisors were investigated by White *et al* (2009). A conflict emerged between students feeling powerless about issues such as expectations of their behaviour and pessimism about change. The authors concluded role modelling had a significant influence on consequences relating to students patient centred values.

Research by Baerstein *et al* (2009) found students identified role modelling as important for learning professionalism - these included classroom faculty and peers, in addition to physicians in clinical settings. Students believed their professionalism derived from values, upbringing, and experiences. Similarly Ginsburg *et al* (2005) investigated the perceptions of professional lapses in pre clerkship medical students and found that during the course their ethical standards and behaviours were eroded by their experiences of unprofessional behaviour and its consequences.

A study by Park *et al* (2010) explored the challenges of learning professionalism. Role modelling emerged as the key theme with participants identifying observation, reflection and reinforcement as crucial in their learning from role models and how they distinguished between the blurred boundary of positive and negative role models. They conclude that explicit and intentional demonstrations of professional behaviour through role modelling should include structured, reflective self examination and timely, meaningful forms of evaluation and feedback.

The work of Cordingley *et al* (2007) reports that as students progress through medical school their moral reasoning and ethical sensitivity decline. Discussion in the paper highlights that students tend to view clinical experience as more useful than ethical knowledge, highlighting that what is learned in the classroom has the potential to be undermined by what happens on placement. This is further reflected by the low number of students who actually report ethically challenging situations as opposed to the larger number who experience them.

A key paper published on the impact of the 'hidden curriculum' was written by Hafferty (1998) who suggested confronting this issue in four areas: institutional policies, evaluation activities, resource-allocation decisions, and institutional "slang." His conclusion is that reforming the curriculum will not sufficiently address the problem, and that reconstructing the learning environment would be necessary.

Hilton (2004) wrote that professionalism was acquired through attainment and attribution, emphasising that professionalism can be taught, but more importantly it must be learned, and this should be developed through 'stage appropriate' exercises including self directed learning, mentoring, portfolios and the use of problem based learning. This holistic overview of integrating professionalism into the curriculum is also highlighted by Gordon (2006) who writes that faculty development is key to behavioural change with regard to professional behaviour for medical educators.

This integrated approach is now being referenced in GMC advisory guidance such as *'Medical Students: professional behaviours and fitness to practise'* (2009) and is emerging as a key challenge for medical schools internationally. This is not easily addressed, as issues relating to the hidden curriculum are complex and difficult to address.

When Karnieli-Miller *et al* (2010) looked at student's critical incidents narratives to investigate hidden and informal curricula, they found the majority of student experiences involved witnessing positive embodiment of professional values rather than breaches, but that witnessing negative behaviours helped them reflect on how not to do things. Both examples helped shape student's perceptions of the profession and its values.

Identifying and addressing these type of instances and teaching students to reason and navigate these principles and implications is necessary to develop a balanced

professional stance. This will require a change in curriculum, but also potentially a culture shift towards increased accountability amongst practitioners. The behaviour of tutors and clinicians and the impact this has upon students and their professional development is crucially important and the responsibility of role modelling needs to be further investigated in relation to the assessment and evaluation of behaviours.

Peer Assisted Learning PAL/assessment/review/appraisal/nomination

Student learning from peers has been increasingly developed and explored in undergraduate and postgraduate programmes and as part of small group and problem based learning (Hill *et al*, 1998). In medical education the GMC is currently placing increased emphasis on the role of medical students as teachers (*Tomorrows' Doctors*, 2009).

PAL was investigated by Field *et al* (2007) to determine if it could enhance clinical examination skills training. The authors suggest PAL can improve student's performance outcomes. This study is relevant as it emphasises the way students are becoming more involved with their learning experience than has been traditional in previous formal lecture based programmes. Students are expected to learn with and from their peers.

The use of peer assessment has been developed across different educational disciplines, particularly over the past decade. Topping (1998) wrote:

> *"Peer assessment of writing and peer assessment using marks, grades, and tests have shown positive formative effects on student achievement and attitudes. These effects are as good or better than the effects of teacher assessment". (p. 249)*

Work for the Higher Education Academy by Sluijsmans (2002) summarised that peer assessment activities influence student learning in a positive way as participants become better assessors and increase their learning performance and feel more involved in the instruction and assessment process. This 'ownership' over the peer assessment process highlights the importance of getting student support for the process as a positive experience.

Research into the peer assessment of professional behaviours by medical students has increased rapidly over the past decade. Particularly in the USA, detailed research such as work on a peer assessment instrument by Lockyer and Violato (2004) has been undertaken to determine which peer assessment system characteristics are most effective and what students feel about peer assessing professional behaviours. Research by Ferguson and Kreiter (2007) reported on the validity of peer evaluation; they found that students felt comfortable evaluating their peers, and found the feedback to be moderately useful. They also reported that faculty staff appreciated the feedback as the results were often similar to their own evaluations and provided additional details and observations.

The attitudes of students to the peer assessment of professional behaviours were reported to be positive based upon a study in 2 UK medical schools (Garner *et al*,

2010). Data gathered during four focus groups indicated that format, feedback mechanism, timing, anonymity, personal relationships, use of and training for peer assessment were all important issues to students. The paper concludes that peer assessment could offer valuable feedback on professional behaviours as part of a formative learning process.

Recent work by Nofziger *et al* (2010) found that peer assessment can predict future academic performance and provide medical students with reliable feedback about professionalism, yet it is unclear whether peer assessment fosters personal growth or transformations in attitudes or behaviours. The majority of their cohort group found peer assessment helpful, reassuring or confirming something they knew and they reported important transformations in awareness, attitudes, or behaviours because of peer assessment. They concluded that students should receive training to provide specific, constructive feedback, and institutional culture should emphasise safety around feedback.

A study by Schonrock-Adema *et al* (2007) randomly assigned voluntary undergraduate medical students to groups with and without formative peer assessment. Professional behaviour was rated by tutors, and showed that assessment scores from tutors had increased in the second semester, especially the personal performance of students who had assessed peers. However, the results implied that peer assessment was more effective after students have settled into the learning environment. These findings are interesting as they report on the timing of peer assessment as being of key importance, citing that students are still 'finding

their feet' early in the course, so are better prepared to assess their peers at a later stage in the course.

Lurie *et al* (2006) consider how bias in peer selection methods could impact upon results. Their results showed that in all classes' students in the lowest quartile of received scores were significantly more likely to simultaneously assign lower scores to their peers. Lurie *et al* concluded that students who are rated the lowest by their peers in interpersonal attributes are themselves significantly more negative in their own judgements of their classmates.

Another issue key to developing peer assessment is how it will be fed back and used for reflective learning. Hughes *et al* (2008) wrote about the eMed Teamwork computer based system used at the University of New South Wales which gathered anonymous free text feedback from peers in project groups. Feedback submitted to the system was available to both the recipient for formative learning and the author for a portfolio summative assessment. This dual approach ensures the feedback is thoughtful and constructive and the system operates without significant moderation by staff and provides learning on how to give constructive feedback, and also how to respond and reflect on constructive feedback.

The use of feedback was also examined by Sargeant *et al* (2008) who found that physicians agreeing with their feedback responded positively. However, those disagreeing with their feedback generally responded with distress which could be

strong and long lasting. Some eventually accepted their feedback and used it for change following a long period of reflection – others did not and instead questioned the multi source feedback procedure. This small scale study has implications for undergraduate medical students with regard to accepting and reflecting upon multi source feedback. The earlier this practice is undertaken then the easier it will be for students and physicians to accept it as part of their learning.

Research by Van Mook *et al* (2007) investigated how students perceived assessment in tutorial groups by examining the frequency and impact of critical incidents that impede assessment and factors underlying these incidents. The authors acknowledge the role of tutors is implicit in these factors by concluding training programmes should motivate tutors by providing background information on the importance of sound assessment, providing appropriate feedback and to confront and discuss all aspects of professional behaviours.

As has been documented previously with regard to the "hidden curriculum", the attitude and actions of tutors and staff are of crucial importance when instilling good professional behaviours in undergraduate medical students. The tutor is key in this regard. Particularly in small group learning or PBL this has an important impact upon students, both in a role modelling capacity and with regard to the delivery of sessions. Turan *et al* (2009) developed an instrument to determine the views of students and tutors on the tutor role. They found that tutors required the skills and attitudes to support the learning process, metacognitive knowledge, assessing and giving feedback.

Characteristics of peer assessment or feedback were explored by Shue *et al* (2005) who conducted a survey of students to ask what would prevent or encourage their participation in such an exercise. The majority of respondents agreed there should be peer assessment of professionalism as long as this reflected their preferences on how it was delivered with regard to anonymity, reporting unprofessional behaviour to a counsellor and having the classmate receive corrective instruction. The views of students were further explored in a paper by Arnold *et al* (2005) discussing what factors would encourage or discourage student participation in the peer assessment of professional behaviours. The themes identified in the discussion included the following issues:

- Personal struggles with peer assessment (such as how reporting negative behaviours would reflect upon them personally and their relationships with other students).
- The characteristics of a peer assessment system (such as who gives and receives the information, if it will be used formally or informally, what behaviours it will cover and whether it would be anonymous).
- Environmental factors (including the school's stance on peer reports, relationships amongst students, faculty and administrators and the educational programme).

A lack of qualitative research in medical education on peer assessment in a PBL curriculum was noted by Papinczak *et al* (2007), so their research used qualitative

methods to identify six main themes: increased responsibility for others, improved learning, lack of relevancy, challenges, discomfort and effects on the PBL process. The authors conclude by accepting their findings are consistent with similar quantitative research on this topic.

A similar system to peer evaluation was detailed by McCormack *et al* (2007) in their paper on peer nomination. Peer nomination is a peer evaluation method requiring students to nominate a limited number of classmates who best fit various situations (such as which classmate they would like to work with in a medical emergency and the classmate who has the best listening skills with patients). Participation was voluntary. The study identified three factors – clinical competence, caring and community service. The study found two major characteristics were consistently identified in factor analysis – the first being medical knowledge/technical skill and the second interpersonal skills/patient relationships. Similar results were obtained across three medical schools involved in the study, illustrating that although numbers were small, the peer nomination survey was both acceptable and generalisable.

PBL and Learning theory

One focus of this research is to provide recommendations for incorporating peer feedback on professional behaviours into the Liverpool PBL curriculum. It is therefore important to understand the educational learning model underpinning this system. In Liverpool the undergraduate medical curriculum was radically changed from a traditional lecture based course to an integrated PBL curriculum in 1996 (cf page 22).

Defining a PBL curriculum has produced divergent opinions, as emphasised in a paper by Maudsley (1999) (1) entitled 'Do we all mean the same thing by "problem based learning"? A review of the concepts and a formulation of the ground rules'. Yet there is evidence that graduates of PBL curricula demonstrate equivalent or superior professional competencies compared with graduates of more traditional curricula (Neville, 2009).

As outlined previously in this chapter, peer feedback on professional behaviours has met with some scepticism from medical students who are often uncomfortable giving constructive feedback to fellow students (cf page 65). Yet the model of PBL should foster this kind of evaluation as part of their personal and professional development.

Changing interpretations and definitions of PBL are explored in a paper by Taylor and Miflin (2008). They write about returning to the original focus of PBL – student centred, self directed, lifelong learning and research into clinical reasoning. They acknowledge the role of the tutor in effectively delivering this model with appropriate number of students in relevant settings is vital to the success of the educational principles underlying PBL.

A study by Maudsley *et al* (2008) at the University of Liverpool explored how undergraduate medical students conceptualized PBL, good tutoring and less effective learning sessions. Respondents described 'good tutors' as knowing when and how to intervene in session without dominating. These papers highlight the importance of the 'good' tutor role in PBL.

The most effective methods of teaching academic knowledge have been debated in medical education, with Eraut (1995) advising against the focus upon artificially isolated academic components of knowledge at the cost of knowledge from direct application in practice. He outlined that professional knowledge should include propositional knowledge, process, personal knowledge and moral principles. This application compliments technical approaches with meaningful social interaction (as highlighted in social construction theory, cf page 116).

This professional knowledge approach outlined by Eraut links to the model of experiential learning, which has become an increasingly used term in medical education. Maudsley and Strivens (2000) elaborate that the term relies heavily on Kolb's experiential learning theory which emphasises the process of knowledge created through experience.

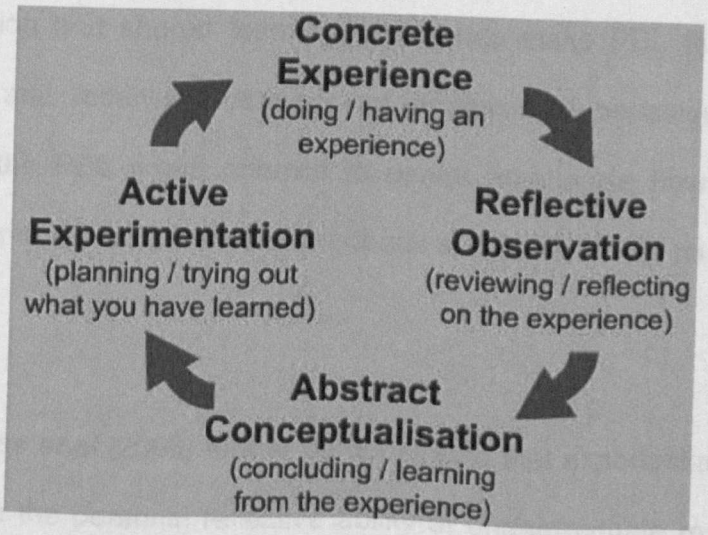


Figure 6 – Diagram of Kolb's learning Cycle

The theory places responsibility for learning on the individual, encouraging reflection and addressing conflicting viewpoints. This model clearly shows that reflection is key for experiential learning. Learners are actively involved in constructing their experience and contributing to their own learning. This is at the core of how PBL works. Maudsley and Strivens (2000) outline this process as follows:

> *"In the PBL process, students study a framework of case scenarios (problems) in tutor-facilitated small groups. The balance between designing PBL case material to trigger knowledge acquisition and/or to focus on 'solving' a clinical problem varies with curricula philosophy and stage of students, for whom clinical judgement and management must progressively build on earlier propositional knowledge acquisition. For such knowledge acquisition, PBL students activate and elaborate on their prior knowledge, identity learning objectives, research these between sessions, then synthesize and evaluate new and prior knowledge, intermittently reflecting on group and individual learning processes". (p. 541)*

The use of experiential learning theory and delivery of PBL in Liverpool should lend themselves to the practice of peer feedback on professional behaviours. Elements of personal reflection and shared learning experience make PBL the ideal place to practice giving and receiving feedback on professional behaviours. The 'power differentials' in the PBL group referred to earlier emphasise how students are a 'democratic community' so this kind of feedback should be a core part of the learning experience.

The work of Aukes *et al* (2008) further demonstrated that experiential learning has a positive effect on the personal reflective ability of undergraduate medical students. Their paper found that experiential learning helps develop personal reflection, a requirement for current medical students and for continuous lifelong learning skills.

The research of educational psychologist Perry conducted with college students in the 1950's and 60's offers an interesting model of intellectual and cognitive development relevant to the PBL process. He found that college students go through stages of epistemological growth where they move from viewing truth as absolute right or wrong to recognising different and legitimate versions of what constitutes 'truth'. These stages can be grouped into three broad categories of dualism modified, relativism discovered and commitments to relativism developed. The model outlines how curriculum and teaching should be designed to invite, encourage, challenge and support students in their development (Perry, 1981). This agenda resonates with that of PBL and experiential learning, encouraging the student to develop through reasoning and experience.

There are other models where the learning of specific professional behaviours is linked to participation in a community based setting The work of Lave and Wenger (2008) on situated learning – how professionals learn to apply technical knowledge in differing contexts and situations – suggests students within the learning environment need to participate in a practice to understand and re enact it. They write that:

> *"Learners inevitably participate in communities of practitioners and that the mastery of knowledge and skills requires newcomers to move toward full participation in the sociocultural practices of a community..... A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a sociocultural practice. This social process includes, indeed it subsumes, the learning of knowledgeable skills". (p.29)*

The theory of situated learning places further emphasis on the role of the individual in relation to sharing and passing on experience by which newcomers can become part of a community of practice. This sharing of knowledge fits into the theory of PBL and how participation in this process can have benefits to future practice.

Again, the theoretical underpinning of social constructionism (cf page 116) supports the experience of situated learning, how the individual student learns and feeds back on a peer's professional behaviours. Having outlined the main theory of learning within the context of PBL, the next chapter of this thesis will outline how research data will be analysed.

## Conclusions

The definition of professionalism continues to evolve as research into this area develops. This literature review has demonstrated the range of issues relating to professionalism as a concept and the problems of reliably measuring it in medical students. The range of influences on the developing professional behaviours of medical students include how it is incorporated into the curriculum, the impact of tutors and other role models on students, how professional behaviours can be measured and assessed, and how students feel about evaluating each others' professional behaviours. In particular issues relating to anonymity, whether data will be used summatively or formatively and how it can be fed back to support reflective learning are consistent in different international studies relating to the assessment of professional behaviours.

There is varying and contradictory evidence in current medical education literature about how valid peer appraisal is, and how it can be incorporated into an undergraduate medical curriculum. The use of peer feedback complements the evaluation of PBL where students are encouraged to comment on aspects of their learning and contributions from other group members. However, many models for the peer appraisal of professional behaviours using Likert scale measures are not necessarily suitable for PBL or other small group learning contexts as they limit the opportunity for individual constructive feedback.

At the University of Liverpool, one of the aims of the undergraduate medical curriculum is to produce doctors who are capable of giving and receiving constructive criticism and feedback on their behaviours and practice, as is being currently highlighted by the GMC. Therefore, integrating new ways to measure and feedback on professional behaviours is of key importance. The PBL curriculum at the University of Liverpool currently includes elements of tutor and self evaluation as outlined in the introduction chapter of this thesis and identified as gaps in this literature review (cf page 80). Consequently, peer feedback can be added to the existing PBL model with students at Liverpool, and the mechanisms for doing this will be transferable to other medical schools in the UK.

## CHAPTER 3 – ISSUES RESULTING FROM THE LITERATURE REVIEW

The purpose of the previous chapter was to identify and outline current research relating to professional behaviours, teaching medical professionalism, the "hidden curriculum", assessing medical professionalism, peer assisted learning and problem based learning theory. This chapter will describe how the literature review information has been interpreted in relation to this research, what gaps exist in the current literature and how this study addresses those gaps.

### Interpreting and evaluating the literature

According to Klein and Myers (1999) the foundation for interpretive research is that knowledge is gained through social constructions such as language, consciousness and shared meanings. In addition to the emphasis on socially constructed nature of reality, interpretive research acknowledges the close relationship between the researcher and what is under investigation, and the constraints inherent in this process. They outline that in terms of method, interpretive theory does not predefine dependent or independent variables or test hypotheses, but instead seeks to understand the social context of the phenomenon, the process whereby the phenomenon influences and is influenced by the social context.

This outline of interpretive theory has informed the analysis of the current literature, with particular reference to the context of the research, its relevance and influence to the research questions of this thesis. As detailed in chapter 5 on theory (cf page 110), the relationship between social constructs and theory is explored with regard to professional behaviour and PBL. Information presented in the literature review does demonstrate the link between how students learn about professional behaviour

through the behaviour they see demonstrated by tutors in both the formal curriculum and clinical practice via role modelling (cf page 60). Students see good and poor professional behaviour and this is acknowledged in the work of Karnieli-Miller *et al* (2010) and Park *et al* (2010).

Research methods

The majority of studies identified in the literature review do not present a thorough theoretical grounding to assist in the interpretation of their reported results. Papers which do mention theoretical challenges such as Holtman (2008) still loosely present a qualitative study with no deeper insight into constructs, definitions or conceptual models. Several papers reported validity of findings which were statistically significant, such as reports of assessment rater scales and scores such as Lurie *et al* (2006), Stern *et al* (2005) and Schonrock-Adema *et al* (2007). Yet most studies were based on small scale observation. This is consistent with the writing of Bligh and Parsell (1999) who described how medical education research was often small scale with little dedicated resource in terms of time and financial allocation. Cook *et al* (2007) similarly suggest that medical education research lacks rigour and the quality of reporting in 185 studies they identified was poor.

Research demonstrating comparable qualitative approaches to those used in this study include Hughes *et al* (2008) who used an anonymous comment based system to collect peer feedback in project groups. Similarly Frohna and Stern (2005) conducted content analysis on student feedback on professional behaviour and concluded this was more insightful and far reaching in substance than comparable numerical evaluation data.

With regard to tutor views, Maudsley (2003) conducted telephone interviews with PBL tutors on their "comfort zones" with regard to knowledge themes in the curriculum. This qualitative work was rigorous and offered detailed conclusions about tutor roles and responsibilities. This linked to previous work by Maudsley (1999) (2) on the role and respobibility of the PBL tutor.

Gaps in the current literature

Work on definitions of professional behaviour and its place in the curriculum is ongoing. How professional behaviour fits in with the undergraduate medical curriculum has been written about extensively (cf page 53). Similarly, there is an increasing amount of literature on the "hidden curriculum" and the impact of negative role modelling on students and how this undermines the formal curriculum and challenges the ethical and moral underpinnings of clinical practice (cf page 60).

However, the position of tutors and their role and responsibility in portraying positive and negative professional behaviour have not been studied in great detail. A paper by Todres *et al* (2007) reports the development of a form for students to assess faculty professionalism and they conclude that this is feasible and reasonably reliable. Yet no research has emerged from the literature review about tutor views and experience of assessing or evaluating professional behaviour whether of themselves or their students. How tutors are supported and trained to deliver or facilitate feedback amongst their students does not appear to have been investigated.

Research exploring the views of tutors and students on peer feedback and professional behaviours simultaneously was rare. One study by Turan *et al* (2009) was identified which developed an instrument to determine the views of tutors and students on the tutor role. This was the only paper to involve both tutors and students in examining the tutor's role in PBL. The views of students on peer assessment and professional behaviours and different methods of doing this are well documented (cf page 65). Yet any evaluation of tutors and students is largely missing.

Research that links the original principles of PBL, the current debate on professional behaviour and the role of tutor in this situation has not been identified during searches and wider reading for the literature review. The integration of peer feedback or assessment on professional behaviour of undergraduate medical students into the PBL curriculum therefore appears to be a gap in current medical education literature.

As is further outlined in the theory chapter (cf page 110), this thesis has been informed by the principles of action research theory. The role of the tutor as practitioner and researcher is an element of this approach, and features as part of the thesis possible implications for practice, policy and future research (cf page 338). This expansion of the tutors role from a theoretical perspective has not emerged as part of the literature review and wider reading for the theory chapter, and as such does appear to be a gap in the literature.

The research has been specifically related to the current guidance from the GMC relating to the undergraduate medical curriculum, particularly *Tomorrow's Doctors* (2009). A brief search using the Web of Knowledge database (21/09/11) using the search criteria GMC* (topic) and guidance* (topic) identified 59 results. A further screening search of these titles found 3 relevant papers, but these were dated 1999, 2002 and 2003 and did not refer to current guidelines. This search indicates a lack of published academic work on the interpretation and application of GMC guidance by medical schools.

Conclusions

The definition of professionalism continues to evolve as research into this area develops. This literature review has demonstrated the range of issues relating to professionalism as a concept and the problems of reliably measuring it in medical students. The range of influences on the developing professional behaviours of medical students include how it is incorporated into the curriculum, the impact of tutors and other role models on students, how professional behaviours can be measured and assessed, and how students feel about evaluating each others' professional behaviours. In particular issues relating to anonymity, whether data will be used summatively or formatively and how it can be fed back to support reflective learning are consistent in different international studies relating to the assessment of professional behaviours.

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undergraduate medical curriculum. The use of peer feedback complements the evaluation of PBL where students are encouraged to comment on aspects of their learning and contributions from other group members. However, many models for the peer appraisal of professional behaviours using Likert scale measures are not necessarily suitable for PBL or other small group learning contexts as they limit the opportunity for individual constructive feedback.

At the University of Liverpool, one of the aims of the undergraduate medical curriculum is to produce doctors who are capable of giving and receiving constructive criticism and feedback on their behaviours and practice (University of Liverpool, 2010) as is being currently highlighted by the GMC. Therefore, integrating new ways to measure and feedback on professional behaviours is of key importance. The PBL curriculum at the University of Liverpool currently includes elements of tutor and self evaluation as outlined in the introduction chapter of this thesis and identified as gaps in this literature review (cf page 80). Consequently, peer feedback can be added to the existing PBL model with students at Liverpool, and the mechanisms for doing this will be transferable to other medical schools in the UK.

# CHAPTER 4 - METHODS

Following on from the issues relating to the literature review, this chapter outlines the three main research methods utilised in this research thesis: triangulated PBL peer feedback data, evaluation surveys and interviews. The data collection methods chosen are justified so the processes are transparent and clearly linked to the research topic. Decisions made during the planning of the project, and the reflection involved in the development of this thesis is also explained.

## Medical education and sociology

Traditionally, medical education research has used methods more usually associated with scientific empirical investigation to allow for the production of scientifically valid knowledge (Polgar and Thomas, 2000). However, emphasis on evidence based data involving controlled experiments or comparison groups can reduce research questions to technical efficiency and discourage wider research on social, ethical or philosophical topics (Schifferdecker and Reed, 2009).

Therefore, this has promoted the use of qualitative approaches in medical education to better understand issues such as professional behaviours. These individual behaviours are not easily captured in Likert scales or numerically themed measures, as acknowledged by Gill *et al* (2009). They note that a traditional scientific paradigm emphasises quantitative methods while social science research, and thus education research, offers a different world view and methodologies which welcome contributions from other disciplines to expand theoretical perspectives.

Medical education research has been criticised for being small scale, local, funded informally or internally which aims to find solutions to confined problems (Bligh and Parsell, 1999). This situation has continued to provoke discussion with Todres *et al* (2007) suggesting that the medical education community needs to think creatively about producing a critical mass of educational researchers to create cross centre, inter institutional and multidisciplinary studies which are more generalisable than the results of current research which are characterised by observational design and a lack of funding.

Recent debate (Gruppen, 2008) asked if medical education research meets the rigor and precision of 'hard' research or the reported 'sloppy' methods of the 'soft' sciences. He concludes that because of a range of ethical and practical issues medical education research has developed new and innovative study designs that have benefitted understanding of the subject.

This research is situated within the remit of medical education as it seeks to better understand how students and tutors can be supported to give and receive feedback on professional behaviours within a PBL curriculum. Yet elements of sociology and particularly medical sociology are also relevant because of the focus on individual behaviour in the context of PBL and small group learning. Therefore sociological theory, behaviourism, and constructionist perspectives can offer valuable insight for structuring this research.

Sociology and medicine have a 'curious' history, as observed by Flick, writing in 1910 (republished 2010) that medical practitioners might struggle with the processes involved in sociological analysis:

> *"Physicians are not too busy as a rule to be able to study out the significance of sociologic details that come to them. Moreover, they are unfamiliar with the methods of sociology, and would find it too difficult to apply the principles of the sister science to the data they have". (p.829)*

Today, sociological writing in relation to medical education continues to challenge professionalism not as a stable construct that can be isolated, taught, and assessed but as something which is socially constructed through ongoing interaction (Martimianakis *et al*, 2009). This perspective encompasses the wider contexts of the economic and political goals of professional organisations and health care institutions, as well as the individual behaviours and traits of doctors as professionals themselves, their patients, families, other health care professionals and society as a whole.

Morrison *et al* (2009) responded to Martmianakis *et al* by stating that the challenge of 'teasing out' professionalism is not determined by sociology, but by regulatory bodies such as the GMC who promote what is required of individual members and the standards expected of them. This assertion demonstrates the differing viewpoints held in both disciplines about the application of sociology to medical education.

Research focus

Following on from the hypothesis outlined previously (cf page 15), the key focus of this research is to produce a case study following current GMC guidance. The results of the research will be of relevance to all UK medical schools wishing to adapt or enhance the current levels of peer feedback on professional behaviour featured in their curricula. The thesis will examine how peer feedback on professional behaviours can be incorporated into the PBL curriculum at Liverpool by:

1. Adding anonymous peer feedback to the existing PBL evaluation process by triangulating PBL evaluation data (2008/9) and adding a comment based feedback system to the PBL process (2009/10).

2. Sending an anonymous online survey asking what students and tutors thought about the peer feedback in PBL exercises.

3. Holding one to one interviews with PBL tutors asking their views on peer feedback in PBL, and how GMC guidance can be best be integrated into the curriculum

Information from the literature review has presented an overview of current research on peer assessment and professional behaviours. It has demonstrated the lack of research on the attitudes and experiences of tutors to peer feedback on professional behaviours. This research acknowledges the gap in current literature and contributes original research on this topic, as outlined in the research questions (cf page 16).

## Mixed methods

When planning the pilot study for this research, it was decided at an early stage to use a 'mixed methods' approach to gather relevant data. According to Fulcher and Scott (2007) qualitative data is seen as involving participant observation, focus groups, and the reading of documents in order to interpret the subjective meanings and perspectives of individuals and groups while quantitative methods use structured questions, content analysis and official statistics to analyse with numerical and statistical techniques. Using both methods broadens the scope of data collected, and the publishing possibilities of the research, allowing for transferability across relevant disciplines, primarily medical education and medical sociology, but also educational and learning theory. The data will be triangulated to check the accuracy of information obtained by each method to identify correlations and themes (McNeill *et al*, 2005).

The use of mixed methods is believed to have originated in 1959 when a validity study of psychological traits by Campbell and Fiske prompted others to mix fieldwork approaches such as observation and interviews with surveys and statistics (Cresswell, 2003). There is a danger that using a range of methods can create confusion and additional unnecessary work, as it can demonstrate that a topic hasn't been narrowed down sufficiently (Silverman, 2006). However, a mixed methods approach can benefit the research topic and analysis. Spicer (2007) writes about the benefits of combining methods and how this can improve the generalisability of data, and how qualitative research is much more inductive, producing unexpected patterns and connections not conceived of during the planning of the research project.

That quantitative research can be a method of exploring rather than testing hypothesis is rarely mentioned in mixed methods literature. This type of information is valuable as it can yield probability and margin of error, but also raise additional questions in terms of what the data suggests is happening and why. Sometimes statistics can pose more questions than they answer. Therefore, qualitative methods can add another dimension to the same topic, producing a more detailed and insightful set of results. This combination also addresses the criticism that qualitative research can be too narrow or based on the interpretation of the researcher, as quantitative statistics provide solid evidence for research.

Qualitative data can also allow for flexibility with regard to emerging themes and issues rather than simply reporting objective outcomes. Thus while it has been argued that qualitative research can be biased by the interpretation of the researcher, equally persuasive is the suggestion that the format of closed questions in quantitative studies limits the results to the specifications or interpretation of the researcher who formulates the questions. Schutt (2006) suggests that combining methods can enhance research design as qualitative data can provide information about standardised and quantitative survey measures, as well as offering insight into the meanings of fixed responses. The use of mixed methods in the pilot research worked well (cf chapter 6), so this approach has also been utilised for the main study.

The use of mixed methods in medical education research is the exception rather than the norm, leading to the recent publication of guidelines outlining when to use mixed methods and how to design a mixed methods study (Schifferdecker and

Reed, 2009). They suggest considering the prominence of each data type and what resources and expertise will be required for analysis and comparison of data. They conclude that a mixed methods approach can enhance the integrity and application of the findings of new questions or initiatives common in medical education research.

Curtis (2007) wrote that numbers and words do very different things for researchers and require a strategic choice. Numbers have the capacity to condense data, while words have the capacity to detail and extend them. So in practice the two mechanisms of communication are interlinked. Therefore, the use of both methods can result in a more balanced and expansive research study.

In addition to formal methods of data collection, a field diary of notes for personal reflection and reflexivity has been kept throughout the duration of the research project. This was particularly helpful when the focus of the research altered after the pilot study and has allowed clarification of work priorities and the identification of gaps in research knowledge.

Triangulated PBL evaluation forms

The inclusion of triangulated PBL evaluation data in this research has strengthened the overall results and provided evidence of variance between peer, tutor and self scoring. This data was used to prompt discussion in interviews.

Fink (2003) writes that a reliable survey tool gets consistent results while a valid tool gets accurate results. The PBL evaluation form is an established reliable and valid mechanism for collecting data on student performance over the duration of PBL at

the University of Liverpool. The data currently collected during the PBL evaluation is paper based and scanned in automatically by the medical school's central administration team. This data is then entered onto EXCEL spreadsheets and fed back to the relevant PBL tutor who will share it with students at a one on one meeting towards the end of each PBL round. The information from this evaluation is used formatively for reflection, and to highlight any low scores and address these. PBL evaluation is not used for summative grades or scoring.

In order to ensure that confidentiality protocol was observed, the PBL evaluation form data on EXCEL containing each student identifying number and other information such as date of birth and gender was removed and replaced with a new ID number. This was to ensure no student could be identified. This cleaned data was then transported into an SPSS (Statistical Package for the Social Sciences) file with the data coded into peer, tutor and self PBL evaluations.

The current PBL evaluation form was introduced as part of the 1996 reform from a traditional medical curriculum to a reformed medical curriculum based upon GMC recommendations (University of Liverpool, 1999). The format of the PBL evaluation form used by tutors and for self evaluation consists of the following criteria:

Participation

Communication

Preparation

Critical thinking

Group skills

Evaluation skills

Breadth of application

Overall performance

Each evaluation criteria is marked on a five point scale presented as a set of descriptive sentences rather than numeric options i.e. for evaluation skills the options are:

- Defensive. Rejects criticism
- Reluctance to reflect on group process and individual performance or to respond to constructive criticism
- Prepared to reflect on group process and individual performance after prompting
- Willingness to reflect upon own performance and respond to constructive criticism
- Demonstrates reflective practice throughout

The exception to this structure is overall performance, which gives the options of poor, not yet competent, competent, above average and excellent.

In May-June 2008 the PBL evaluation form was used with all 281 second year medical undergraduate students evaluating two peers in their PBL group. This was carried out simultaneously with the usual self and tutor evaluations to create a triangulated set of data allowing the comparison of tutor, self and peer scores. This exercise was evaluated, with students and staff asked their views on the experience

using an anonymous online survey. This part of the research provided comparable quantitative data.

The use and reliability of self assessment has been documented as part of the literature review, and shows students tend to score their own practice or behaviours harshly. By introducing peer review into this PBL evaluation system it will be possible to triangulate data. This practice is defined by Mertens (2005) as checking information collected from different methods or sources for consistency of evidence across data sources.

The triangulation of PBL evaluation data enabled the comparison of the three sets of information to identify any variance between assessors, and whether different criteria score more highly or lowly across assessor groups. As during the pilot study, non parametric tests were used as the expected distribution of the answers will not justify the use of parametric tests. Variance, reliability and the mode, mean and median of data will be obtained as part of this analysis (Balnaves and Caputi, 2001).

Qualitative data collection

The second method used to collect data was a comment based system with students in May 2010. Second year students were given guidance on the purpose of the exercise in relation to GMC literature and providing appropriate, constructive feedback using the University's virtual web pages on the VITAL system. They were emailed the names of two PBL colleagues randomly selected using an EXCEL spreadsheet, and asked to anonymously provide feedback on their professional behaviour and performance in PBL. Guidance suggested the feedback should be

between approximately 50-250 words and would be emailed back to the lead researcher. They were given a week to complete this exercise with one reminder email being sent to them.

Results of this feedback appraisal were entered onto an EXCEL spreadsheet so they could be emailed back to participants using Word Mail merge. Data from the exercise was copied from EXCEL into a word document so all identifying names or characteristics could be removed, ensuring anonymity. The data was then transported into QSR NVivo software (version 8). This system allowed for the importing, storage and analysis of qualitative data including PDF's, word text documents and audio recordings. Data was sorted into different groupings, explored and linked according to the classifications of the researcher (QSR, 2010).

The use of NVivo in the analysis of the qualitative data assisted in the structure and coding of data themes. This included producing an analytic scheme for coding at nodes, manipulating node trees and searching node attributes (Gibbs, 2005). The development and planning of this system created clear categorisation and allowed different themes to be explored and linked.

Five ways NVivo assists the analysis of qualitative data are explained by Bazeley (2007) as managing data, managing ideas, querying data, producing graphic models and reporting data using a qualitative data base. Bazeley continues by explaining the process of coding with NVivo as working through initial sources, creating free nodes to catch ideas as they happen, sorting and connecting existing and new nodes into a branching system of tree nodes that reflect the structure of the data, and finally

constructing meta or more abstract codes to reflect either overarching ideas or higher order concepts, or to identify broader, more complex themes running through the data.

As the data collected was comment based, it is classified as a qualitative element of the research. An anonymous online survey asking students what they thought about the exercise was emailed the following week to gain their experiences and views of peer feedback (this data was quantitative and inputted into SPSS for analysis, cf chapter 3).

The second element of qualitative data collection involved conducting interviews with tutors to further assist with defining terms, raising themes, clarifying key concepts and language (Tonkiss, 2007). This information shaped analysis and integrated participant feedback directly into the research process, allowing participants to voice their own issues.

The run up to holding qualitative research is important to the success of data collection, as detailed by David and Sutton (2007). Their guidance on conducting interviews (e.g. providing prompts to an interview schedule, bring explanatory materials to clarify issues, having functioning recording equipment) were useful for planning sessions with tutors. A useful set of guidance about building up a good relationship with interviewees is provided by Arksey and Knight (1999) who specify how to create and maintain ties with participants under the headings of trust and respect, background knowledge and personal appearance. Self disclosure is proposed as one way to foster trust and openness.

The questions for use in the tutor interviews were based on issues arising from the pilot study, literature review and other project work undertaken as part of the CEDP remit. Consultation with colleagues established that the questions achieved face validity and were open, easy to understand without being leading and followed a logical sequence.

The grouping of interview data was verified with supervisors and colleagues to ensure interpretation is regularly challenged and defended. By using NVivo, issues in the interviews were cross checked and linked together using tree node systems. The interview data was coded twice – once by interview question themes and secondly by the research questions to ensure all information is collated and reviewed as part of the inductive research process outlined later in this chapter.

The inductive style of NVivo analysis fits in with the research approach – through the coding process theory can be generated while data patterns and relationships emerge. This approach is known as emergent or emergence theory. According to David and Sutton (2007) this is traditionally associated with grounded theory when techniques of concept selection, formation and refinement build up from data collection. The application of this theory is discussed later in this chapter.

NVivo offers matrix coding queries which use variables to cross case analysis and assist in the checking of associations and differences in the data set. As one of the primary aims of the study is to compare the views of students and tutors, this offers a practical system to do this. As will be discussed later in this chapter, the linkages between theory building and testing will be key to this process.

Tutor data collection

Interviews were conducted with individual tutors to explore in depth their experience and opinions. Interviews can be a highly flexible and detailed epistemological way to collect information. Byrne (2007) describes how interviewees can speak in their own voices establishing a level of depth and complexity that is not available to more structured survey based approaches. Byrne continues by making the distinction between data collection and data generation – in the realist approach the social world is assumed to exist independent of language, so accounts given during interviews are assessed according to how accurately they reflect this in the 'real' social world. In the classical tradition, interviews are considered as a resource for providing facts about the social world. Therefore interviews are scrutinised for bias. This theme is revisited later in this chapter in the "limitations" section.

Different types of interview technique are commonplace in social research, ranging from informal conversations to closed category responses. For the purpose of this research the model of standardised open-ended interview is most appropriate, defined by Patton (2002) as asking the same questions in the same sequence in the same order, increasing comparability of responses.

The use of interviews with tutors facilitated a more detailed discussion of individual experiences and practice. PBL tutors at Liverpool are from both clinical and none clinical backgrounds – with some also working in related fields such as health science, ethics and other faculty departments.

It was felt focus groups would not be as effective with the tutor cohort group, as they would be difficult to organise and suit teaching commitments. It was also envisaged that one to one discussion would produce a wider set of in depth information which would be better suited to this part of the study.

Tutor views on the peer review of behaviours are lacking in the current literature, and this provided a good opportunity to collect such data. Twelve interviews were conducted, at a time and venue convenient to the interviewee. Several locations within the medical school were suitable and available, including PBL rooms and office spaces.

Ethics

Although this research topic is not controversial or contentious, it was an important part of the planning and management process to clearly define the purpose and methods of the research for ethical approval. This is accepted academic practice, ensuring the research output of the University meets rigorous standards and that people participating in studies are fully informed about what they are agreeing to.

Greenfield (2002) wrote about medical ethics committees from a clinical perspective, noting the ethics committee's responsibility to look at the data collection form and question its potential, the facilitation of data processing and statistical analysis. While this study does not involve participants in a clinical setting, these issues are useful to consider when planning a research project in relation to ethics. Further guidance is offered by De Vaus (2002) on ethical principles to consider when conducting

surveys, identifying responsibilities to respondents to ensure that informed consent is given, participation is voluntary, confidentiality is assured and no harm comes to participants.

Adding peer feedback into the existing PBL process was an evaluation mechanism with agreed criteria and feedback systems, so it was not necessary to get ethical approval for this part of the study.

However, interviews did require ethical approval from both the School of Medical Education and the University of Liverpool Ethics Committee. Completing both sets of documentation was in practice a more time intensive process than originally thought. Ethics forms are very much orientated towards clinical trials, so a social based study did not easily fit into some ethics criteria. Issues about the funding and dissemination of findings also required verification from other staff members before faculty paperwork was complete.

Ethical approval was sought and obtained in July 2008. The submission to the committee was based upon the findings from the pilot study and further explanation of the issues resulting from this work. The addition of further detail regarding focus groups and interviews for students and staff was the main amendment to the application.

Issues that emerged from the pilot data in the open question part of the online survey and focus groups were incorporated into the application. Some element of flexibility remained, so emerging issues could be incorporated in the structure of the study.

Sampling

While this research has an overarching mixed methods approach, it is important to acknowledge the cohort group have been selected for a qualitative study rather than to establish quantitative generalisability. So it is important to acknowledge the reason for sampling this group and why they were selected.

According to Ziebland and Wright (2002) theoretical sampling is defined as an approach whereby the purpose of the research guides the sampling and data collection procedure, so the data collected and analysed can impact upon the next stages of the research such as amendments to sampling or amendments to survey tools.

The theoretical sampling method outlined by Tonkiss (2007) offers a degree of flexibility with regard to the purpose of the research and methods as described previously, and also reasons that participants are selected with the aim of developing conceptual insights in relation to the topic.

Mason (1996) offers further guidance, stating that theoretical sampling selects groups or categories to study on the basis of their relevance to the research question and account under study, allowing for the development of theory and explanation.

Theoretical sampling supports the 'guiding' element of this research, enabling findings to shape and inform questions for the next stages of the study. For example, comments made in the triangulated PBL evaluation element of the research can inform questions for the semi structured interviews with the research population. This approach is consistent with the 'emergent' theory mentioned previously.

The cohort group chosen for the PBL peer feedback exercises in this research were medical students in their second year. By the second year students have completed several cycles of PBL and settled into the format of the sessions. They have also completed several self PBL evaluation forms and had feedback on the same forms from their PBL tutor. Therefore they are familiar with the process and criteria. The PBL tutors working with students were therefore seen to be a suitable parallel having undergone the same experience of students giving and receiving peer feedback within the PBL setting.

Recruitment

Recruitment was undertaken by inviting tutors and medical students to participate in these interviews and focus groups. The invitation to tutors was emailed out to a list of PBL tutors working with year 4 (cf appendix 10). The email contained background information to the research, reassurance of anonymity and that participants would be free to withdraw from the research at any time. This cohort group was originally selected because the tutors were involved with the triangulated PBL data collection in June 2007. Therefore, they would have experienced the administration of peer feedback on professional behaviours.

However, following a staffing restructure, many of the tutors previously involved in this work had since left the employment of the faculty. Therefore, it was not feasible to sample from this group of tutors only. A list of current tutors (36 in total) was obtained from the Director of PBL and they were emailed the same invitation text used previously with 4th year tutors. This was followed up by an email (using the original email text again) inviting eight communication skills tutors to be interviewed. In total 12 tutors (11 PBL tutors and 1 communication skills tutor) were interviewed for the research.

The student cohort group was originally selected because second year students have settled into the structure and function of PBL. They have completed several rounds of PBL evaluation with different tutors and have a clear understanding of what is expected of them. Students were invited to complete a PBL evaluation form about one of their peers anonymously during their final session. An anonymous online survey was then sent out via email by the MBChB administrator in the School of Medical Education, inviting their feedback on the exercise and how useful it had been for them.

Analysis

The practical detail of how data was coded and themed using NVivo and SPSS has been outlined previously. The analysis process is important to acknowledge as it demonstrates the transparency of the research process. As a mix of methods had been adopted, it seems logical to acknowledge some inference of findings will be inevitable. Hazelrigg (2004) makes this point, outlining that:

> *"A goal of data analysis is to produce information that will aid in making decisions about hypothesized states of the world. Information, both as product and as the process that results in that product, involves a number of very basic and unexceptional sorts of action, among which observation, sampling, classification, measurement, estimation, and decision making itself are simply inescapable. Inseparable from each of those, inference is therefore manifoldly integral to the production of information". (p. 65)*

Franzosi (2004) suggests that trends in sociology have oscillated over the years – from numerical based statistics in the 1960's and 1970's to the linguistic emphasis of the 1980's and 1990's. Franzosi proposes that it is neither the words nor numbers which should be the goal of the sociologist, but the social relations. This approach fits in well with the topic of peer review and professional behaviours as social relations are at the heart of their acting and interpretation. He continues:

> *"Content analysis is typically a tool of quantitative analysis of textural material. Beware of the dangers of taking the easy road to the numbers. Become familiar with the types of text you want to quantify. Turn in your head as many of these texts as you can and for as long as you can. Develop your coding scheme in an iterative process where familiarity with your texts plays as important role in your theory. As in survey research, pre-testing of both the coding scheme and the input material sampled is key to a successful research outcome". (p.562)*

The flexibility of content analysis around the issues emergent from the data corresponds with the flexible approach taken from grounded theory, symbolic interactionism, social constructionism and action research. This focus on the data itself as shaping the theory of the project is acknowledged as one of the aims of the research.

The work of Miles and Huberman (1994) looked at analysing qualitative data, including reflections on the data collected and assigning this material codes, themes,

relationship variables and patterns. They are clear that most qualitative researchers will have a good idea about codes, emerging themes and final conclusions from the outset of the research and data collection. This does resonate with the planning of this research, as questions for interviews and surveys were designed to explore certain themes and allow for cross comparison of both qualitative and quantitative data.

The framework approach outlined by Ritchie and Spencer (1994) divides qualitative research methods into four objectives: contextual (identifying the form and nature of what exists), diagnostic (examining the reason or cause for what exists), strategic (identifying new theories, policies, actions or plans) and evaluative (appraising the effectiveness of what exists). The framework approach is useful for designing and delivering research to a tight timescale as it is developed to answer specific questions with a particular cohort group. In this instance questions for interviews and focus groups were streamlined on topics such as awareness of GMC guidance, what students understand to be professional behaviours and experience of giving and receiving peer feedback.

Ritchie and Spencer (1994) offer further guidance for five analytical stages following data collection. These can be summarised as;

1. Familiarisation by repeated reading of the focus group/interview notes and transcripts
2. Identifying a thematic framework by reviewing the data and noting recurrent themes

3. Indexing, where the thematic framework is systematically applied to the data
4. Charting the data according to the thematic framework and each key subject area
5. Mapping and interpreting by using charts to find association, findings and explanations

Silverman (2007) outlines how planning the process for organising and analysing data can assist in the distillation of information, helping to examine elements of the data that link together by a narrowing focus.

The inductive approach to be taken with data analysis is consistent with the overall research objectives and theoretical and methodological approaches, supported by field notes and a research diary kept during the research process. This reflexive element of analysis offers additional information useful for exploring and better understanding the data.

Research limitations and issues

A concern with the 'opting in' sampling approach taken is that it is students and tutors who feel strongly about peer feedback on professional behaviours (positively or negatively) will be therefore most likely to respond to the study, thus introducing a note of participant bias. Junghans and Jones (2007) identify this as consent bias and take into account the impact this can have on a study when those who consent to take part differ in some way to those who do not or cannot consent to participate.

It is therefore important to appreciate that this could create a biased or skewed research population. However, in the case of the research pilot study for this project, results did produce a broad spectrum of views from across different year groups and medical schools. So while it cannot be claimed the data is strictly representative of the wider population of medical students, it uses adequate sample size for the purpose of this in depth qualitative research study.

It is accepted that some element of bias is possible in any research topic, particularly when obtaining data and reporting findings. This has to some degree been pre determined by the structuring of the research questions into themed issues (such as anonymity, feedback, summative or formative use of peer data). However, the open structure of the interview questions does negate some of this bias as the respondent can construe questions differently and give their own interpretation and opinion.

Similarly, interview bias can refer to the whole character, intonation, gestures and mannerisms of an interviewer. David and Sutton (2007) outline how it could be the way questions are asked, the gender, status or behaviour of the interviewer which can change the dynamics of the interview. They suggest having more than one interviewer present to avoid this happening. While this was not practical during the course of this research, a trial interview was done with a tutor to gain feedback on interview and style to try and minimise the chance of this happening.

The project information sheet provided participants with additional details about the background to the research, how the information will be used and assuring the anonymity of participants. The open structure of interview questions allowed for

individual participant contributions, while also defining particular issues and themes to answer the research hypothesis. This is in contrast to the grounded theory approach described by Strauss and Corbin (1998) which iterates that the researcher should not begin the research with pre conceived ideas in mind; rather the conclusions from the study should arise during the process.

Content analysis is seen to have limitations. McNeill *et al* (2005) suggest the coding method may not be reliable as it is the product of personal interpretation, and furthermore if a researcher looks hard enough for something, then it is possible they can manipulate data to find it. With regard to this thesis all data, theoretical and analytical decisions and outputs have been presented with transparency so the reader is able to understand how the research conclusions have been reached (chapter 9, cf page 259).

The final limitation acknowledged here is that the contribution from students has been collected using structured and survey based methods. The advantage of these methods has been anonymity, which may help ensure honest comments. However, it lacks the open, detailed and unstructured nature of qualitative data. More detailed data was originally sought from the cohort group students by inviting them to attend focus groups.

It was originally envisaged that focus groups would have a dual relationship with the tutor interviews, providing a tool for research design and a complementary method of data collection (Tonkiss, 2007). Focus groups with students were chosen to generate

discussion about individual experiences of peer feedback, how participants felt about giving and receiving feedback and what aspects of it they did and didn't like within a PBL setting. This format would allow an element of information sharing with regard to the latest GMC fitness to practice guidance for students and *Tomorrow's Doctors* (2009) would provide students with further context to peer feedback and professional behaviours. Question schedules for the proposed focus groups were adapted from the question schedules used in the tutor interviews to allow direct comparison of responses and themes.

Students currently in their 4th year in 2009/10 were invited to participate in the focus groups. This cohort group were selected because they were involved with the tri angulated PBL data collection in June 2008. This cohort group were sent an invitation to attend a focus group by email, and then directly invited to attend by the author at PBL group sessions. Two students expressed interest, but this was not deemed as a suitable sample size to justify holding the group. Therefore another focus group was scheduled for a fortnight's time (10/02/10) again at 3pm to coincide with the end of their sessions. No participants arrived for this meeting.

Another attempt was made to recruit students for focus groups to be held on Wednesday 17/03/10 and Thursday 18/03/10. Representatives for the 4th years from LMSS sent emails invitations to the year group. 4th year students at a Careers Balloon Debate held on Tuesday 16/03/10 were given a flyer about the focus groups when they signed in, and asked to participate by the author. Once again no students attended either session.

This information is included here as part of the reflexive element of the research process. It is hoped to demonstrate the effort made to recruit student participation over a three month period. However, as data from students had been previously collected as part of the triangulated PBL pilot and tutor evaluation, it was deemed this would be sufficient to represent their views on peer feedback and tutor facilitation. This will be further explored in the chapter on PBL and peer feedback (cf chapter 7).

## Conclusions

This chapter has sought to outline why particular data collection methods have been chosen, how they link to the research questions, which theoretical perspectives have been selected and their impact on data analysis, and finally the learning models used in PBL and how this relates to both data collection and theory. The limitations of these methods and theory have also been acknowledged as part of the reflexive research process, particularly with regard to the difficulty recruiting for student focus groups.

The framework outlined here has sought to link the methods of sociology to medical education research practice. This has resulted in careful consideration about the best methods to suit this research, and shape its findings. This will be especially key in the analysis, when data is used to answer the original research questions. The next chapter will focus on the results of the research pilot study.

CHAPTER 5 – THEORY

Following on from the practical methodological aspects of data collection, this chapter focuses upon the discussion and application of different theoretical frameworks selected in relation to the research. These approaches are largely drawn from sociological and educational research texts. This reflects the educational context of the research and emphasis on actionable curriculum change outcomes, and the authors' sociological background and additional reading relating to curriculum development in relation to research.

## Theoretical frameworks

The selection of the theoretical approach, its limitations and advantages are outlined to ensure the research has appropriate grounding. Goulding (2002) highlights the grounded theory work of Strauss and Corbin (1994) who suggest that a theory has a number of characteristics, beginning with a plausible statement on relationships across concepts and sets of concepts which can be traced back to the data and becomes strengthened through the research.

The following diagram outlines the methods to be explored in this chapter:

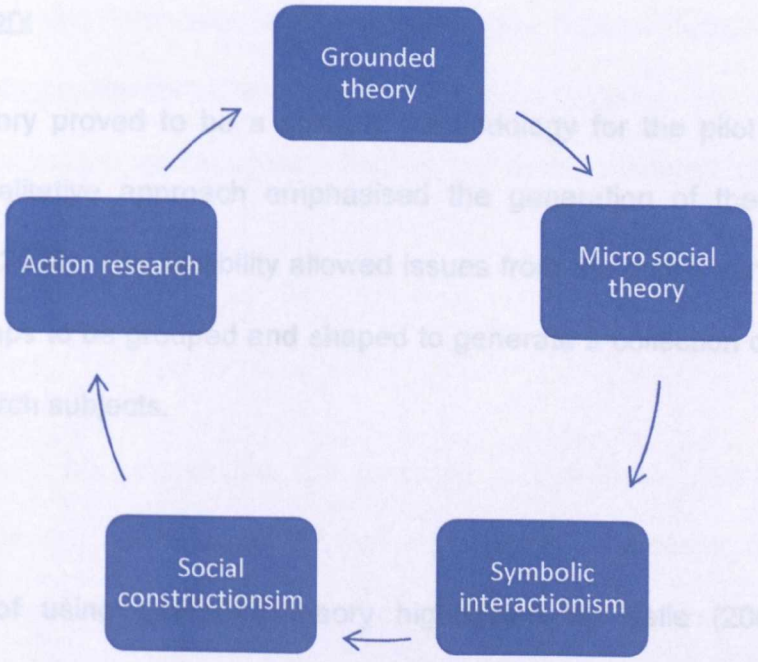


Figure 7 – Linking theoretical approaches

Five research theories have been identified and linked together for the purpose of this thesis. The grounded theory approach was utilised at the beginning of the research in the pilot study (cf page 124) to reflect the mixed methods being used. Micro social theory focuses on the individual's role (in the PBL situation), symbolic interactionism highlights the meanings placed on individual interpretation (of professional behaviours), social constructionism emphasises how individuals understand discourse (peer feedback) and the principles of action research have shaped the research as an educational intervention seeking to change the current evaluation process in PBL and include more specific elements of peer feedback on professional behaviours.

Grounded theory

Grounded theory proved to be a suitable methodology for the pilot study, as the systematic qualitative approach emphasised the generation of theory from data (Lingard *et al*, 2008). This flexibility allowed issues from the online survey comments and focus groups to be grouped and shaped to generate a collection of explanations from the research subjects.

One danger of using grounded theory highlighted by Kelle (2007) is finding categories that apply not only to single incidents, but to other pieces of data that can result in 'fine grained hermeneutic interpretation' or a loss of focus. This could be problematic in the writing up of data as the original research questions could be diluted or expanded losing the original purpose of the study and not addressing the original research questions. This illustrates the importance of restricting the research theory to limit the opportunities to get 'side tracked' by excessive analysis.

In the case of the pilot study, the grounded theory approach did produce relevant data and introduced new topics (i.e. competition between medical students and the role of the tutor in delivering peer feedback). So the flexibility of the theory has worked well in this context and not diluted the research focus.

Although the pilot study contained quantitative data, grounded theory provided an adept mechanism to categorise survey and focus group data effectively. For the

main research using interviews and PBL evaluation data, a detailed approach to methodological considerations was undertaken encompassing micro social theory, symbolic interactionism, social constructionism and action research theories.

Micro social theory

From an overarching perspective, the research in this thesis can be labelled as "micro social theory". This is explained by Layder (2006) as focusing on the personal and immediate features of everyday life, such as face to face encounters between different people. Layder further explains this is in contrast to macro analysis, which takes a wider view of features or issues in society as a whole such as organisations, institutions and culture. The macro approach is more impersonal as it doesn't provide details of everyday activities and the individual experiences of people, their emotions, concerns and sense of identity.

Micro sociology resonates with this research topic for several reasons – the focus of social interaction is key in understanding not only professional behaviours but also how they are perceived, measured and fed back. Furthermore, self identity links to this research due to elements of self evaluation in PBL and professional identity in practice.

In current medical education literature, the context of research is presented as situated in clinical or non clinical settings – a wider societal view is very much the

exception in current writing. Yet this sociological perspective can make for a more comprehensive approach, encouraging consideration of other factors in a research area such as professional behaviours.

For this study the micro theory approach applies to all the main contexts of the research (tutors and students in Liverpool medical school, the situation of PBL sessions and measuring individual professional behaviour). These relationships are interlinked and require a shared understanding by participants of their roles and what is expected of them. This shared understanding is to a large extent unspoken, yet remains carefully observed in the situational context of PBL.

Symbolic interactionism

Symbolic interactionism is sometimes linked to ethnomethodology in sociological literature, but is more useful as it offers a collective conception of social research (Harrington, 2005). It provides a contrast to the psychological reductionism of behaviourism, focusing instead on the mental capacities of individuals and their relationship to action and interaction without concern for internal psychological states or larger structural forces. Ritzer and Goodman (2003) summarise the basic principles of symbolic interaction, several of which are listed below because of their potential contribution to this research project:

1. *"In social interaction, people learn the meanings and symbols that allow them to exercise their distinctively human capacity for thought*

2. *Meanings and symbols allow people to carry on distinctively human action and interaction*

3. *People are able to modify or alter the meaning and symbols they use in action and interaction on the basis of their interpretation of the situation". (p. 213)*

These principles are relevant for several reasons. The first relates to learning meanings and symbols which is an essential part of what undergraduate medical students are doing, the thought process is also vital as from this students will reflect and interpret information individually. The second principle relates to the interaction relating to the meanings and symbols, again highlighting the individual's role in this process. The final point relates to individuals altering the meanings and symbols they use on the basis of their interpretation.

Sandstrom *et al* (2003) formulate the guiding principles of symbolic interactionism outlining how human beings are unique due to their use of symbols and they are conscious and self reflective which influences behaviour and acting within social contexts. They surmise that society is composed of symbolic interactions between individuals and as investigators we need to understand individuals' actions and we need to use methods that enable us to discern the meanings they attribute to these acts.

This approach has been used successfully before in the study of medical education by sociologists. The classic work of Becker (1961) studied student culture in medical school and produced important insights into how the professional socialisation of

medical students develops, how students learn their role from a variety of sources in addition to faculty, such as patients. Thus symbolic interaction is a viable theoretical approach, accounting for the consciousness and experiences of individuals as they think about their actions, then take on different roles and behaviours as a result of this deliberation.

With regard to the peer feedback of professional behaviours, the medical student is an individual who will interpret actions and situations in different ways to their peers and tutors. The very nature of this research is about how students understand professional behaviour, perceive and observe these behaviours in their peers and then feed back their thoughts and observations. This approach can therefore offer a structure to the research in terms of its principles and the observable and practical application of professional behaviours. Details around the interpretation and reaction to symbols could be particularly useful with regard to professionalism.

Social constructionism

Fundamental to symbolic interactionism is the view that individuals construct their own and each other's identities through everyday encounters. This theory has been developed as social constructionism.

Gabe *et al* (2004) observe that writers in medical sociology (such as Foucault) have utilised social constructionist theory to examine relationships between scientific

knowledge, medical training and clinical practice by analysing the development of medical discourse over time. They suggest that social constructionism offers a different framework than that of the medical profession, and can be used to assess scientific knowledge, medicine, medical professionals and the experience of health and illness. It is the elements of assessing knowledge and experience which is so pertinent to this research, focusing on individual experiences and perceptions which is core to the practice of peer feedback in PBL.

The utilisation of social constructionism can bring a variety of theoretical benefits to this research. The individual understanding of socially constructed phenomena (in this research on professional behaviours) and how this is rationalised and acted upon is a key issue in social constructionism. It is flexible in method – often using discourse analysis but also allows for a process of change or evaluation. This is particularly appropriate to the numerical data collected as part of the triangulated PBL evaluation.

As demonstrated, many aspects of symbolic interactionism and social constructionism fit into the exploration of professionalism as a concept and individuals interpretation of it. To support a social construction model, it is also necessary to appreciate that PBL is a learning environment constructed by students and tutors in which professional behaviours are learned and emulated.

Social constructionism has been presented as an 'action research' theory by Burr (1995) who wrote that the aim of research should not be the discovery of facts or truth, rather the goal should be the usefulness for bringing about change and identifying new ways to understand social phenomena.

This was considered appropriate to support and develop this study for several reasons. Primarily the research is looking to facilitate change in a specific part of the curriculum and identify ways to do this. By adding peer feedback into the PBL process and gauging the reaction of staff and students to this, change and understanding are key features of the study. Elements of action research can inform this process.

Informed by action research

One of the aims of this thesis is to produce relevant and achievable outcomes and recommendations. Therefore, it could be classified sociologically as action research, as defined by Scott and Marshall (2005):

> *"Action research: A type of research in which the researcher is also a change agent, often used in local communities or by consultants working in companies, as part of the change process itself. The research subjects are invited to participate at various stages of a relatively fast-moving sequence of research–action–research–action. There is an iterative process of investigating a problem, using case study methods, loosely defined; presenting the analysis, with one or more proposed solutions, to the subjects or group leaders; deciding which course of action to follow and implementing it; followed by further investigations to assess the outcomes, identifying*

*unanticipated problems and possible solutions to them; followed by further action to refine and extend the new policies or activities". (p. 3)*

This definition fits in with the process planned for this research thesis as peer feedback is developed and tested with current students, then evaluated with the views of both students and PBL tutors. As mentioned in the above definition, action research case study methods are 'loosely defined', allowing some flexibility in the collection, thus reflecting the overall grounded theory approach guiding the research process, as highlighted by McKernan (1996). Similarly, the emphasis on outcomes and new policies or activities also fits in with the curriculum change in PBL evaluation this study aims to inform.

A definition of action research provided by Elliott (1991) emphasises that practical judgement feeds into situations resulting not in scientific truth but in generating useful, valid hypotheses which help people to act more intelligently and skilfully. This point regarding practical research is also described by McNiff (1998):

*"Traditional research is all about scientific results which may be quantified, duplication of tests, replication of experiments, and prediction of how the data will fall out. Action research is all about people explaining to themselves why they behave as they do, and enabling them to share this knowledge with others". (p. 124)*

The link between theory and practice in higher education is identified by Zuber-Skerritt (1992) who outline that in higher education academics consider themselves

to be educational researchers/theorists or practicing teachers. They write that there is an emerging paradigm recognising the dialectical relationship between theory and practice, and action research can be the foundation of educational research while research may inform practice and lead to action.

These explanations of action research demonstrate how grounded theory links to educational research. The flexible methodological approach of action research and the different data collection methods used in this study fit together well. The focus of action research on producing outcomes or curriculum changes is also clear.

The work of Carr and Kemmis (1997) outlines the essential aims of action research:

> *"There are two essential aims of all action research: to improve and to involve. Action research aims at improvement in three areas: firstly, the improvement of a practice; secondly, the improvement of the understanding of the practice by its practitioners; and thirdly, the improvement of the situation in which the situation takes place". (p. 165)*

While this research certainly aims to improve and involve, there are limitations on this premise. Literature on action research as presented previously does emphasise the role of the researcher as a practitioner, bringing about educational change through research intervention in their own area. McNiff (1998) portrays the action researcher as primarily a teacher or educator bringing about change and evaluation through their own practice. Zuber-Skerritt (1992) suggests that academics consider

themselves as either education researchers/theorists or as teachers, but an emerging paradigm in social sciences recognises the dialectical relationship between theory and teaching delivery. Zuber-Skerritt concludes that teachers are more likely to make changes to their practice if they are actively involved in identifying, addressing and solving problems in the curriculum and in student learning rather than having this research done for them.

Yet, the role of the author in this research is primarily that – a researcher. Although trained as a PBL tutor and working within medical education, it is important to acknowledge that the researcher's role is adjacent to evaluation in PBL. The students and tutors are independent of the research process – they are not fully engaged in the process of how the research is planned and delivered. The students are not deciding how peer feedback should work in PBL, and tutors involved with the interviews are not committed to changing their practice purely by virtue of taking part in the research. Therefore, the study cannot claim to be 'pure' action research. Rather, aspects of the approach such as practical focus on changing practice and piloting new methods of PBL evaluation within a grounded theory framework have been used to inform the study and gain insight into peer feedback with medical students.

Carr and Kemmis (1997) term this as 'arrested action research', specifying that evaluation exercises employing an instrumental aims-achievement model where the action research cycle does not develop fully into a participatory process. Yet elements of reflection required in action research can be achieved through interviews

and evaluation questions as these still require the respondent to be engaged and involved.

Overall theory limitations

From a theoretical standpoint it must also be acknowledged that symbolic interactionism attracted criticism as more radical perspectives on interaction have emerged (Fulcher and Scott, 2007). The collection of theories represented by symbolic interactionism have been criticised for lacking the scientific precision and methodological rigour of more positivistic approaches.

Similarly, social construction and action research are subject to the interpretation of the author. Norton (2009) writes that arguments have been made questioning the rigour of action research on the grounds that is it qualitative in nature, it is susceptible to researcher bias, it involves small scale studies and results should not be generalizable beyond their individual contexts. These points are addressed by Dick (1993) who suggests procedures to employ in order to achieve rigour in research include using multiple sources for data collection, continually testing assumptions and being willing to challenge your own ideas. These criticisms can be addressed to some extent by the ongoing triangulation of the data collection and analysis by the research supervisors to ensure the interpretation of the author was regularly challenged and reviewed. The concerns outlined above are consistently targeted at qualitative research as being context specific and limited.

This research is interpretive given that there are no formal propositions, quantifiable measures of variables or inferences drawn from a representative population sample. Nor were any dependent or independent variables assigned, as Rowlands (2005) describes. The research approach is instead intent on understanding phenomena through the meaning that participants assigned to them – participants then explain their decision making and response to the researcher's interpretation of the process. The research design is based on the deliberate decision to compare and contrast differences in interpretation by participants in their narratives and comments.

The research has facilitated curriculum change to be piloted and in depth data collected from tutors enabling them to reflect on their own practice and their role in the delivery of effective PBL evaluation. This information would be difficult to elicit from a statistical study. Students have also participated in a meaningful way, with their responses being sought anonymously so they can be honest in their comments.

## Conclusions

The theory used in this research thesis has been selected to support the interpretive methods used to collect data and provide grounding in established curriculum orientated research. The theory also offers the opportunity to apply sociological and educational perspectives to medical education research in an original way. The theory will be revisited as part of the conclusions chapters, particularly with regard to tutors and action research (cf page 341). The next chapter outlines the pilot study and refers to the original grounded theory used in this research.

Following on from the theory chapter, the next stage of this thesis outlines the pilot study. This was undertaken to test the validity of the research questions and methods of data collection. For the purpose of the pilot study, peer feedback was referred to as peer assessment. As stated in the Introduction chapter, the term peer feedback has been used in other chapters of this thesis (cf page 20).

As outlined in the introduction of this thesis (cf, chapter 1), recent guidance in the UK has placed increased emphasis on medical schools to provide a supervised environment where undergraduate medical students can learn professional behaviours so they are fit to practice upon graduation (GMC, 2009). The emphasis on professional behaviours in the early years of the undergraduate curriculum has lead to discussion across different medical schools about the best way to incorporate these issues into an already full programme with competing pressures.

## Recruitment and the Northern PPD

The Northern Medical Schools Consortium consists of medical schools in the North of England with diverse curricula working to share and to develop consensus on educational purpose and learning outcomes (Murdoch-Eaton *et al* 2004). One sub group of the consortia was established as the Northern Personal Professional Development (PPD) Group (2010) in 2005 to share best practice, assessment methods, research initiatives and curriculum feedback with other neighbouring medical schools. Relevant guidance from the GMC and MSC is also discussed with

reference to implications and implementation. The member schools are Lancaster, Leeds, Liverpool, Durham, Newcastle upon Tyne, Hull York, Manchester and Sheffield. The group meets approximately twice a year and exchange information and relevant articles through an online JISC (Joint Information Systems Committee) group. JISC is an independent advisory body that works with further and higher education by providing strategic guidance, advice and opportunities to use ICT to support learning, teaching, research and administration. The JISC service facilitates email discussion, collaboration and communication within the UK academic community and beyond, and hosts the Northern PPD group.

During 2006 the member schools had discussed different approaches to peer assessment. One school had piloted a model of peer assessment developed from the work of Arnold *et al* (2007) and other schools planned to pilot similar versions. It was agreed the author, working on behalf of the University of Liverpool, would lead on the research by circulating anonymous online surveys to students at six of the member schools to explore what students thought about peer assessment and the types of professional behaviour they would feel comfortable assessing. These schools consented to participate in the research, while the three other schools were invited but could not participate due to other research and curriculum commitments.

The first survey was sent out during the first semester of the 2007/8 academic year during October – November 2007. A follow up survey was sent to the same research population during the second semester of the same academic year in May 2008. This was to compare any changes in views or response variance to repeat questions

and see if any additional issues had been raised in comments since the first survey had been circulated.

There were some differences between the medical schools participating in the pilot research – some have a PBL curriculum, others are based in clinical and lecture settings. Two schools (Lancaster and Hull York) were recently established, so Lancaster had only two cohort groups.

Other schools wanted to focus the survey distribution on targeted year groups they would be piloting peer review with, so some variation in year group responses were expected in the survey results. The PPD group, in discussion with the author, agreed the pilot study would address the following research questions:

1. Do students think peer assessment will help them to reflect on their professional behaviours?
2. Are there differences in how comfortable students feel assessing different types of professional behaviours?
3. What issues do students have with regard to the operation of a peer assessment framework in their medical school's curriculum?
4. Do these views change during the period of the academic year?

Ethics

Ethical approval for the study was received via the devolved authority of the School of Medical Education Research Ethics Committee. The application was straightforward as completion of the survey was voluntary and anonymous. The only issue fed back from the University Committee before approval was regarding informed consent:

The point about not being able to get informed consent with an online questionnaire is not correct. The questionnaire should include at the end, and before the 'submit' button, a statement along the lines of 'By submitting this questionnaire I agree that my responses can be used for the purposes of research only and with no personal details disclosed' (02/10/07)

Therefore, the additional line was added to the online survey to ensure full consent was obtained:

"By submitting this questionnaire I agree that my responses can be used for the purpose of research only. I understand no personal details will be disclosed"

Details of Ethical Approval from the University of Liverpool were forwarded to other participating medical schools for information. Three of the schools accepted this as

ethical approval for the project and notified their own Ethics Committees of the project.

One school submitted a separate application to their own University Committee by transferring the information from the University of Liverpool form to their own Ethics Committee documentation. No other issues were reported with regard to ethical approval and the pilot study.

Methodology and data collection

A grounded theory approach was chosen for this stage of the research as it allows themes to emerge directly from the data (Lingard *et al*, 2008). Although grounded theory is traditionally associated with qualitative research, in this study it also offers flexibility and support for a mixed methods approach where issues emerge as part of the data collection (Merriam, 2009). Data from the surveys and focus group was collected, inputted and analysed by the author using SPSS and Nvivo (cf chapter 4).

Both online surveys were produced by the author in consultation with the PPD group and hosted on the University of Liverpool server, with the University logo on each web page (seven pages in total). This was distributed by the author using email to the online JISC group, with each of the participating schools taking responsibility for the dissemination of the survey link within their faculty. The background information provided introducing the survey included details about professional behaviour and

peer assessment, a definition of professional behaviour by Arnold and Stern (2006), the emphasis of the GMC on professional behaviours and reasons for peer assessment of professional behaviours. This information was as concise as possible, so students were not put off responding by a lot of text on the first page of the survey. The definition of professionalism used was agreed by the PPD group as appropriate for the project. The demographic information decided upon for completion of the survey was the medical school the respondents were attending, their age and gender.

There was some debate amongst the PPD group about how this information could potentially identify some students as intake numbers were small, and some students could be identified by their gender and age group. It was agreed any such data would not be published to avoid identifying participants.

Respondents were asked to mark how much they agreed on various statements using a five point Likert scale of measurement ranging from Strongly agree to Strongly disagree (McNeill and Chapman, 2005). The range of statements in this section related generally to peer assessment and professionalism. Likert scales of measurement were used so data could be transported onto SPSS for non parametric test analysis. The order and phrasing of these statements began with personal experience relating to receiving feedback previously, and went on to explore how comfortable students felt about giving and receiving feedback. This data can be analysed by school, age and gender to identify any differences or trends.

Respondents were then asked if they would feel guilty reporting negative comments / behaviours of a peer or friend. This question attempted to elicit any difference in how respondents would score friends or peers, as literature has suggested students worry about how this could impact upon their relationships with each other (Arnold *et al*, 2007).

Questions continued by focusing on whether peer assessment could help in learning/reflecting (Schonrock-Adema *et al,* 2007). The final four statements asked if there should be more peer assessment, if students were better placed to assess than tutors, if professional behaviours should be assessed at the beginning of the course, and if peer assessment was a good way to assess professional behaviours.

The final section of the survey was divided into three sections relating to professional behaviours – managing self, group/team work and communication. These criteria were based upon the model developed by Butler (2007) and had been validated in a pilot study at the University of Sheffield. Respondents were asked how comfortable they would feel assessing a peer on each of these criteria.

The purpose of this section was to identify any elements of professionalism which students felt uncomfortable assessing. Research by Arnold *et al* (2005) and Shue *et al* (2005) has shown that students are less comfortable commenting on some elements of their peer's professional behaviour than others, and some issues such as attendance or appearance are unsuitable for peer comment.

The open comment box at the end of the surveys was included to encourage additional comments or observations on the peer assessment of professional behaviours. Previous experience of including open questions in surveys suggest that this can result in unrelated issues and elements of 'moaning' or complaints about general unrelated issues. However, it was considered important to give the opportunity for students to present any issues they had relating to the subject topic. At the initial pilot stage of the research this is a valuable opportunity to ensure the project is flexible and reactive, and can accommodate emergent themes (Strauss and Corbin, 1994). The survey closed with a message thanking respondents for taking the time to complete the questions.

A focus group was facilitated by the author with students at Hull York Medical School (HYMNS) on 30/04/08 to discuss in further detail some of the issues raised as part of the online survey. This qualitative aspect of the pilot study tested the validity of a mixed methods approach to answer the research questions (Schutt, 2006). The focus groups followed the structure and process outlined by Cote-Arsenault and Morrison-Beady (1999) who place emphasis on the importance of outlining the session plan and confidentiality to participants, as highlighted previously in the methods chapter (cf page 84).

First online survey demographic data

In total 500 responses were received. The total population of the six medical schools was 4,693 resulting in an overall response rate of 11%. Of these respondents, 63%

were female and 37% male. These results are consistent with the current intake of medical school students by gender, according to data provided to the author by HEFCE from July 2009 which shows 56% of all pre clinical medical students in England are female and 44% are male. The majority of respondents (66%) were aged between 18-20, with only 10% aged 25 or over.

There was some variation between the year groups at different medical schools due to targeted distribution as Lancaster were limited to 2 year groups and Liverpool distributed the survey to first and third years. In total the majority of respondents were first years (39%), followed by second years (21%), third years (19%), fourth years (14%) and fifth years (7%).

The demographic breakdown of students by medical school (Figure 8) and medical school and year group (Figure 9) are presented as follows:

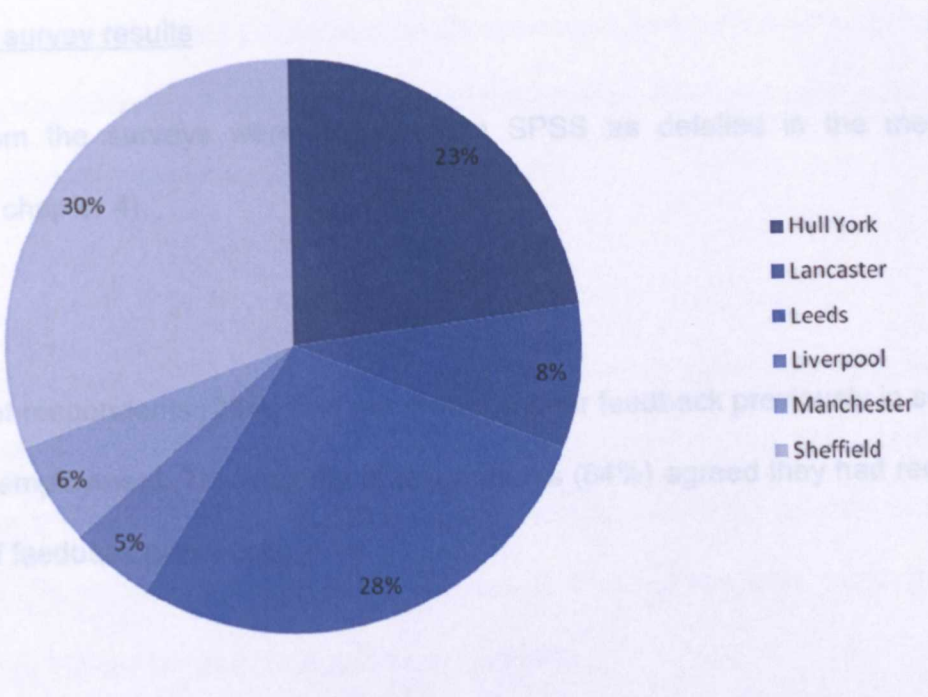


Figure 8 – Pie chart showing first online survey response by medical school

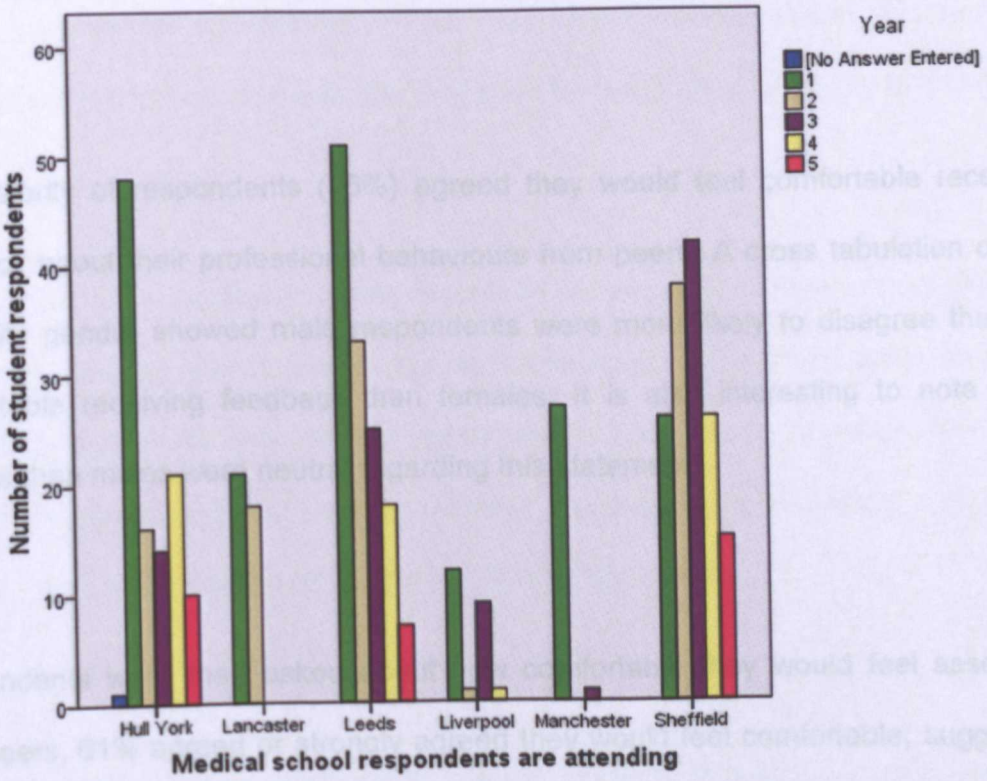


Figure 9 – Graph showing first online survey response by medical school and year group

First online survey results

Results from the surveys were analysed on SPSS as detailed in the methods chapter (cf chapter 4).

A quarter of respondents (26%) had not received peer feedback previously in school, college or employment. The majority of respondents (64%) agreed they had received this kind of feedback previously.

More respondents agreed they would feel guilty about reporting negative professional behaviours of a friend (66%) than a peer that they did not consider a friend (48%).

The majority of respondents (76%) agreed they would feel comfortable receiving feedback about their professional behaviours from peers. A cross tabulation of this data with gender showed male respondents were more likely to disagree they felt comfortable receiving feedback than females. It is also interesting to note more females than males were neutral regarding this statement.

Respondents were then asked about how comfortable they would feel assessing their peers. 61% agreed or strongly agreed they would feel comfortable, suggesting that respondents are more comfortable receiving feedback than they are giving it.

The majority of respondents (78%) agreed that peer assessment could help them to reflect on their professional behaviours. Respondents from Sheffield were most likely to disagree and strongly disagree with this statement.

Half of respondents (50%) agreed peer assessment was a good way of assessing professional behaviours. A third (32%) were neutral regarding this statement. This high proportion of neutral responses is of particular interest, as this indicates respondents have no clear opinion on the issue. The respondents most likely to disagree with this statement are again from Sheffield.

The majority of respondents (61%) agreed or strongly agreed it was important to assess professional behaviours at the start of the course. When this result is analysed by year group, it shows that first and fifth years are more likely to disagree.

The majority of respondents (41%) disagreed or strongly disagreed that students were better placed than tutors to assess professional behaviours, while almost a third (29%) agreed or were neutral regarding this statement. The issue of whether students or tutors are better placed to assess professional behaviours is considered in more detail as part of the discussion section of this chapter.

Just under half of respondents (45%) agreed students should be more involved in assessing each other, while a third (33%) were neutral regarding this statement.

When analysed by year groups, some variation emerges, especially with third years disagreeing and strongly disagreeing with this statement.

Respondents were asked how comfortable they would feel assessing different aspects of professionalism in their peers. Respondents felt most uncomfortable assessing aspects of managing self (attendance, dress) while most felt comfortable assessing team work and communication.

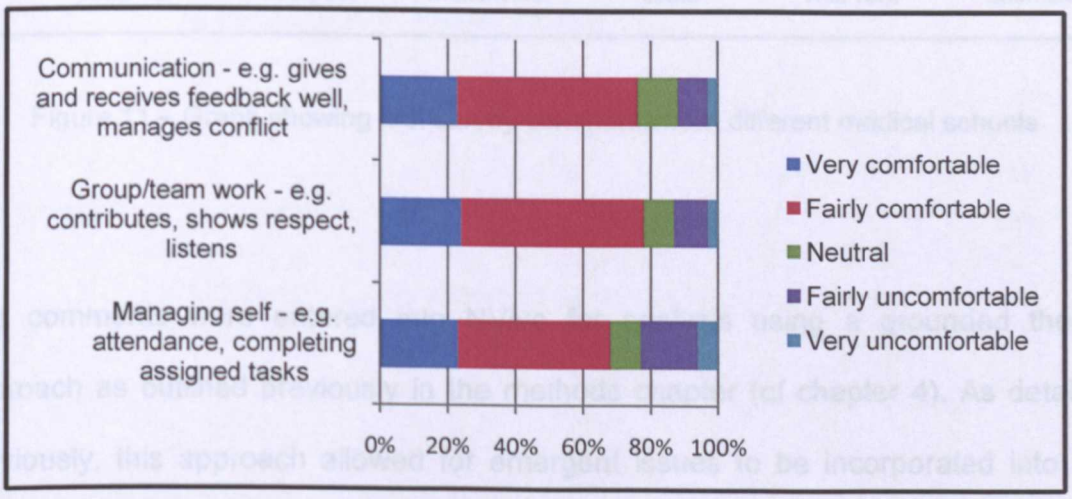


Figure 10 – Graph showing how comfortable students feel about assessing behaviours

At the end of the questionnaire a space was provided for respondents to write in any comments regarding the survey and peer assessment. In total 75 comments were received. The majority of these were from respondents in their third year (31%). Comments were from respondents at the following schools;

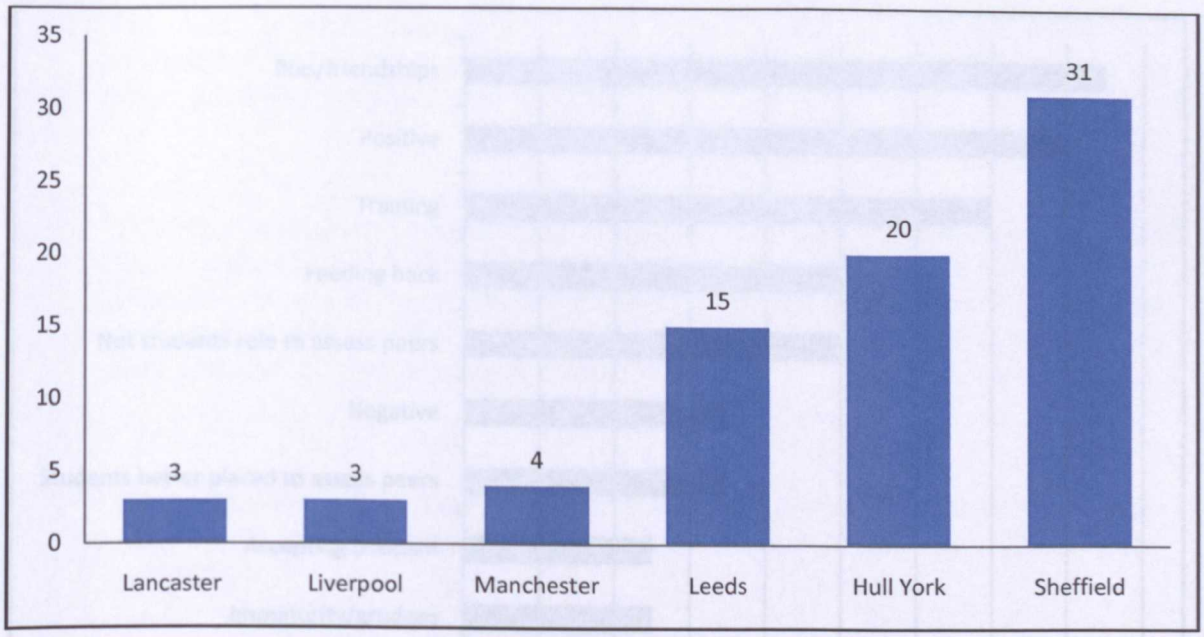


Figure 11 – Graph showing first survey comments from different medical schools

The comments were entered into NVivo for analysis using a grounded theory approach as outlined previously in the methods chapter (cf chapter 4). As detailed previously, this approach allowed for emergent issues to be incorporated into the research analysis. The following categories were used to code the comment data:

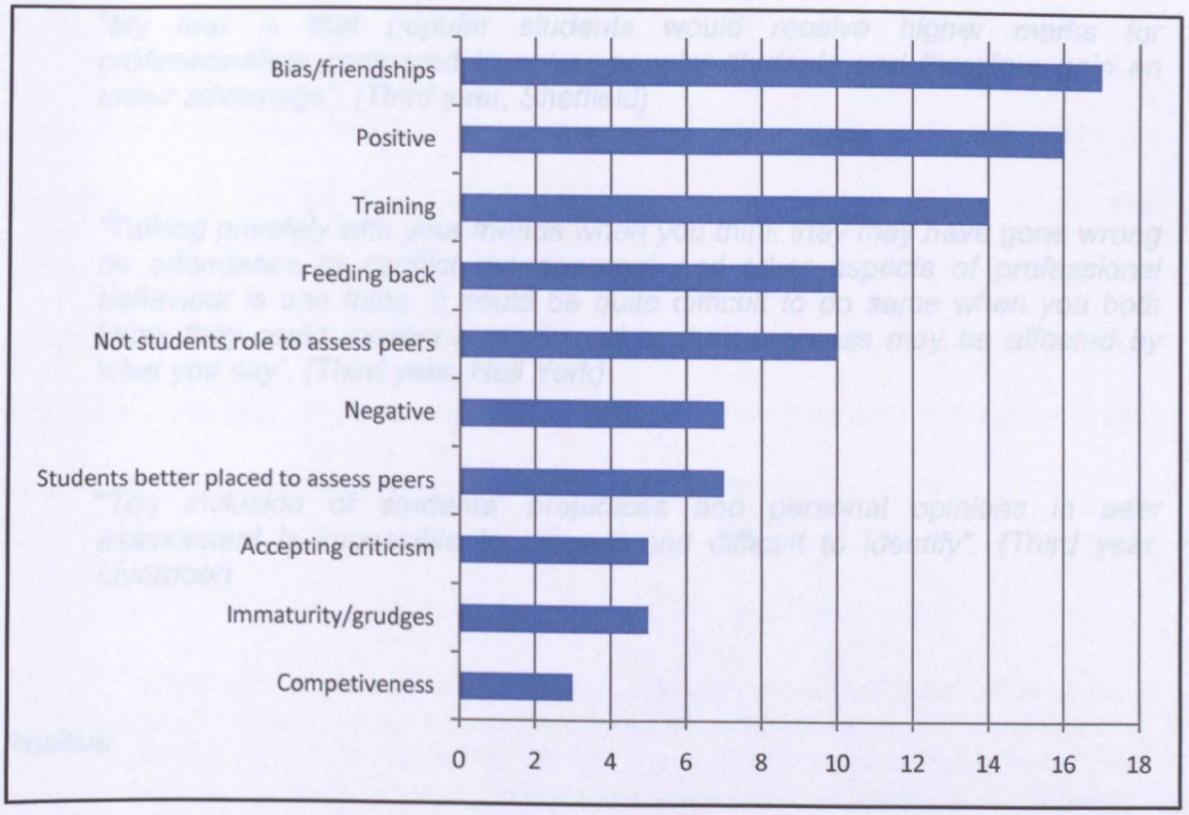


Figure 12 – Graph showing first survey comment coding

*Bias and friendships*

The majority of comments were related to potential bias and the impact of friendships on peer assessment. One key theme was peer assessment being used to rank popularity of students rather than their professional behaviours. Respondents also expressed concern that, particularly if the peer assessment was graded, this could produce an unfair system of feedback. There was also nervousness that peer assessment would not be objective, as people would not be prepared to give negative feedback about their friend's behaviours. Respondents felt this could be an unconscious act, and so would be difficult to monitor or challenge.

*"My fear is that popular students would receive higher marks for professionalism compared to not-so-popular students and therefore gain an unfair advantage". (Third year, Sheffield)*

*"Talking privately with your friends when you think they may have gone wrong on attendance or conflict management and other aspects of professional behaviour is one thing. It could be quite difficult to do same when you both know they could receive a reprimand or their progress may be affected by what you say". (Third year, Hull York)*

*"The inclusion of students' prejudices and personal opinions in peer assessment is impossible to prevent and difficult to identify". (Third year, Liverpool)*

*Positive*

A lot of comments were positive about peer assessment. These ranged from general approval to the idea of peer assessment, to more detailed feedback from respondents who had experienced and learned from using such mechanisms.

*"I personally would not mind being peer assessed because I feel there are always things about someone's personality and the way they work that tutors are not always exposed to, but fellow students are. I feel that I would be able to better myself if I got constructive criticism about aspects mentioned above, such as managing self, group/teamwork and communication skills". (Fourth year, Hull York)*

*"As long as comments are constructive and communicated tactfully, I find peer assessment is really helpful!! I have assessed others, and been assessed by, other members of my PBL group and my clinical partner in communication-skills seminars, and the feedback I received made me realise some strengths and weaknesses I wasn't actually aware of!!". (First year, Manchester)*

*Training*

Comments regarding training were not always as clear cut as other categories, as they sometimes referred to a lack of experience or knowledge, which implied that training would be necessary to give effective peer assessment. There was also difference between the types of behaviour respondents would feel comfortable assessing, as they were unsure exactly what a professional behaviour would constitute, so felt unprepared to assess it in other students.

> *"Think that at the moment it is difficult to assess how professional someone is as we don't really know how professional we ought to be at this stage (year 2), especially when it comes to things like communication skills and clinical knowledge. Surely these are things that we are still developing at this stage". (Second year, Lancaster)*

*Feeding back*

The issue of feedback prompted a range of questions about how peer assessment data would be used and shared. A key consideration was whether the data would be used summatively (as part of a formal grading) or formatively (as a learning tool). Respondents felt this had important implications as to how comfortable students would feel assessing their peers, and how honest they would be. Anonymity was also a key concern, as this would impact upon what comments people were prepared to make.

> *"By linking assessment of attitudes and behaviours to marks it makes it difficult to give honest feedback to a peer - you need the marks too!*

*Anonymous peer review might be helpful, but groups providing feedback would have to be of at least 6 people to keep the feedback anonymised!". (Fourth year, Leeds)*

*"I would feel comfortable giving feedback if we were all given appropriate training on feedback methods and everybody was a aware of peer feedback and understood its use as a tool for learning and developing professionally and not a way of getting at people in a negative way". (Third year, Sheffield)*

*Not student's role to assess their peers*

A number of students commented that they did not believe it was the student's role to assess their peer's professionalism, and that this would require the expertise of their tutors. Respondents also felt the feedback would be taken more seriously from a tutor and would not be influenced by other factors or loyalty which would impact on peer assessment.

*"Professionalism should be marked by clinicians and HCP/academic staff. peer review is hardly ever reliable as people are so worried about offending people. The same statements get banded about which don't have a huge amount of meaning. criticisms are much more likely to be accepted if given from a member of staff". (Fourth year, Leeds)*

*"I feel it is job of the professionals who are teaching us to assess our professionalism as they are the ones qualified to do so, not the students. If there is a problem with this then the teachers and courses need to sort it out and get to know the students better, not palm it off onto the students under the "management speak" of peer assessment". (Fourth year, Sheffield)*

*Negative comments*

The reasons for negative comments covered a range of subjects, from the validity and reliability of the assessment to uncertainty about how it could be moderated and misused. There was also a range of concerns about how assessments could affect relationships between students.

> *"I predict it will create unrest and a negative atmosphere in the medical school and amongst friends. Often, I have spoken to colleagues and wondered 'how on earth did you get into medical school?!' almost all of these have now left/failed the course. The five years works as a natural filter and those that are considered unprofessional tend to be poorly motivated and this impacts upon their exam performance and ultimately their stay in medical school. I believe the majority of students will not comply with this concept and making it compulsory will cause conflict with faculty/GMC". (Third year, Liverpool)*

> *"I think it is unreasonable to expect students to report on each other - I understand the high importance of professionalism and believe it should be continually highlighted, but do not in any way agree that breaking down the loyalty and potentially friendships between students is an acceptable way to do this. I strongly believe that attempts to do this would be a complete joke, either not taken seriously, and therefore useless, or not used for the reason intended. Although there should be an outlet for students to voice any concerns anonymously, enforcing this is not a positive move". (Third year, Sheffield)*

*Students better placed to assess professionalism*

In direct contrast to the earlier comments suggesting it is not the students' place to assess their peers; several comments expressed the view that students were much better placed to assess professionalism. This group felt that tutors saw a limited amount of behaviour, whereas students were in a position to better observe each other's behaviours regularly.

*"It's a good idea - unprofessional students often 'slip through the net' because they spend only a short amount of time with a wide variety of tutors, each encounter too brief to fully expose students' lack of professionalism - whereas peers spend longer with one another and see a different side of people". (Fourth year, Hull York)*

*"I found it very helpful to have the other members of my group give me feedback, as well as the tutor. They would often spot things that the tutor had not, and they were honest. This would help me improve my presentation technique for the future". (Second year, Sheffield)*

*Immaturity/grudges*

Respondents had a range of concerns relating to the use of criticism and how this could be a negative and difficult experience for medical students to cope with.

*"I feel it could be difficult for peer assessment if one student was very unprofessional but did not recognise this in themselves, and perhaps in their unprofessionalism did not complete peer assessment fairly. In previous experience of peer assessment I have seen poor assessment given by one student to another in an attempt of spite". (Second year, Hull York)*

*"I would be concerned about the potential for the less popular members of the student community, who may be excellent student doctors, receiving negative feedback for more complex reasons than simply professionalism". (Fourth year, Sheffield)*

*Accepting criticism*

Accepting comments made during peer assessment, particularly negative or critical ones, was another issue concerning several respondents.

*"I remember in my first few weeks at medical school I commented that one of the students could perhaps contribute more to discussions. The reaction I got wasn't exactly "accepting" of this constructive criticism!" (Third year, Hull York)*

*"Any criticism of friends, especially at the beginning of the course where friendships may not be that numerous or secure, can well be damaging, and harmful to one's emotional development. I personally would feel uncomfortable if asked to pick faults which aren't obvious for tutors to see.... Yes, for those who are having a brilliant time at med school, peer assessment may be valuable, but for those who are finding it difficult, negative peer assessment will only make their difficulties and insecurities worse, as it does essentially feel like backstabbing by those whom you trust". (First year, Hull York)*

*Competitiveness*

While competition was only raised as an issue by several respondents, the comments were clear in their concern about the nature of medical school and how peer assessment would be somewhat in contrast to this.

*"Peer assessment seems like a good idea but I am slightly worried that it won't suit every one; it may add yet another competitive element to life at medical school". (Fifth year, Hull York)*

*"I think the problem here would always be that among medical students there is traditionally a very competitive nature between certain students. As this is the case, a student may give more negative feedback to boost the opportunity to be higher up the ranks in the year... I think that as we have had a competitive drive driven into us from all the staff that peer feedback would just add to the already often intense environment of medical school". (Second year, Sheffield)*

*"I do not think that it is appropriate that medical students (who are in direct competition with each other and other medical students in the country) should be in a position to negatively influence the progression of another student's*

*education. I think that it is a power that is open to be abused by students and misused by medical schools". (Third year, Sheffield)*

*Additional comments*

Two comments referred to 'big brother' and an 'orwellian nightmare' in relation to peer assessment. There were also links to previous comments about the use and feedback of peer assessment, but these focused on how the medical school would use the peer assessment information, if at all.

*"Great if it's listened to and acted upon by the medical school, useless if nothing changes because of it". (Fourth year, Hull York)*

*"I know a few people who have reported things to the school about professionalism of their peers, but I think that most of the time this falls on deaf ears". (Fourth year, Hull York)*

There were also comments about the best timing for peer assessing professionalism, which was suggested to be of more benefit 'further along the line' or later in the course when students had learned more about professionalism generally, and had settled into life at medical school.

Second online survey demographic data

A second online survey was launched in May 2008, with the link being emailed by the author to the original PPD cohort group contacts from the six participating

medical schools. The aim of this survey was to see if student attitudes and opinions on the peer assessment of professional behaviours had changed over the course of the year, particularly at the schools piloting peer assessment.

In total 281 students completed the survey. The distribution of respondents from participating medical schools differed markedly from the first survey. Participants from Hull York dominate, with Sheffield and Leeds also showing good returns. Liverpool had the lowest response rate, as was the case in the first survey. In terms of year group distribution, this corresponded with that of the first online survey.

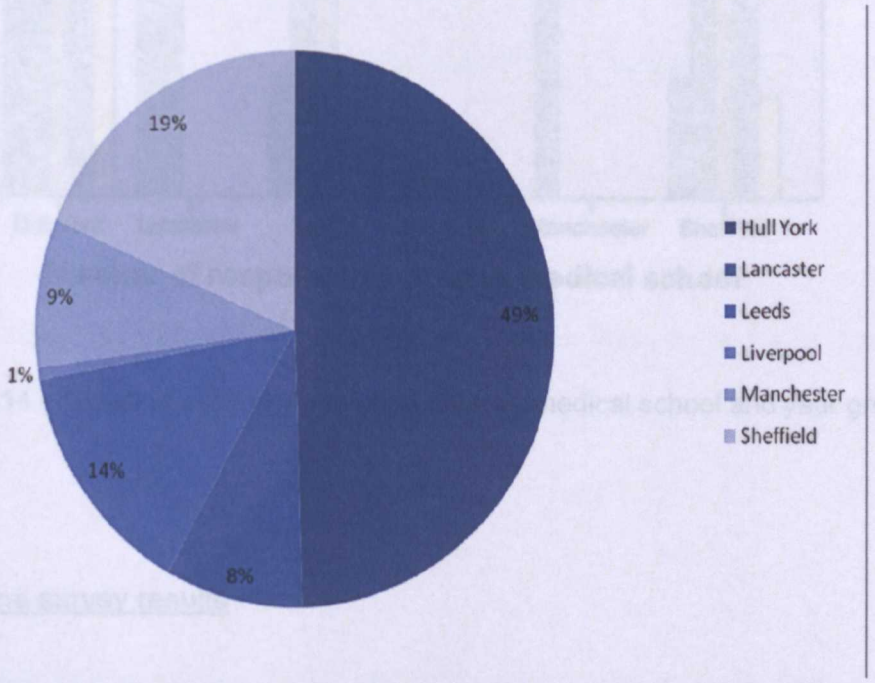


Figure 13 – Pie chart showing second survey response by medical school

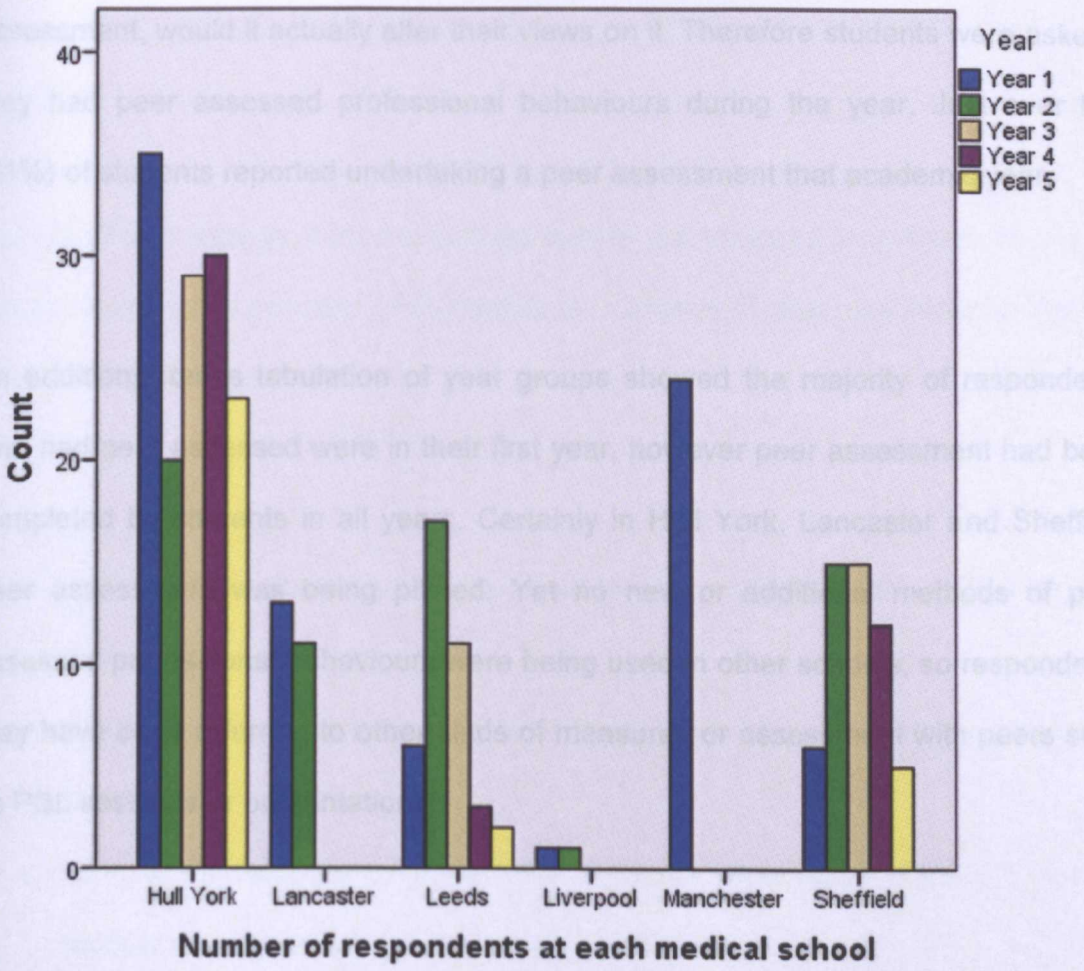


Figure 14 – Graph of second survey response by medical school and year group

Second online survey results

Respondents were asked if they had answered the first online survey. Over half (56%) had, while (44%) hadn't. Possible speculative reasons for this could include that awareness and interest in peer assessment of professionalism has grown in the past 6 months, or that students didn't complete the last survey and took the opportunity to comment this time.

One of the key measures intended for this survey was if students were doing peer assessment, would it actually alter their views on it. Therefore students were asked if they had peer assessed professional behaviours during the year. Just over half (51%) of students reported undertaking a peer assessment that academic year.

An additional cross tabulation of year groups showed the majority of respondents who had peer assessed were in their first year, however peer assessment had been completed by students in all years. Certainly in Hull York, Lancaster and Sheffield peer assessment was being piloted. Yet no new or additional methods of peer assessed professional behaviours were being used in other schools, so respondents may have been referring to other kinds of measures or assessment with peers such as PBL sessions or presentations.

As demonstrated in the first survey, students said they were more comfortable receiving peer feedback on their own professional behaviours rather than giving peer feedback.

In the original online survey, 76% strongly agreed and agreed they would feel comfortable receiving peer feedback, while in the second survey this increased to 83%. Similarly in the original survey 62% of respondents strongly agreed or agreed they would feel comfortable assessing their peer, and in the second this increased to 72%. Although the sample size of the second survey is smaller, this does indicate

more respondents are agreeing they are comfortable giving and receiving peer feedback over the course of the academic year.

Results of key findings from the second survey are provided below with change in results displayed in brackets (> illustrating an increase in response between the two surveys, < showing a decrease):

- 81% of respondents agreed peer assessment could help them reflect on their professional behaviours (<3%)
- 44% agreed that students should be more involved in assessing professional behaviours (>1%)
- 52% of respondents disagreed that students were better placed to assess student professional behaviours than tutors (>11%)
- 63% of respondents agreed that it was important to assess professional behaviours at the start of the course (>2%)
- 68% of respondents agreed that peer assessment was a good way to measure the professional behaviours of students (>18%)

The most interesting finding was the increase in students agreeing that peer assessment was a good way to measure the professional behaviours of students. Most other questions have achieved responses with a small percentage variance, while this is a more robust result.

Also notable was the number of respondents disagreeing that students were better placed to assess student professional behaviours than tutors. This rose 11%, again suggesting a change in student attitudes. Respondents in both surveys were asked how comfortable they would feel measuring different aspects of professional behaviours. Variations in the two sets of results are:

| | First survey | Second survey | Change |
|---|---|---|---|
| Managing self | 68% | 67% | <1% |
| Group/team work | 78% | 82% | >4% |
| Communication | 77% | 81% | >4% |

Figure 15 – Table showing changes between the online survey responses

Two additional issues included in the second survey were:

- 79% of respondents agreed that peer assessment could help them learn about their professional behaviours
- 54% of respondents agreed peer assessment should be included in the undergraduate medical curriculum

It is interesting to note the difference in both data sets, and possible explanations for these variances. Respondents in both surveys are positive about how peer assessment could help them learn and reflect upon their professional behaviours.

However, they do not think that students are necessarily better placed than tutors to observe and assess these behaviours.

As in the first survey, a comment space was included at the end of the question. On the first survey 75 comments were received, in the second, 60 comments were received. These were coded using the same grounded theory approach detailed previously.

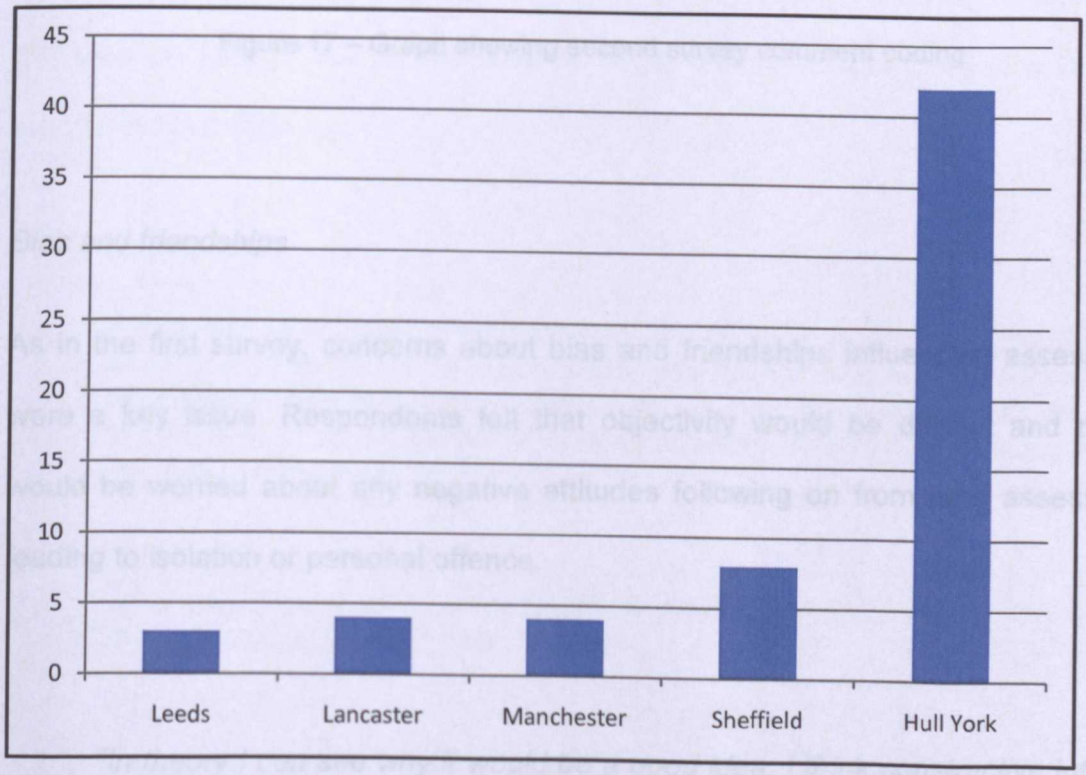


Figure 16 – Graph showing second survey comments from different schools

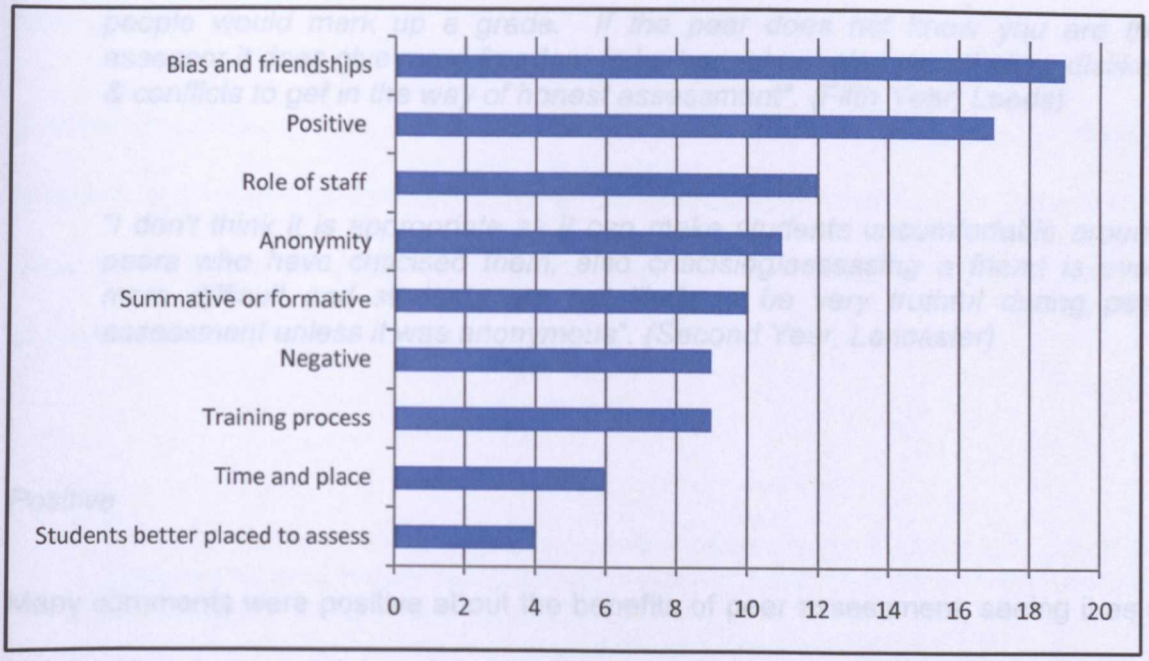


Figure 17 – Graph showing second survey comment coding

*Bias and friendships*

As in the first survey, concerns about bias and friendships influencing assessment were a key issue. Respondents felt that objectivity would be difficult and people would be worried about any negative attitudes following on from peer assessment leading to isolation or personal offence.

> *"In theory I can see why it would be a good idea. I think constructive informal peer review should be encouraged. In practice however, I fear that formal peer review would be damaging for students, especially when being asked to judge friends or even partners. I think it would place too much pressure on students and strain their friendships". (Fourth year, Hull York)*

> *"My experience of peer assessment is that people tend not to give their true opinions. In one peer assessment in 2nd year PPD I got the impression*

*people would mark up a grade. If the peer does not know you are the assessor it does give more freedom to be honest but also would allow dislikes & conflicts to get in the way of honest assessment". (Fifth Year, Leeds)*

*"I don't think it is appropriate as it can make students uncomfortable around peers who have criticised them, also criticising/assessing a friend is even more difficult and students are not likely to be very truthful during peer assessment unless it was anonymous". (Second Year, Lancaster)*

*Positive*

Many comments were positive about the benefits of peer assessment, seeing it as a constructive and useful learning tool in both giving and receiving feedback on professional behaviours. It was viewed as a means of improving practice and communication skills.

*"I feel that peer assessment enables you to think in a more objective way about the professional behaviours that you may be displaying yourself. It is important as part of the curriculum to get us used to doing reviews on others or ourselves in our professional lives as qualified doctors as this is required by the GMC". (First Year, Hull York)*

*"It is very useful to receive feedback from other students to see how to improve oneself". (Third Year, Sheffield)*

*"I think it's useful, as peer assessment gives people the confidence to speak their mind and also help their colleagues to improve themselves". (Second Year, Hull York)*

*Role of staff*

Several respondents took issue with what they saw as a responsibility of their teachers and related professionals. As in the first survey, respondents thought they were being given an additional task in order to save costs or reduce teaching commitment.

> *"It is not the place of students to assess each other. If tutors etc. could be bothered to give proper feedback then we wouldn't even be considering peer assessment". (First Year, Hull York)*

> *"Peer assessment is not a good idea as it would be difficult to remain objective. Tutors are better placed to assess these things as that is why they are tutors and we are students". (Third Year, Hull York)*

> *"Let's just leave it to the tutors and our academics to assess our performance". (First Year, Manchester)*

*Anonymity*

The issue of anonymity remained a concern amongst students, although for differing reasons. As also highlighted in focus groups at Hull York, some students would rather feedback took place face to face to ensure honesty and comprehension. Whereas other respondents felt they could not say what they thought in case the issue became personal and led to grudges or problems.

> *"I don't believe it's ethically right that our peer assessment forms allow us to write negative feedback anonymously. If there is a problem, I should deal*

*with it on the head by speaking to a member of staff directly or speaking to the person involved. Receiving negative feedback can be very disturbing as you may not understand exactly where you went wrong and also it can happen that somebody personally doesn't like you and because of that gives you false negative feedback". (First Year, Hull York)*

*"I don't think it is appropriate as it can make students uncomfortable around peers who have criticised them, also criticising/ assessing a friend is even more difficult and students are not likely to be very truthful during peer assessment unless it was anonymous". (Second Year, Lancaster)*

*"In more personal realms of professional behaviours, say criminal behaviours, or behaviours induced by deeply personal issues (end of relationship, miscarriage, death), I would be uncomfortable being assessed by peers due to the inevitable breaches of confidentiality that would ensue". (First Year, Manchester)*

*Summative or formative*

Comments regarding the nature of assessment were more pronounced in the second survey, particularly from Hull York and Lancaster where peer assessment had been piloted. Overall these respondents were concerned about the misuse of summative assessment and how this could impact on assessment generally.

*"If feedback were only formative it would lack the weight to matter to anyone. i.e. no one would bother filling it in properly and everyone would just be "satisfactory/excellent", if it were summative then people would feel that it was unfair. Hard to judge really. I'm pleased that you are investigating this though, interesting topic!". (Fourth Year, Hull York)*

*"I think a reasonable amount of informal peer assessment is a good thing, but it could be a bit extreme if formalised and reported to the CME (Centre for Medical Education)". (Second Year, Lancaster)*

*"I feel peer assessment is important and can help however I don't feel the opinions of peers should be used in any way to determine a student's grades as the reviews can reflect personal feelings between individuals either positive or negative, also students are sometimes not particularly observant". (First Year, Hull York)*

*Negative*

Although there were no references to 'big brother' in the second survey, there were some negative comments. These often linked into other issues such as training, preparation, anonymity and personal bias.

*"It is dross".* (Fourth Year, Sheffield)

*"We have just been asked to start peer assessing dress in the hospital setting and everyone is very unhappy about this. It is very hard to assess someone else when you have no yardstick to measure from; i.e. I don't know whether I myself am dressing correctly so am unable to give feedback to someone else". (Second Year, Lancaster)*

*"Bad idea. Let's concentrate on learning the basic theory behind medicine in the first year and stop messing about with rubbish like this!!!!". (First Year, Manchester)*

*Training process*

Comments about training were explicit in some cases and not as clear cut in others when respondents expressed general concern about not knowing enough to be able to assess someone else's behaviour. It is evident from the comments that training would be required to make peer assessment meaningful. This does conflict with

some of the focus group issues when students felt they covered this as part of communication skills.

> *"I think a student does not have the experience or training to assess other students". (Third Year, Hull York)*

> *"I still feel we are not taught enough about peer assessment & feedback before we are asked to do it. This makes the feedback pretty useless, because everybody just says "yeah, that was really good" - there is nothing specific about what was good & I have never in any peer assessment we have had heard people make constructive criticism or even suggestions for improvement". (Third Year, Sheffield)*

*Time and place*

There was debate about the best time to peer assess professional behaviours, such as at the start of the course when people are only just starting to learn about what is expected of them as doctors. There is also debate as to whether PBL, placement or other situations are the best places to observe professional or unprofessional behaviours.

> *"Useful in reflecting on how you come across to other people in the same position of you, however shouldn't be done too often as may get repetitive". (First Year, Hull York)*

> *"I think views of peers are important in the work place; however I feel they are not always appropriate for medical education. This is especially since they seem to be employed in PBL and I cannot condone the suggestion that performance in that class reflects upon professional effectiveness and behaviours. In the context of PBL I have found that peer feedbacks can have a rather ugly dimension, especially in that students may have the tendency to*

*fall in with the predominant view, usually that of the teacher. In placement or in any professional context in which patients are involved all students should be encouraged to reflect on personal behaviours and address those which are not appropriate". (Second Year, Hull York)*

*Students better placed to assess*

As in the first survey there were several respondents commenting about whether or not students were well placed to assess each other.

*"I think it's very important as ultimately as students we are in a better place to assess another students attendance etc within our group. Where as a tutor may only see them weekly the students generally know where each other are on a daily basis and if one is not attending or particularly poor in some areas of professional behaviour". (Fifth Year, Hull York)*

*"Students should not peer assess each other because unless it is done properly, it has no meaning, which is a shame because we are in the best position to assess each other on professional behaviours (i.e. all students can name people who regularly do not turn up for placement but at present, nobody does anything with this info!)". (Third Year, Sheffield)*

Hull York focus group

In total 6 first year students (three male, three female) volunteered to participate in the focus group, held at the HYMS York Campus (30/04/08) and facilitated by the author. The data collected at the session was transcribed and analysed as outlined in the methods chapter (cf chapter 4).

The participants had peer assessed members of their PBL group anonymously using an online survey in two rounds previously. The session began with questions about the format of the peer assessment form. The group said this had worked well for them, as it was easy to access and most of the other evaluations they completed were paper based. This also ensured confidentiality, and made the submission process straight forward:

> *"You don't have to worry about handing it in because it's just done automatically".*

The best time to complete the assessment was debated, with some students thinking they should do it immediately or they would forget what issues they were assessing, or if there should be a window of a few days to complete it to allow more time for reflection:

> *"I think you should do it that night, not an hour later because everyone is in the same room, you know, after a particular session someone might of said something that annoyed someone else, so they won't give balanced feedback on that session".*

The students talked about how they could feedback peer assessment. There were several comments about how initially sceptical some people were about the process, feeling that their relationship with others in their PBL group was such that they would be comfortable providing constructive criticism face to face. Whereas others found

the anonymous format of the process allowed them to comment more freely after the first use of peer assessment:

> *"Our group liked the fact it was anonymous, the first one I thought I'm not doing it, it's a disgrace. But it wasn't like that at all".*

There was a difference in the group regarding people's attitudes to anonymity in peer assessment, with some saying they felt PBL groups should be prepared to give constructive criticism face to face, and others who felt this would be difficult for some people who might take it too personally.

> *"I think because it's anonymous people have been honest. I personally think if there was a problem with the way I was doing something in PBL, I would want them to say it to my face. But I understand some people are not going to be comfortable doing that. So if they can say it anonymously in the feedback session, so I think it's quite a personal thing. Some people are comfortable and some aren't".*

One suggestion to address this was:

> *"Maybe as a feedback session a PBL group dictates how they want feedback to be given".*

The group was asked what feedback they had received from peer assessment so far, but this information had not yet been distributed. One participant said this would be done in a tutor session.

Participants were asked about the type of behaviours that could be observed in PBL. This lead to debate about the best time to begin measuring professional behaviours. Some participants felt that first year was too early to begin peer assessment, as students were just settling into medical school.

> *"Personally I think it was too soon, we were all just getting used to the processes".*

There was a difference in opinion about when students learn about professional behaviours. Some participants felt they were only starting to identify and observe professional behaviours:

> *"I would be trying to figure out who doesn't like me because I'm still settling in. I am still trying to learn about professional things".*

While other students felt that undergraduate medical students should have a good appreciation of what constitutes professionalism when they begin the course.

> *"I think inherently you're going to know what's professional"*

Participants went on to talk about how the professionalism agenda was addressed in PBL. Several members of the group felt that the structure of PBL sessions was informal to encourage open learning. The relaxed atmosphere in PBL was seen very positively by participants as a good way to make friends and get to know people better:

> *"I have a bit of an issue with the idea of professionalism, cos I don't know about everyone else's group dynamic, but we all get together over cake or something. Then we sit and chat, it's not a professionalism sort of environment".*

The final comments regarding this issue suggested that assessing professionalism was most effective on placement, as PBL was a learning environment unsuitable for measuring professional behaviours. However when some of the types of behaviours included in the peer assessment form were discussed, some did appear to be relevant. Whereas dress was seen as irrelevant in PBL, time keeping was regarded very differently:

> *"It's perfect for PBL because you do need to have some time keeping skills, especially if you're chair"*

> *"It does affect PBL groups, if people are consistently late".*

Students felt that they were asked to do a number of assessments which had little value for them personally. Participants agreed they got sick of repetitive assessment

documentation, and the volume of these meant they didn't think about completing them properly. While participants understood the purpose of this type of evaluation, they did get fed up with it.

> *"I can understand why they are doing so many assessments at the moment as it's a new medical school, but maybe they need to refine it. I mean, the only one we don't have which I think would be useful is peer assessment on placement, that's the only thing that would be useful".*

Participants were asked if peer assessment would be a good opportunity to not only raise issues of concern, but also to give praise and recognise good practice amongst students. While some students nodded, there was not much enthusiasm for this suggestion. One participant said good behaviour tended to be recognised simultaneously:

> *"I mean, it's kind of, if someone has done really well then, if someone has done a good consultation on a difficult issue, like sexual health, so you do say afterwards 'that was really good, well done'. It doesn't necessarily need to have that on a piece of paper. Because people will say it".*

Participants also mentioned some confusion about how seriously to take all the evaluation/feedback they were asked to complete.

> *"It seems like if you don't do your work nobody cares, but if you don't do your feedback woahhhh, you'll get downgraded".*

The next question asked students about any training or support they would need to give and receive peer assessment feedback. There was some discrepancy regarding this issue as initially participants thought they had covered this kind of communication as part of clinical skills:

> *"I mean, we have in clinical skills one of the first sessions was on how to give feedback, so it's like, everyone has a rough idea anyway, and then you get a more structured idea. I don't think we need any extra training in it. It's just more time we could be studying practical or academic stuff".*

Yet referring back to earlier discussion in the session, it had been said some students would not be comfortable giving feedback, especially face to face. One student spoke in detail about this aspect of feedback, and took into account the small nature of the medical school and how this impacted upon students:

> *"I mean, because you know, it's a small med school, and we're in small groups, you get to know everyone in your group quite well, and you feel very comfortable saying it face to face. I can understand how in a bigger group the anonymous feedback works better because people might not be comfortable, but in this situation I think we're pretty much all comfortable saying stuff to each other, you are comfortable saying 'Actually you could have done that better'. Clinical skills is again a good example, you give feedback cos it's your job there, that you don't have to formalise it, you just do it by talking, it's much easier that way".*

Participants returned to the theme of where they should assess professional behaviours, and once again referenced the validity of placement as opposed to PBL as a setting:

*"I can understand that, but I think you'll see if unprofessionalism is the issue you would see that more on placement than in PBL".*

*"If you're going to do peer assessment do it on something like patient, where you see what someone is really like as a doctor".*

*"Like obviously in PBL you are going to make more jokes and stuff than you would on placement".*

In summary, the facilitator added that a finding of the online survey had been the issue of competition in medical school. This was met with some shock as participants felt they wanted to help their peer's to learn and improve their practice.

*"I mean, here that competitive attitude isn't fostered at all. You're encouraged to do well for yourself but not to fight against other people doing well".*

*"I can understand being in competition, but I wouldn't try and sabotage someone else's prospects by not giving them proper feedback".*

In conclusion the participants were asked if they had any final comments regarding peer assessment. The concluding comment (which met with agreement and nods from other participants) was:

*"I find it useful, just not necessarily in the way it's done. The balance needs to be changed towards placement".*

Hull York focus group conclusions

Discussion from the focus group related to eight structured questions formulated from the online survey feedback and the experience they had recently had of using an electronic based peer assessment system. The group lasted an hour and all participants contributed to the discussion. No members of the group interrupted or talked together and it became clear they all knew each other's names.

Based upon the analysis outlined previously, the key themes to emerge from the focus group were as follows:

- The electronic format for peer assessment was accessible and easier to submit.
- Some students felt they did not have enough understanding of professional behaviours to be able to assess it in their peers, particularly in the early years of the course.
- Further aspects of the best time to peer assess related to setting (if it could be done during PBL or if it was better done on placement when students would assess genuine interaction and behaviours with colleagues and patients).
- Some participants felt that face to face feedback would be better so behaviours could be fully explained and discussed.
- Participants felt a lot of students completing a peer assessment took the easy option of grading peers as 'good' without giving any real thought or honest feedback. Taking this easy option meant the feedback was meaningless and

unconstructive. Suggestions including a mandatory written comment were made as a way of issuing more personal useful feedback, and clearer question criteria for enhancing feedback.

- Participants felt they had received adequate training to objectively undertake and receive peer feedback as part of their communication skills sessions.

For the purpose of this research, the feedback from the focus group has provided a real depth of information and issues. This data has added value to the first online survey information and has confirmed issues that students are concerned about with regard to the peer assessment of professional behaviours.

The direct quotes from the students offer further insight into experiences of peer assessment and how this has impacted on learning and reflection. Sharing of information within the groups also helped students to see different perspectives on issues relating to the giving and receiving of assessment and the best ways of managing this.

Pilot study discussion

Data from the first survey demonstrated that students had understood the questions, and were able to express a range of views, both positive and negative, regarding the peer assessment of professional behaviours.

Some interesting themes emerged in the analysis of this data, as respondents reported they would feel comfortable receiving assessment from a peer, but would feel less comfortable giving this feedback. This disparity highlights the difference students feel about giving and receiving feedback. It was suggested to focus group participants that they might need additional training so they felt comfortable both giving and receiving peer assessment, but participants felt this was already covered as part of their communication skills training. Further research on what would make students feel more comfortable giving and receiving peer assessment could help clarify this issue.

Similarly, the majority of respondents reported they would feel more guilty reporting the unprofessional behaviours of a friend than a peer. The distinction between personal relationships and resulting bias raised comments in the surveys and focus group. The potential impact peer assessment could have on friendships and relationships between students was a consistent theme, and this finding reflects work by Arnold *et al* (2005) in terms of student opinions more generally.

The need for clear guidance on the purpose and aim of peer assessment was demonstrated by the differing opinions expressed about whether data from the exercise could affect a person's grade as part of summative system, if it would be used for reflective individual learning and if the exercise was anonymous.

The issue of anonymity in peer assessment has generated discussion in current medical education literature (see chapter 2 for further discussion). No easy answers to this dilemma emerged from the data – in the focus group participants said they felt comfortable giving face to face feedback and appreciated the opportunity this gave them to explain and justify their observations. However, survey feedback showed apprehension and worry about breaches of anonymity or peers using peer assessment to make vengeful or malicious comments.

One of the aims of the pilot study was to establish whether students thought peer assessment would help them to reflect on their professional behaviours, and the data collected achieved statistical significance, with just over three quarters of the respondents agreeing, and this number rose slightly in the second survey when the question was repeated.

The second aim of this research was to establish if there were different types of professional behaviour which respondents felt more, or less, comfortable discussing. Results were again consistent in both survey cohort groups, with respondents feeling most comfortable assessing group or team work and communication skills, but feeling slightly less comfortable assessing aspects of self management such as dress and time keeping in their peers.

The third aim of the pilot study was concerned with the issues students raised with regard to peer assessment in their medical school. The overall findings were

consistent with current literature in medical education – primarily bias, anonymity, summative or formative use of peer assessment data, training requirements, where and when peer assessment should take place, how assessments should be fed back, and how immaturity or grudges could impact upon assessment.

One new issue to emerge from the first survey was how competition could result in 'tactical' peer assessment. These comments were made by students in later years of their course, and related to placements for foundation training. The view expressed was that medical school was competitive and students would use peer assessment in order to lower the grades of peers they felt would be competition. The issue of competition was further discussed as part of the focus group, where the participants strongly felt this would be unprofessional behaviour in itself.

The fourth and final aim of the pilot study was to determine if the views of students towards peer assessment changed over the course of the academic year. Overall there was an increase of 18% in the number of students agreeing that peer assessment was a good way to measure professional behaviours. While this is interesting to note, it must also be acknowledged that the survey did not replicate the same cohort group, so reasons for this increase could be attributable to a number of different factors.

The original intent was to see if there was a correlation between students who had completed peer assessment and students who agreed it was a good way to measure

professional behaviour. Unfortunately due to the voluntary nature of participation in the survey, and the anonymity of participants, it is not possible to make this link from the data collected.

Current medical education literature suggests that peer assessment offers a learning opportunity and feedback on behaviours which can improve the general skills of doctors (Schonrock-Adema *et al*, 2007). The emphasis of current GMC literature is on how assessment and feedback can better prepare undergraduate medical students to work more effectively with colleagues in the future. The literature review chapter of this thesis has explored key issues relating to this topic, and some of these have been confirmed by this pilot study.

However, this research has shown there are still misunderstandings amongst students about the purpose of peer assessment and why they are asked to do it. There were concerns about how peer assessment data would be used and how it could impact upon grades and friendships. It is also evident students do not feel adequately prepared and supported to give objective and fair feedback which is meaningful and appropriate.

In terms of this pilot study, it was apparent that a more detailed research project was needed to develop a peer assessment model which students understand improves their reflective learning and personal skills. A set of professional skills requires full explanation and ideally should be reinforced by supporting curriculum outcomes.

Furthermore, if students are to understand what they are assessing, this is likely to require some training or support from tutors.

The tutor role in the delivery of peer assessment is rarely mentioned in the current literature, but is interesting to note in the context of this research. Some students commented it was the tutor's role to deliver any assessment, and they as students were still learning about being a professional, so should be shown leniency while they develop understanding of the professional behaviours expected of them. Yet GMC guidance specifies that as part of lifelong learning, students are expected to feedback honestly to their colleagues and peers on different aspects of their practice. *Tomorrow's Doctors* (2009) specifies that:

> *"Everyone teaching or supporting students must themselves be supported, trained and appraised". (122)*

Little is known in relation to what tutors or staff think about the peer assessment of professional behaviours, yet their role is crucial in the delivery of such a process.

The views expressed in both surveys and the focus group have provided good contrasting data, with SPSS allowing for statistical data analysis and focus groups enabling further discussion of issues, as was the aim of the mixed methods approach. However, in terms of the current medical education literature, the research findings have endorsed previous published research themes and findings.

Original contribution to research

A journal article manuscript based upon this pilot data was drafted and submitted to the peer reviewed journal *Medical Teacher* in January 2009. The article was not accepted for publication in its submitted version, with reviewer feedback providing detail about this decision:

> *"The subject is relevant and the paper is well written, but I have doubts about the informational impact of the paper. Students were invited to express their views after a single exercise with peer assessment; would not it be better to ask their opinion after somewhat more experience? Students joined the focus groups on a voluntary basis, which can be a serious source for bias in the obtained information. Moreover, I wonder what is added by the current paper other than confirmation of what was found in earlier research papers referred to in the introduction and discussion section".*

This feedback offered the opportunity to reflect on the direction of the research topic and clarification of the issues to be covered in the next stages of the project.

Originally the focus of the research was intended to be the attitudes of students to the peer assessment of professional behaviours, and how they could be made to feel comfortable giving and receiving this feedback. While the research pilot was underway, new guidance from the GMC (*Medical students: professional values and fitness to practice*, 2007) highlighted the importance of professional behaviours and placed further emphasis on medical schools to give students the opportunity to learn and practice these behaviours. Furthermore, the latest draft version of *Tomorrow's Doctors* (2009) spoke about assessment in terms of measuring and offering feedback to students on their practice as part of their lifelong reflective learning.

In response to this guidance, the original research question regarding how comfortable students felt assessing a peer began to seem somewhat irrelevant. If the GMC is specifying how assessments can be delivered and the importance of giving and receiving feedback to peers and colleagues, how students feel about it has little relevance.

This pilot study research has confirmed the themes previously identified in the literature review (cf chapter 2). Feedback from *Medical Teacher* has also prompted the question – what original contribution does this research make to the debate about peer assessment and professional behaviours? The answer is it confirms previously identified themes, and some additional issues with regard to competition amongst medical students impacting upon objectivity in peer review.

As this research is being undertaken as part of a PhD thesis, that it makes an original contribution to research is of key importance. Evidence from the pilot study shows that exploring the views of students to the peer assessment of professional behaviours and how comfortable they are doing this will not add anything significant to current published research on this topic.

Implications

The objective of the pilot study was to explore the boundaries of the issues being researched and the methods for doing this. As a result of this, the focus of the

research was subject to amendment. Rather than simply researching student views on the peer assessment of professional behaviour, a more informative approach would be to explore how peer assessment can effectively be implemented into the existing PBL curriculum, and how students and tutors can be encouraged to undertake the exercise in a positive, proactive and effective way.

This revised research focus results in practical guidance for the implementation of peer assessment of professional behaviours, and also explores the views of students and tutors in the delivery of this process. Exploring the views of tutors and students and their experiences of the peer assessment of professional behaviours and relating these to current medical education theoretical frameworks offers an original contribution to the current medical education literature.

Limitations of the pilot study

As has been previously acknowledged (cf page 105), the self selecting nature of both the surveys and the focus group can result in a biased population. However, negative views were expressed in both research formats, so a balance has been achieved despite the recruitment methods used.

The sample sizes of respondents (particularly with regard to the focus group) must also be acknowledged as limiting the generalisability of findings. Yet the survey data

has enabled statistical testing and produced some significant findings. The consistency of data findings also indicates thematic saturation.

The original intention of the pilot study was to contrast the views of the cohort research population at two points during the academic year. However, the voluntary nature of participation has meant such a comparison has not been possible. Reporting differences in responses between year groups and medical schools has also been difficult because of the differing experiences due to course structure and clinical placement arrangements.

What was originally conceived to be a controlled experiential research design with an intervention to assess changes in attitudes to peer assessment after completing the exercise was overambitious. It was not possible to recruit a consistent cohort group across the participating medical schools, So measures for the research pilot cannot produce reliable descriptive statistics. Yet they did produce detailed qualitative comment data allowing direct opinions of respondents to be reported. This consideration is key in planning the main research, demonstrating that cohort groups need to be fixed and accessible to ensure the collection of valid data.

Barriers to the collection of data for the pilot study included lack of control within each participating medical school regarding the distribution of research materials such as the link to the online survey. Some schools promoted the research and encouraged students to complete the survey during lectures and seminars, whereas

it is unclear how other schools disseminated information. This variability in recruitment approach during both stages of the online survey data collection could have impacted upon the final response rates of the surveys.

While acknowledging the flaws in the pilot study, it has also proved to be a valuable opportunity to ensure the research questions were valid and the methods and participants targeted would provide useful, relevant and original data. The pilot study also served as an introduction to the standards expected in academic research, making the planning of the main research more rigorous and detailed.

Revised research theory

The grounded theory approach has been appropriate for the purpose of the pilot study, allowing flexibility around issues covered in both surveys and focus groups. The further exploration of emergent themes such as competitiveness has also been possible using this approach. However, a more robust theoretical approach is required for the main research as has been fully explored in the previous chapter on theory (cf page 110).

# CHAPTER 7 - PBL AND PEER FEEDBACK

Following on from the pilot chapter findings, the next stage of this study was to undertake research into implementing two mechanisms of peer feedback into the existing PBL structure at Liverpool. The pilot study findings described student attitudes and views on peer assessment, whether they had directly experienced it or not. These findings were consistent with current medical education literature on this topic. Therefore, the next stage of this research was to gather peer feedback data, and evaluate this from the student perspective.

The hypothesis outlined in the introduction chapter (cf chapter 1) refers to the use of two peer feedback mechanisms in the existing PBL curriculum at Liverpool. This was to investigate how peer feedback on professional behaviours could be incorporated into the PBL curriculum, the results obtained from these exercises and how useful students found them for personal reflection. Both methods used second year students as cohort groups (in 2008 and 2010). Second year pupils were seen to have settled into the course; and were familiar with the PBL process, so this was seen as an appropriate cohort group for the study.

The first method was used with students in June 2008, adding paper based peer review to an established PBL evaluation system using existing structured criteria. The second method used an electronic open comment based system with students in May 2010.

Evaluations of both methods were conducted using anonymous online surveys. This chapter outlines the background and results of both methods, and the subsequent evaluation data. Discussion and analysis of these exercises adding peer feedback to the curriculum feature later in this thesis (cf chapter 10).

PBL Evaluation

The current system of PBL evaluation in Liverpool is based upon an eight item form designed for completion by students and tutors (cf appendix 4). This is completed at the end of each PBL cycle and is used as part of a one to one discussion between tutor and student as part of their reflective learning.

Prior to the introduction of the peer review, tutors were informed about the exercise as part of a training session. The peer review forms were collected at the end of a PBL session in envelopes so that they could be submitted directly and confidentially to the tutor, and then the School of Medical Education office.

Peer, tutor and self-evaluation forms were scanned according to normal procedure by the Medical School administrative staff, and data entered onto Excel spreadsheets. To ensure anonymity, study numbers were added to individual student records by the author, other identifying information was removed, and all three datasets (peer, self and tutor) were then imported to a SPSS data set for analysis.

The initial data cleansing to remove identifying details was done in the School office to ensure that no individual student information remained in the dataset. All three evaluation forms were then sent to tutors for discussion with individual students. An anonymous online survey was created using *Survey Monkey* (2010), a free online survey and questionnaire design tool. These questions asked students their views on the peer review exercise. The link to this survey was emailed after PBL evaluations had been completed and fed back to students. It was envisaged that having received the triangulated feedback, students and tutors would be able to compare and use the results reflectively.

## Results

Two hundred and eighty one students ($n$ = 281) received complete sets of triangulated results out of a possible two hundred and ninety one registered students.

Scores for the seven PBL evaluation criteria (participation, communication, preparation, critical thinking, group skills, evaluation skills and breadth of application) were analysed. Mean scores of each criteria were calculated in SPSS to identify variances between peer, tutor and self assessors scores. The results overall of these scores are presented in a table to show these differences. The highest scores are marked in green and the lowest in red for each of the self, peer and tutor scores.

| | Self | Peer | Tutor |
|---|---|---|---|
| Participation | 3.28 | 3.95 | 3.75 |
| Communication | 3.48 | 4.05 | 3.93 |
| Preparation | 3.42 | 4.11 | 3.81 |
| Critical thinking | 3.40 | 3.80 | 3.74 |
| Group skills | 3.65 | 3.92 | 3.94 |
| Evaluation skills | 3.51 | 3.82 | 3.85 |
| Breadth of application | 3.41 | 3.89 | 3.73 |

Figure 18 – Table showing mean scores of triangulated PBL evaluation categories

Mean peer evaluation scores were highest compared with mean tutor and self scores for all but two categories, group skills and evaluation skills where they were exceeded by mean tutor evaluation scores. Mean self scores were consistently the lowest for every category compared with tutor and peer scores, and scored lowest on participation and highest for group skills. Mean peer scores were lowest for critical thinking and highest for preparation. Tutor scores were lowest for breadth of application and highest for group skills. Group and evaluation skills are the only categories where tutors mean scores are higher than peers.

The distribution of the score patterns was also interesting. Rather than simply opting for the highest scores, students did consider their responses when appraising their

peers, and were more likely to use the 'above average' rating in the overall performance section. This was a consistent score pattern across all 7 categories.

The overall scores are presented as a graph (Figure 19). This diagram illustrates how students have scored themselves as mostly competent, while peers and tutors have scored higher than mostly competent. No students rated themselves as excellent, whereas peers and tutors have used this score option:

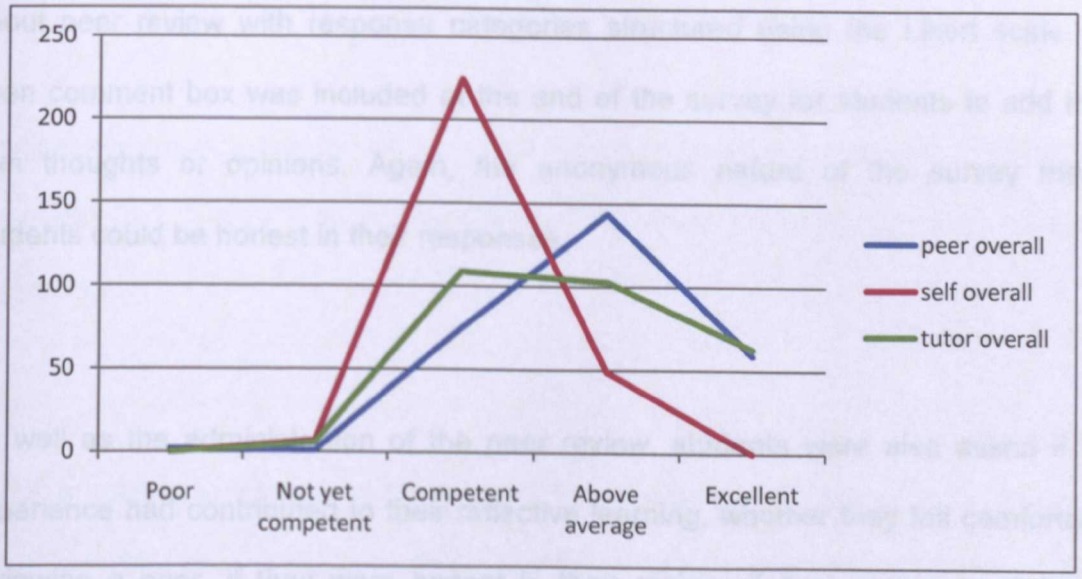


Figure 19 – Chart showing overall score pattern of PBL tri angulated results

Triangulated Evaluation data

The anonymous online evaluation questionnaire was emailed out to all second year students by the MBChB administrative team two weeks after the PBL peer review

was conducted (20/06/08), and remained "live" for a further two weeks with one reminder email being sent (27/06/08).

The survey was completed by 51% of the cohort group ($n$=145) students, giving a good return and feasible sample size for analysis.

Questions for the evaluation were formulated from previous survey questions used in the pilot study (cf chapter 6). The survey used a series of attitudinal statements about peer review with response categories structured using the Likert scale. An open comment box was included at the end of the survey for students to add their own thoughts or opinions. Again, the anonymous nature of the survey meant students could be honest in their responses.

As well as the administration of the peer review, students were also asked if the experience had contributed to their reflective learning, whether they felt comfortable reviewing a peer, if they were honest in their review, if they required training to review peers in future and if they thought PBL was a good place to practice peer review. Data from the peer online evaluation is presented as statistical information with comments relating to the relevant issues also provided. In total thirty four comments were made by students in the online evaluation survey. These were categorised using NVivo into the following groups:

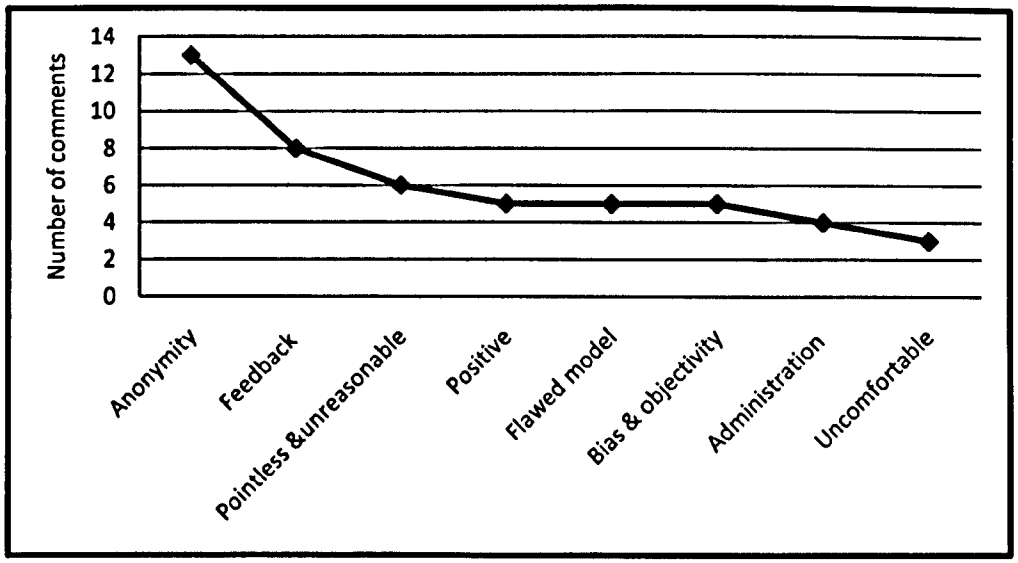


Figure 20 – Chart showing number of comments coded by emergent issue

The demographic details taken from the results showed more females (66%) had completed the survey than males (34%). This does reflect the general research population.

Some problems were reported with regard to the administration of peer review in some groups, as 4 students made additional comments regarding this. These included; unclear instructions and how comfortable people felt writing a peer review when they sat in close proximity to the person they were reviewing. This was disappointing as clear instructions were provided so students would not be reviewing a peer sitting next to them, but obviously this did not occur in some instances:

*"The process was not explained. We were told the names were incidental and we were reviewing the group as a whole. If we had reviewed individual peers*

*they would have been able to see the marks and this would have led to inaccurate results or embarrassment for reviewer and reviewee".*

*"Could it not be completed via email or another method? I just found it extremely difficult reviewing someone honestly when they were sat next to me".*

Over half (58%) of respondents strongly agreed or agreed the peer review process preserved their anonymity as a reviewer. However 29% of respondents remained neutral regarding this statement, suggesting there were some issues of concern with regard to their reviewer identity being revealed.

The data from the comments offered further information, as the most frequent issue to emerge in the NVivo analysis was regarding anonymity which accounted for 13 comments. As previously indicated, there was an issue about the close proximity of peer reviewers in the PBL setting. This clearly compromised the feedback some reviewers felt comfortable giving:

*"The peer review process seemed ridiculous! I knew who was completing my form and he was sat next to me, and the person I was reviewing was sat on my other side. I felt I couldn't be honest about his performance in case he saw!".*

*"The peer review process is not carried out in an anonymous way. I was sitting next to the person that I was reviewing and was able to see who the people around me were reviewing".*

Although information provided for students asked that they should take the exercise seriously and give honest feedback without breaching confidentiality, this did not always happen. Several respondents made comments about behaviour which compromised the reviews. This has implications for any future peer review with regard to training and explaining the purpose of the exercise:

> *"Didn't find out what peer wrote about me. found it difficult as tried to be honest, but when left everyone wanted to know who reviewed who".*

> *"It didn't preserve anonymity as everyone in my group asked each other who they had. You couldn't refuse to say as they'd assume you must have written something bad, and they can find out via the process of elimination anyway".*

> *"Seemed a waste of time to me, despite the convenors efforts to ensure we didn't tell each other who we were reviewing, glances across the table ensured everyone knew who had the other persons report".*

Over half (54%) of respondents strongly agreed or agreed it was helpful for them to compare self, peer and tutor evaluations. Although over half of respondents thought this comparison would be helpful, others commented they had not received the feedback or been offered the results from the exercise. At the time of planning the project it was intended the online evaluation survey should be launched after students had received their evaluation feedback from PBL tutors. However this appeared not to have happened in several cases.

*"I thought this was a very good idea; however unfortunately our PBL group never actually received the results".*

*"Haven't had my feedback yet as an individual from the tutor or the peer review so as of yet I do not know how well I got on".*

Just under half (48%) of respondents agreed that peer evaluation information helped them to reflect upon their performance in PBL. However, almost a third of respondents (32%) disagreed or strongly disagreed with this statement, showing mixed feelings about the exercise.

It is unfortunate that some students didn't receive their peer feedback as this could have made a big difference to their perception of the exercise. One respondent commented on how it could help in their learning, which was the objective of the exercise:

*"We should be able to view the results the other peers gave us in the future as this may help us reflect on our performances".*

The majority (79%) of respondents strongly agreed or agreed they had been honest about the peer they were reviewing. While the majority of respondents said they had been honest in their peer review, a number of comments regarding bias and friendships suggested that some respondents had struggled to complete a fair evaluation. This varied between extremes of people not liking each other and down

grading the review as a result, or not feeling able to give harsh or constructive feedback to their friends. This finding reflects findings of other research on peer assessment where students say they would require additional training and support to distinguish between personal opinion and professional assessment (cf chapter 2).

> *"I think this is unsuitable for PBL as, by this stage in the term, most people have developed their own relationships, and so will grade the person depending on this rather than their conduct, unless it's grossly bad or outstandingly good".*

> *"I certainly know that personal relationships influence the peer review process, and that the process is open to abuse by certain members who simply just don't get on, or who are best friends".*

Half of respondents (51%) strongly agreed or agreed they felt comfortable reviewing a peer. Almost a third of respondents were neutral regarding this statement, which could be linked to comments regarding the lack of anonymity in the PBL session.

> *"Although the peer review process worked well in my group I wonder if it would work as well in a group that wasn't as balanced as mine. Some students may feel uncomfortable about reviewing a member of their group who they don't feel contributes enough to their sessions".*

> *"PBL was not an anonymous setting to do a peer review – everyone is so close together it is easy to read other sheets. Our tutor did not leave the room either which made a few people uncomfortable when we had to complete our review of her".*

Just over half (53%) of respondents strongly agreed or agreed PBL was a good place to practice peer review. Most of the comments associated with this issue referred to the lack of anonymity in the PBL session. However additional comments were included about PBL as a suitable place to assess others' professional behaviours.

There were also comments regarding some people's lack of participation in PBL simply because they are quiet (this also reflects the previous comment at the top of this page). Some respondents felt it made it harder to review people who contributed less to the PBL group overall.

Several people completing the same form at the same table in PBL made the exercise uncomfortable. Nobody's anonymity was protected.

> *"Most of our learning if not all is done outside the PBL room the benefits of discussion are limited so if someone wants to be quiet then let them be".*

> *"I found it very hard indeed to peer review the allotted person. The person I reviewed is not a big contributor to the group but when prompted the person 'knows his stuff'. Thus, I was unsure how to put this into the review sheet. Perhaps a section to write specifics would be more helpful".*

The final comment here suggests the respondent perhaps did not fully understand the purpose of peer review as a reflective learning tool. This suggests a clearer

explanation of the exercise as a formative learning and reflective tool rather than a summative measure which will count towards grades or other formal assessment. There is also a lack of understanding that professional assessment will be part of their future role as a doctor:

> *"I felt that it wasn't my place to judge another randomly assigned member of my PBL group's performance, and this task would be better taken on by someone who is independent".*

Over half (59%) of respondents disagreed they'd like training and support to help them peer review. Comments regarding the peer review criteria emphasised how limited the evaluation criteria were, and open to interpretation the marking system could be.

It was assumed that students would be familiar with the model as they have experienced it previously for self and tutor assessment. Yet how to mark a peer was unclear. This is certainly an issue that would need to be included in any future students briefing. A comment box would also need to be provided to ensure a peer reviewer could fully explain their scoring and observations.

The only downside to peer review is that although the questions have criteria, many people still answer them with the ladder of 1 to 5 in mind and some people may be

more likely to mark 5 out of 5 where as others may never mark 5 out of 5, the same with 1's and 2's.

> *"The ratings system is flawed and I cannot see anyway it reflects how well a person has performed as there are many (often unscoreable) factors that are involved in a colleague's ability to handle the PBL process. Our lives should not be decided by a small piece of paper anyway and I don't feel this process instils any confidence in students about the course, tutors and faculty".*

Another comment highlighted that advance warning of peer review was required so students knew who they were observing in PBL.

> *"I don't think peer review is necessarily particularly accurate, there was a huge variation between the peer review I was given and myself and tutor evaluations. One of the problems is likely to be that unless the person is warned in advance that they will be reviewing who they are reviewing they may not pay particular attention to how that person performs in PBL".*

Peer feedback in PBL

The second method used to trial peer feedback on professional behaviours in PBL was an anonymous comment based system allocated by EXCEL spreadsheet using mail merge with second year students in May 2010.

Students were sent an email from the MBChB administrator (cf appendix 7) with the names of two peer colleagues in their PBL group to give anonymous peer feedback to on 05/05/10 and asked to send these in an email by 13/05/10, giving them a week

to complete the exercise. Guidance given to the students for completion of the peer appraisal exercise was posted on VITAL (Virtual Interactive Teaching at Liverpool), the University of Liverpool's online learning environment, together with examples of peer appraisal and what kind of feedback would be helpful, constructive and useful (cf Appendix 6). One email reminder was sent to students 2 days before the closing date for the return of appraisals.

Results

In total 285 students were emailed about the exercise, with 272 submitting appraisals. This amounted to 545 peer appraisals received. As comments were received they were added to the EXCEL spreadsheet for return distribution.

All feedback appraisals were also added to a word document and anonymised, names were replaced by an asterisk (*) so no names or identifying characteristics could be recognised in the data.

This document was then transported into NVivo for coding analysis. Using the emergent grounded theory approach outlined in the methods chapter (cf chapter 3), five key categories were used to code the comments with sub themes under each heading. Each peer feedback appraisal was coded by the number of themes applicable, so each review had the potential to be coded under several categories. The key categories and number of comments were coded as follows:

- General positive comments about contribution to PBL (523)
- Work specific comments (271)
- Areas for improvement (238)
- Positive personality traits (108)
- Challenging feedback (3)

As the above list demonstrates, the vast majority of feedback appraisals were positive and constructive, highlighting good behaviours in PBL and offering suggestions as to how peers could improve their contribution or performance. In order to demonstrate the variety of peer feedback appraisals submitted, examples of some of the shortest and longest ones received are included as follows:

> *"*is an active member of the PBL group who offers up knowledge in the sessions. He is enthusiastic and takes an active role in discussion within the group".*

> *"* has attended all PBL sessions, and is an important member of the group dynamic. He is perhaps less vocal than a lot of the other members of the group, but usually contributes at the most important times, when the knowledge from the rest of the group is at its poorer end. He has chaired one or two sessions, and is relatively active in the group. Leading the group usually comes from other members however. He often drives the thought processes in other members by triggering relevant discussion and activates great prior knowledge. He is a good participant, knowing the right time to participate and saving his comments for important parts of the PBL session, allowing us to function even better. He is a good help to me formulating learning objectives, which helps my role considerably and also writing up the learning objectives for me when I am scribing, therefore helping the group work as a team. When the group allocated roles, * was happy to take leadership tasks onboard when it was his turn to do so; he is always on time for sessions, displaying good time management skills. I think everyone in the group would have no hesitation in working with him again as he encourages everyone to take part, challenges opinions when he believes they might not*

*be wholly accurate (and rightly so) whilst also contributing information himself. Overall, he is a good motivator for learning objectives, actively assisting the group discussion. He contributes and prepares well for sessions and offers a relaxed, approachable and friendly manner that I think patients would warm to. He is confident in his opinions and isn't afraid to justify them at important moments, as I said before, he is often quiet and allows discussion to progress fluidly, but provides important information when it is required, and often encourages discussion with a subtle technique. * is an active and reliable member of the PBL group. He is always ready to contribute an opinion and express himself. He has never spoken over other group members, listens to people, and voices his own opinions. In my opinion, he isn't too quiet. This is by no means a criticism, in fact he holds himself well in group discussion and listens to others, we are all generally very vocal and it is therefore understandable in the dynamics of the session that others sometimes are quieter. * is an important member of the group, without him I don't think we would function so well".*

On average peer appraisals were approximately 100 words each in total. It was interesting to note some feedback was concerned with more general aspects of PBL and not just the student peer being appraised:

*"It is important to let others talk about what interested them in relation to certain modules as this makes the whole process much more enjoyable. PBL is both about participation and listening, and it is important not to act in a way that may intimidate others".*

The next section of this chapter offers examples from each category theme outlined previously to further understand the kind of peer feedback appraisals given, and trends in this comment based data.

*General positive comments about contribution to PBL*

Most comments were regarding the positive input peers made to PBL with particular regard to their participation and active contribution to discussion:

> *"* is always prompt and well prepared for PBL. As a lively member of the group * consistently contributes to conversations and always make it clear that she has done the relevant research. * is always willing to share her point of view even if it conflicts with other information at the table".*

> *"* is consistently excellent in PBL and is one of the best people I have ever been in a group with. He is always prepared and willing to contribute; and does compensate for other people in the group who do not contribute at all".*

Participants commented on their peers being good team members and using those skills to help the PBL group work more effectively as a whole:

> *"* is a key player in the group. He has got the right balance of contributing to the group but not dominating the sessions".*

> *"* is a good team player, happily pulling his weight and kindly continuing throughout our PBL sessions to scribe for us".*

The importance of being a good chair or scribe was consistently mentioned in appraisals – in particular volunteering to be chair or scribe was seen to demonstrate good leadership skills

*"She has taken her turn at both being the chair for a module and at being the scribe and as chair she motivated the group to discuss what we had researched and kept the session flowing nicely".*

*"She has been both Scribe and Chair in the group, showing her leadership and presenting skills, which are both very good".*

Leadership was a related topic, which also inspired many positive appraisal comments:

*"He is happy to take leadership. He is very good when chair of the pbl group as he directs the session well. He does not overpower the group at all and listens to anything each person has to say. He is very willing to learn and to help learning for others".*

*"* is more of a leader than most of the other group members but he also listens to others and allows them to join in. He shows leadership qualities as well as the ability to work in a team".*

The importance of punctuality was also seen as a positive trait, as it enabled the PBL group to settle down and work more productively if people were on time. Good attendance was also a highly rated characteristic that resulted in a lot of positive comments:

*"* is punctual and always present which is helpful since we never seem to be waiting on her".*

*"* has attended all PBL sessions and has been early to every single one".*

The ability to listen to other members of the PBL group was also seen as a key skill, with peers complimenting each other on their ability to pay attention to what others were saying:

> *"He has good communication skills and will patiently listen to other members of the group".*

> *"* is always an active listener, able to both listen and challenge other members of the group".*

> *"He offers lots of suggestions during discussion and at the same time is happy to listen to others".*

Good communication and interpersonal skills were seen as a key skill to possess in PBL as they ensured more detailed and engaging discussion and a good learning atmosphere:

> *"* has excellent communication and interpersonal skills and gets on very well with everyone".*

> *"* is a popular member of the PBL group who has good communication skills meaning that she is able to clearly explain her ideas".*

Being able to motivate other members of the PBL group also emerged as having a positive effect on PBL group dynamics:

*"He is the one that motivates other to work harder by being very prepared all the time himself and also steps in to lead the group when a leader is needed".*

*"She has an admirable enthusiasm for the work and is always involved in the running of the group and formation of objectives. Furthermore she works really hard and often help motivate those around her (including me)".*

The importance of respecting the contribution of other PBL group members is also mentioned consistently throughout the appraisals:

*"* has no trouble voicing the results of his findings over the week. That said, he is never overbearing and allows others plenty of time to speak, with a polite and respectful demeanour".*

*"* contributes fairly well to every PBL session, often speaking at length on a subject but never overbearing and always respectful of others trying to speak".*

Being able to start or sustain a discussion in PBL is also complimented as assisting in the learning of other PBL group members:

*"* is happy to lead the groups discussions, and is confident enough in her knowledge that she will frequently start off discussions when others in the group seem unable or unwilling to do so".*

*"He always contributes towards PBL sessions. Most of the time it is him who takes the initiative to start a discussion about a learning objective".*

Similarly the ability to debate a topic clearly was seen as a good skill to bring out further discussion during the PBL sessions:

> *"In discussions * enjoys giving her opinion on a range of topics and will engage in debates with other members of the group".*

> *"She is not afraid to express her opinions, which leads to a debate within the group; I feel this is a valuable trait as debating knowledge is a good way to learn".*

*Work specific comments*

The second main category for the peer appraisal comments coding related to work contributions or skills. One of the most constantly mentioned skills was being able to draw good diagrams on the board during PBL sessions which helped the whole group learn:

> *"He also likes to draw diagrams on the board which I find to be very helpful in memorising information".*

> *"He regularly draws good illustrations on the board and can explain complicated concepts very well".*

Being organised or prepared was also seen as a very positive skill to aid the PBL group's learning:

*"Always turned up to PBL well informed of the relevant topics and eager to share what he has learned. He appears very organised in PBL, often encouraging the group to find new learning objectives, and keeping us on track".*

Bringing additional resources to PBL was also frequently cited as a good way to stimulate further learning and discussion:

*"* often shares resources which she has found to help her and I feel this is what team work is all about".*

*"One of her many strengths is her ability to explain difficult concepts in a simple and logical manner. In each session she would always suggest various resources to gain a better understanding of different topics which are extremely useful".*

The term 'knowledge' is also frequently cited as evident in the behaviours and preparation of peers in PBL:

*"* is very confident in his depth of knowledge, which is beneficial to the group at most times".*

*"* is a very informed member of the group and always provides very interesting in-depth knowledge on subjects of the PBL discussion".*

In a similar vein the importance of offering or contributing to learning objectives was highlighted as a valuable group contribution:

*"* suggests useful learning objectives and promptly volunteers discussion and concepts regarding the scenario".*

*"She contributes well and provides many ideas assisting the formation of learning objectives".*

One of the curriculum themes of PBL is "Structure and function", which covers biology and pathology. This area emerged as a particularly useful PBL contribution to peers:

*"* is very active in the structure and function discussions and always has something constructive to say".*

*"He was well prepared and demonstrated good breath of knowledge in the structure and function component".*

Students also frequently rated each other as hard working, and offered examples of what students had contributed:

*"* is a hard working member of the group. She always participates in any discussion had in the group, no matter what the topic, and puts forward her views well, in a manner that is clearly well thought about and well researched".*

*"* is obviously hard working because when she adds to the group I find her input is vast and very helpful".*

Some of the appraisals not only mentioned skills in PBL but also referred to actual and probable behaviour with regard to clinical placements and how their appraised peer would behave with patients:

> *"She is also able to say she does not know something, which is a valuable quality to have. It not only saves time but it would also mean better care for her patients, because she is able to ask colleagues for help".*

> *"* may not be a dominating character in the group, but his calm composure is always appreciated by everyone, and most certainly patients in hospital".*

The ability to behave in a professional manner with regard to general behaviour was also commented upon on a regular basis:

> *"He always acts in a professional and respectful way towards others and to each individual's views".*

> *"Overall an excellent student and a credit to the medical school, who copes exceptionally well with the PBL curriculum".*

One of the most popular closing comments of the peer appraisals was a wish to work with the person being appraised in the future:

> *"Overall, I think * is a fantastic member of the group and I would love to be in his PBL again in the future!".*

*"I think it will be really good to have her in a future PBL group and I'm sure the rest of the group share this opinion!".*

Finally in this analysis section, comments about the future careers of peers were envisaged:

*"I think his open and relaxed manner will make him a really good doctor, as he always makes people feel that he is listening to what they have to say".*

*"He makes a good chair or scribe and will make a confident, kind doctor".*

In addition to the work specific issues outlined previously, other topics which arose in this part of the analysis included intelligence, competence, and being keen to learn.

*Areas for improvement*

The 'areas for improvement' section was interesting in terms of coding as some comments were constructive criticism, while others were suggestions to improve performance. Taking the emergent element of the grounded theory approach (cf page 112), these topics have been grouped together and presented with comment analysis as with the previous peer feedback appraisal results.

The most frequently mentioned issue in this section of analysis were peers being quiet in PBL. This was sometimes mentioned explicitly, or in other cases as a suggestion that more contributions would be welcomed by the group:

> *"Although when discussing any of the objectives he remains rather quiet, I think it is obvious that some of it he knows very well. He should have more confidence in his knowledge and speak out in the group".*

> *"* is a quiet member of the group, who needs to speak more during PBL sessions. When she does contribute though, she provides very detailed and helpful information to the discussions".*

Similarly, a number of appraisals mentioned that students were shy, and this limited their participation which disadvantaged the group when these people had a lot of knowledge to contribute:

> *"* is clearly very intelligent and conscientious but has a tendency to be shy at times. Any contributions given to the group on her behalf are always positive and add to the learning environment".*

> *"Although he is shy to speak up, when he does speak up he shows in depth knowledge of whatever topic we are covering in the particular PBL. I think the only area he needs to improve in is speaking up more often, besides that he is a very reliable and pleasant member of our PBL".*

A related issue to being quiet and shy was a lack of confidence, or in the case of some appraisals, suggesting the peer should be more confident in their own abilities:

*"I think she does do her work for PBL each week because she has notes but she needs more confidence in speaking out and voicing what she has learnt".*

*"I think that the work he produces is of a good quality and that he just needs to gain some more self confidence".*

It was also felt that peer appraisers wanted to hear more from some students, as their contributions would be most welcome:

*"However, occasionally I would like her to contribute more because she is such a valuable group member".*

*"I would suggest as a way to improve that * should contribute more - the comments she does make are nearly always relevant and informative and so if she became more involved then everybody would get more out of the PBL session".*

The other main issue raised in the 'areas for improvement' sections were time keeping and attendance. As mentioned in the previous paragraph relating to positive behaviours in PBL, being late or not turning up has a detrimental impact on group learning:

*"For the majority of sessions she has been on time, But I think that she should try to be punctual for all sessions (this is just a minor point however)".*

*"* is a good member of the group, however she is often late. This means she sometimes has to sit on the extra chair in the corner of the room, making her slightly removed from group discussion".*

*Positive personality traits*

A number of positive comments were made regarding peer's personality traits which were seen to be of benefit to the PBL group. One of the most popular of these was being friendly:

*"* attends all PBL sessions and is an active member of the group. He is one of the 'good' guys. He has an ability to get on with anyone he meets and is a particularly friendly person".*

*"* is an easy going, friendly and approachable person and as a result people feel able to contribute freely knowing that their opinion will be listened to and respected".*

Having a good sense of humour was also reported to be a good way to motivate people and create a good atmosphere in PBL:

*"* is a pleasure to work with, bringing humour to the group discussions to lighten the mood!".*

*"He often adds a sense of humour to things, reminding us that learning can be fun!".*

Peers were also described as "fun" which similarly makes the PBL experience more enjoyable:

> *"She is a very polite person and gets on well with the group and is a lot of fun to have in the group".*

> *"He is confident and conducts himself appropriately but at the same time enjoys the making sessions fun".*

Being interested in the topic being discussed and the views of other students was also a consistent theme in the peer appraisals:

> *"She listens to and is interested in what everyone says and will add on any information that is left out".*

> *"He always appears interested in what other people have to say and he is not afraid to ask questions".*

Being helpful was also mentioned in relation to bringing along helpful resources or information, and also in terms of group participation:

> *"When he finds a good resource he is more than happy to share it with the group which is really helpful if we ask him where he got the information from".*

> *"All of the points that * raises are always very helpful and accurate".*

Other personality characteristics mentioned included being happy, which was seen as having a very positive effect on PBL group dynamics:

> *"* has been a wonderful person to have in the PBL group – it is rare to find someone who is so genuinely happy!".*

> *"She has a fantastic asset of always being happy which keeps the group motivated through the morning sessions".*

Being approachable was also reported as a valuable quality which enhances the group's experience of PBL:

> *"* also has a really approachable attitude and genuine manner and this goes down well with our group, making it seem more relaxed and easier to work in".*

> *"* is an easy going, friendly and approachable person and as a result people feel able to contribute freely knowing that their opinion will be listened to and respected".*

Comments about personality did feature work related traits such as being reliable which were important for the success of group working:

> *"* has a very pleasant disposition and is punctual, having attended all PBL sessions, showing that he is a reliable member of the group".*

> *"* is a very reliable member of the PBL group. He makes very regular and very relevant contributions to the discussion at hand".*

Finally comments were made about the social and popular nature of some students which inspired and encouraged their peers in academic and social contexts:

*"She is a pillar of our social dynamic".*

*"I feel lucky to have got to know * not just in a professional, but also a social environment".*

Other terms used to describe students in the peer appraisals included calm, considerate, brilliant, inspirational and conscientious:

*"* may not be a dominating character in the group, but his calm composure is always appreciated by everyone, and most certainly patients in hospital".*

*"* is always polite and considerate of what others have to say without being dominated by the 'louder' members of the group".*

*"She involves everyone really well and speaks about the knowledge she has learnt with great enthusiasm which inspires others in the group to learn as much as her".*

*"Her conscientious work ethic is clearly expressed in her contributions and preparation for the session".*

*Challenging feedback*

In the initial stages of coding, it became clear that what could be considered negative comments could also be interpreted as constructive criticism. Most students making any kind of comment which could be construed as negative followed this with a suggestion for improvement or by saying this was a very minor issue and not indicative of the general behaviour of the individual. So, most comments of a constructive nature were coded under 'areas for improvement'. Only three challenging comments were submitted:

> *"On some occasions she has not listened to what learning objectives we have decided to cover in that class and did not want everyone else to continue on with the lesson the way we had all previously agreed on... sometimes she is very overpowering, preventing group discussion and wanting to teach the class herself which can at times be confusing and off point".*

> *"When issues that bring about debate are raised in the group, * can come across as arrogant, as he is not always willing to respect other peoples' opinions".*

> *"I feel that at times * could share more about what he has learnt and what he found interesting in relation to the content of the module instead of questioning others knowledge of particular topics. It is important as not to act in a way what could intimidate the other members of the group".*

When the peer appraisals were fed back, none of the students receiving these comments contacted the researcher to discuss them or raise a complaint, so it is assumed they were taken in the spirit of constructive feedback, and not seen as spiteful or malicious.

Student evaluation

A week after the peer feedback appraisals were returned to students, an anonymous online survey link was posted out to them by email inviting their comments on the exercise and how useful it had been in their learning. It was hoped this would be well accessed, as had been the case with a similar evaluation survey following the PBL peer review exercise in 2008. Yet a limited response of 33 students was received, limiting the presentation of these results to frequencies rather than statistical tests. This is discussed further in the limitations section of this chapter (cf page 216).

Most respondents agreed they had understood why they were appraising their peers (73%), they had found the guidance on feedback appraisal easy to understand (61%), and they felt comfortable giving feedback appraisals on a peer (88%).

However, respondents were not confident that the process had preserved their anonymity, with 52% agreeing this had been the case. Just over half of respondents (55%) agreed the peer feedback appraisal they had received had helped in their personal reflection and PBL was a good place to practice giving feedback appraisals to peer colleagues (52%). Approximately a third of respondents (33%) agreed they would like to receive training to give feedback appraisal to peers in future, and that peer feedback appraisal should be part of the curriculum.

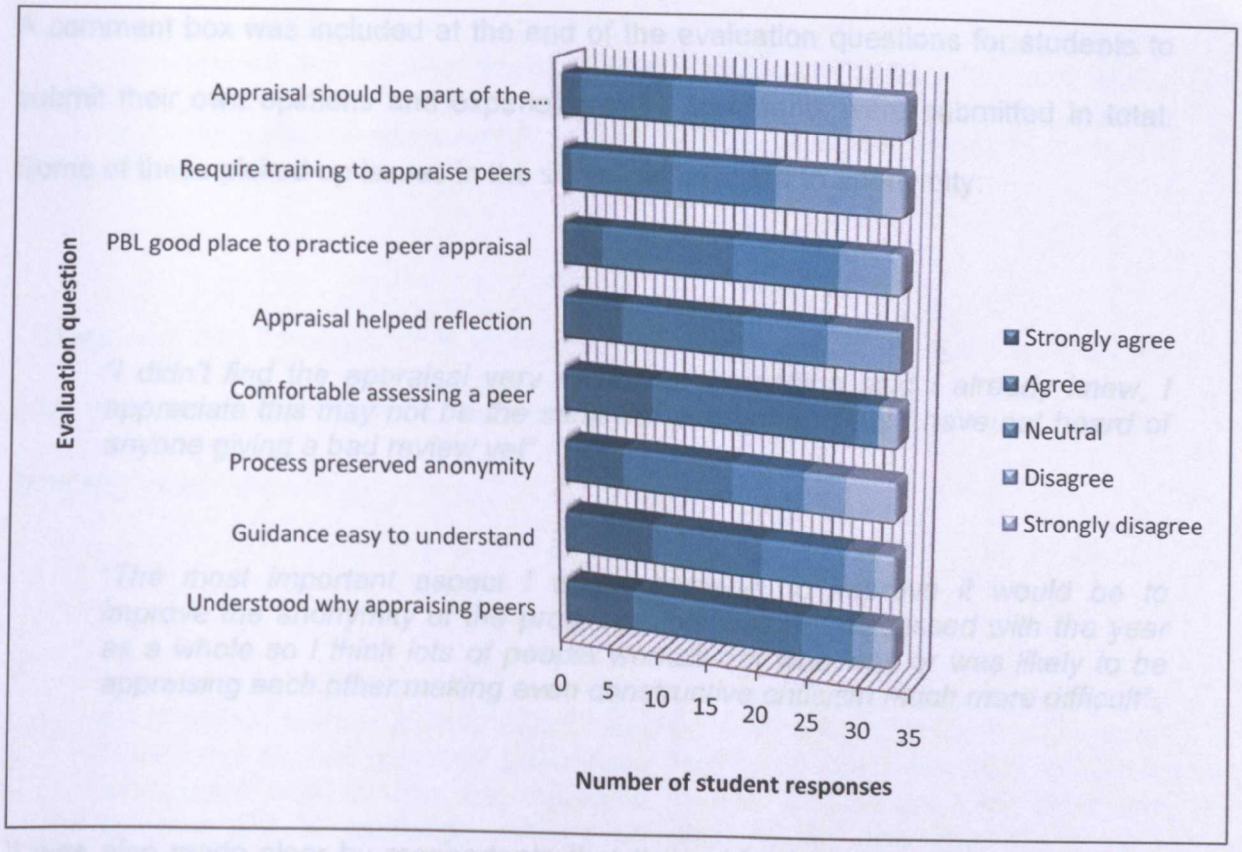


Figure 21 – Graph showing student peer feedback appraisal evaluation survey results

A comment box was included at the end of the evaluation questions for students to submit their own opinions and experiences. 11 comments were submitted in total. Some of these picked up issues in the survey with regard to anonymity:

> *"I didn't find the appraisal very useful as everything said I already knew, I appreciate this may not be the same for everyone. Plus I have not heard of anyone giving a bad review yet".*

> *"The most important aspect I would perceive to improve it would be to improve the anonymity of the process. This was not discussed with the year as a whole so I think lots of people worked out who was or was likely to be appraising each other making even constructive criticism much more difficult".*

It was also made clear by respondents that the guidance on how to conduct peer feedback appraisals did not provide sufficient detail:

> *"More guidance could be given on constructive criticism as this is vital part of peer appraisal and for most people it is the first time they have undertaken a peer appraisal exercise so better instructions and explanations could be given on how to conduct it".*

> *"I was asked to appraise a student that genuinely has a poor attitude to work and a negative impact on the group dynamics. I know it's important to be constructive but it's not an appraisal if you're not honest and more guidance on how to tactfully broach issues of poor performance would have been appreciated".*

It was also suggested this kind of feedback should come from more clinically based colleagues with more structure in terms of issues or questions:

*"Appraisal solely concerning PBL is good, but additional peer appraisal from members of our hospital groups and therefore constructive criticism of our clinical skills would be even more useful. A more structured set of questions to aid appraisal of others would also be helpful, as it was difficult to think of a lot of things to say about people".*

The issue of bias amongst students was also noted by one respondent, who felt the peer feedback appraisals they had received were so different little of use could be gleaned from them:

*"I personally believe that the peer appraisal did not help me to reflect on my performance in PBL. My two appraisals were very different from each other so I believe I cannot gain any advantage from what has been said. Students exchanged prior to who they appraise as PBL groups are very small and students like to exchange information and gossip. also one of my peer reviews stated things not true about me and I believe that this was done by a weaker member of my PBL group, as people who say less in PBL might feel intimidated when someone else does more work and is confident to speak up in front of the group and even teach them when no one has done the work. Therefore I believe the peer appraisal is not neutral, as fellow students are influenced by their own emotions towards different people. The peer appraisal should be done by a person who is not biased i.e. the PBL facilitator".*

The timing of the task was also seen as unfortunate, as the peer feedback appraisals coincided with several other tasks relating to professional behaviours for the students to complete:

*"We should have been given more notice and time to complete this task. There is an excess of professional development tasks such as this, with too many different separate portfolios. Little care and thought seems to be taken in the preparation of the various tasks. They are frequently poorly prepared, without much thought as to their intrinsic value, and little care is taken with proof reading etc. Generally, the quality of these PPD tasks does not set a*

*very good example of professionalism. It would be much more helpful for our future careers if we had a well thought out portfolio that we could build throughout the five year course, instead of a collection of meaningless and outdated paperwork exercises".*

There was also a minority of three negative comments about the exercise itself and the usefulness of the information given:

*"This was a pointless process, which provided no benefit to anyone in the group".*

*"Minimum amount of words needed. An appraisal consisting of 2 lines is useless".*

*"Not enough effort from some people".*

However, some comments indicated the exercise had been helpful for reflection, and if it was better timed in future then peer feedback appraisal could offer benefits and helpful skills to students:

*"The most valuable information I gained from the experience was that written about me by my peers. It was very beneficial in that it allowed me to reflect on my performance and make any adjustments that would not only benefit myself but also be beneficial to the group".*

*"Although I can understand the benefits of peer appraisal, at this stage of the term, all of our year is very busy with log book deadlines and the build up to exams. I think it would be easier for us to appraise our peers earlier in the year, perhaps at the end of first semester, so people would take it more seriously and spend more time on it".*

Limitations

In total 33 responses to the second peer appraisal evaluation exercise in 2010 were received. Data received from the survey was converted from EXCEL files to SPSS, although the small return meant analysis reported frequencies rather than statistical tests, as were completed for the 2008 evaluation survey results.

This could be due to the timing of summer exams and students having more pressing concerns than to complete evaluation surveys. It was disappointing to have limited feedback on the second peer feedback appraisal exercise, but this was included as part of this results section in order to ensure students views were represented, and to contribute to the overall conclusions chapter later in this thesis.

Anecdotal suggestions within the CEDP team indicated other researchers were also having problems recruiting students to participate in their projects, leading to suggestions of 'research fatigue' amongst some year groups who were being continually targeted to participate in different studies.

Some difficulties in administrating peer feedback (particularly in the first PBL based exercise) should also be acknowledged. The scepticism of some tutors and students towards the exercise and the usefulness of information collected could have skewed the data as completing the peer feedback was not taken seriously and requirements such as anonymity were not followed. This issue clearly highlights the importance of

the role of the tutor in delivering such exercises, as will be explored in the next chapter.

Time restraints for both exercises meant that it was not possible to brief tutors and students on a more personal or individual basis. Misunderstandings about how the information would be used and suspicion of why students were being asked to feedback on their peer's behaviours were evident in the student evaluations. This led to collusion in some PBL groups where students agreed the feedback they would give each other in advance. Again, this led to skewed data and information that would ultimately be of little use in personal reflective learning.

Summary

This chapter has outlined the results from the two peer feedback appraisal exercises conducted with second year students in Liverpool. Two different approaches were undertaken, one using the existing PBL evaluation criteria and the second introducing a comment based system with guidance emphasising professional behaviours. Evaluation of both exercises highlighted issues to do with anonymity, use of the data and issues relating to the timing and administration of the peer feedback appraisal. The evaluation of these peer feedback exercises has enhanced the research findings overall by providing direct feedback from the students themselves. The data generated from this chapter will inform the discussion chapter (cf chapter 10) in relation to how peer feedback can be implemented into the current curriculum and the issues students have raised in relation to such a system.

# CHAPTER 8 - TUTOR INTERVIEWS

Following on from the previous chapter detailing student's experience of giving feedback on the professional behaviours of their peers, the views of tutors were explored through 12 one-to-one interviews based on semi structured questions (cf appendix 12). Full analysis of the data is presented in the Discussion chapter of this thesis (cf page 268) to relate peer feedback on professional behaviours from students to the views of tutors, and establish how peer feedback can best be incorporated into the PBL curriculum at Liverpool.

As has been detailed in the methods chapter (cf chapter 4), sampling for the tutor interviews required self selection as participants volunteered to be part of the study. However, the resulting cohort group of 12 tutors was balanced in terms of equal gender representation and clinical background. Checks were made with University of Liverpool medical school administrative staff to see if data on the gender and clinical background of tutors was collected but this is not currently the case. Therefore, it is not possible to state if the cohort group is representative of the tutor population generally.

To provide more detail about the interviewees without compromising the anonymity of participants, the following table outlines the gender of each interviewee, their background (clinical meaning they are qualified as a medical doctor) along with the total transcribed word count of each interview.

This information is included to demonstrate the difference between each interview session. Each was based upon the same question schedule, yet the variation in the length of answers shows how much difference there was between respondents.

| | Gender | Clinical | Transcribed word count |
|---|---|---|---|
| Interviewee 1 | Female | Yes | 12436 |
| Interviewee 2 | Male | No | 3227 |
| Interviewee 3 | Female | Yes | 5877 |
| Interviewee 4 | Male | No | 4810 |
| Interviewee 5 | Male | No | 6877 |
| Interviewee 6 | Male | Yes | 2607 |
| Interviewee 7 | Male | No | 3036 |
| Interviewee 8 | Female | No | 4740 |
| Interviewee 9 | Female | No | 3526 |
| Interviewee 10 | Female | Yes | 10817 |
| Interviewee 11 | Female | Yes | 4568 |
| Interviewee 12 | Male | Yes | 4406 |

Figure 22 - Tutor gender, background and interview word count

## Results

Thematic coding of the tutor data was based upon categories determined by the research questions as described in the methods chapters (cf chapter 4).

The results have been presented grouped by these criteria with commentary providing explanation and links between these groupings.

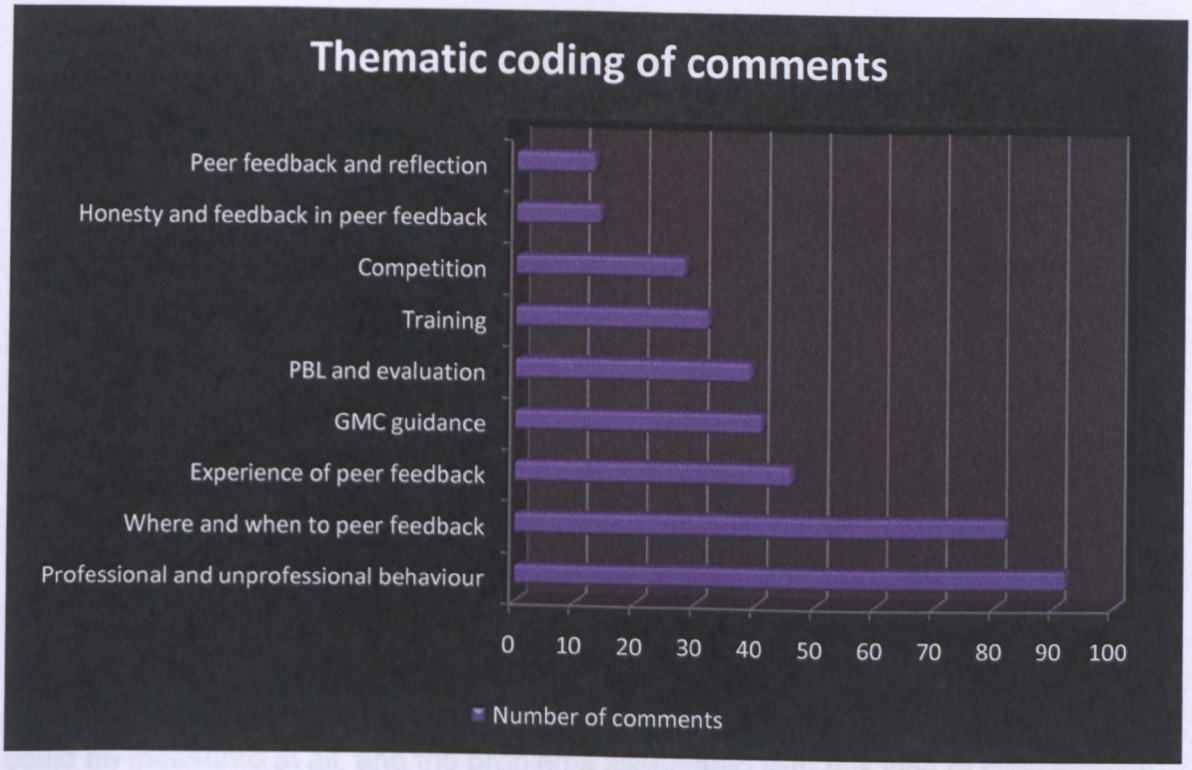


Figure 23 – Chart showing number of tutor comments coded thematically

With regard to sample sizes, the work of Guest *et al* (2006) highlighted the 'gold standard' of qualitative health science research as data saturation. Glaser and Strauss (1967) first described data saturation as the point at which "no additional data are being found whereby the (researcher) can develop properties of the category". The themes presented above reflect the issues in the questions (see appendix 12), and show how consistent themes emerged in the semi-structured interviews, thereby achieving thematic saturation. An additional category for other

minor issues mentioned by the tutor interviewees has been included to incorporate less frequent topics in the results.

*Professional and unprofessional behaviours*

One of the issues identified in the literature review (cf chapter 2) was how tutors perceived their students' understanding of professional and unprofessional behaviours. A dedicated question in the interview schedule was designed to explore this topic (Question 2, What do you think students understand by professional behaviour?).

During the coding of tutor interview data, "professional behaviour" emerged as a "cross cutting" theme. One of the first issues around "professional behaviour" was if it could be measured at all, and the problems associated with this kind of classification:

> *"Do you think professionalism should be assessed? Summatively or...., well, I have quite major concerns with the idea that something can be packaged as professionalism and summatively assessed, because I think that... errmmm, that it's not as simple as that. And it's very difficult to unravel why people behave in the way that they do. And therefore if you're not careful you may be introducing a variety of biases into your assessment that are actually undesirable. Errmmm, and... so I think, I think it's, I think you can probably have some aspects of behaviour that are unacceptable and that can be, you know, clearly defined as unacceptable. But I think the difficulty is if you're going to be doing it on a summative basis, who says and on what basis are these things the right or the wrong things to do, the yes or no answers. So actually, as I say I have major concerns with the idea of any sort of professionalism being summatively assessed in a way, in a way that if they get it wrong they don't get to be doctors". Interviewee 3*

The purpose of using peers to feed back professional behaviours was seen as a good way of raising awareness by one tutor:

> *"We want them to get their professional antennae out, don't we, so they notice and appreciate professionalism and peer review is part of that. And when they notice things done well and demonstrate it, both in all its good forms and bad forms. It's like an apprenticeship". Interviewee 1*

*Peer feedback as part of learning*

Views expressed on how peer feedback fits into the wider context of structured learning were expressed by several tutors, suggesting that it is part of current practice and also something additional which needs to be clearly explained to students:

> *"I think the other thing is the setting, it's got to be about their learning and development and I think if it's, if it's... grounded in what we talked about before, the positive intent, so the intention is positive, it is about trying to give you some feedback in a way that will help you learn and help you to develop personally and professionally". Interviewee 10*

> *"I guess it's the issue of maybe... you know, these are democratic learning environments aren't they – they are about sharing and working together and being able to learn together... You know, this isn't their curriculum, they are students and they have got to learn it. and I think the extent to which they would feel control over the process, or feel a real participant in the process, erm, probably needs to be sought through what do these kind of shared learning environments mean, what their role really is in them.... but their level of participation I think needs to be honestly communicated because I don't think you can step up for this expectation, they are not in this together either, they are in a massively competitive field, so you know, this, I think, really really being able to have a very clear understanding of why they are doing it, and what it's for". Interviewee 9*

How peer feedback is received and used was also mentioned by several tutors:

> *"Most people are good at receiving positive feedback and feel threatened by negative feedback ... the, ummm, the input you can get from your peers... there is the, ummm, requirement that feedback is given with evidence and that you should do that with peer feedback anyway, why you say that, positive things as well". Interviewee 7*

> *"If it was a recognised part of the curriculum then, it was recognised they were comfortable to get a feel for it and also as long as it was two way I think, and they were encouraged to be positive and not destructive or critical". Interview 6*

> *"As long as they know it's not really going to be used against them because I think people hate that sort of thing...". Interviewee 5*

*Understanding professional behaviours*

Tutors expressed a range of views about what students understood by professional behaviours. These offered a variety of perspectives between attitudes, behaviours and ideals that students had offered. A 'model' was described by one interviewee with reference to patient relationships and the images of doctors portrayed in the media and in popular culture generally:

> *"What do I think they understand? (pause) mmm, initially I think they think it means you can't be friendly with the patients, they seem to start off, and this is coming from my sort of work with communications, they start off with the idea they have to be very... robotic almost and (pause) wooden, that's part of what being professional means. I think they have to kind of fit themselves into a mould, a model they have and I don't know what the model is but they have, but I'm really interested because obviously they're exposed to a lot of models*

*on television, in the cinema, in books, so they have an idea but I'm not sure what their idea is". Interviewee 8*

One tutor spoke about how, to students at the early stage of the course, professional behaviour simply meant behaving more like an adult. Then as they progress in their second year they begin to appreciate the role the doctor has in relation to other people and how they begin to adopt professional behaviours as a result of this maturity:

*"Good question..... I should think that, err, there is two parts to professional behaviour. One of them is that students, certainly in years two and years one, tend to be quite young. And... they, in many ways this is the first time that they need to act like adults. So, they... professionalism to them, especially in year one.... for them... means nothing much more than them acting like an adult rather than a teenager. And errmmm, by year two it changes for them, partly down to the fact that they are now they are actually exposed to patients and other staff. And that is quite noticeable in some student's attitudes, they are... all of a sudden, it becomes clear that they have picked a profession which will require an awful lot of commitment from them and the surprising part is they grow up". Interviewee 2*

Two tutors talked about their idea and definition of professional behaviour, with one suggesting the impact of role modelling on students understanding, and that the tutor demonstrating professional behaviour on a consistent basis affects student learning:

*"Well, I think it was the one that seemed to, kind of, gave the most thought to what's professional in the group of aims and standards, that's the more formal, validated definition of professionalism and... erm... I really think it put it in the spotlight when we discussed it... and I have my own very layman definition of professionalism... someone who gets the job done, and gets it done even if it's after five o'clock. And that might be very naive, but I... I just*

*see some of the people I work with, you know, and at the end of the day jobs are just left and that person who has a... I hope and will direct that devoted approach will get the job done". Interviewee 12*

*"Professionalism is about consistency, being there on time, and I am always there before with PBL and I used to ask the students about timekeeping and they would smile and laugh, but I was setting an example. So, with professionalism, they see it being encouraged, they see you're ready and prepared for the session, you've done your part, what you know is you will gently guide, well, not guide but provide what they need. Be aware of their presence, smile, be friendly and consistent as soon as you walk in the door, because you're pleased to see them and there's that lovely start, right, we're going to have a good session today". Interviewee 11*

The wider context of professional behaviour was also mentioned in relation to changing expectations of the public generally, and how unprofessional behaviour has become normalised in some respects, particularly without the clarity of a definition:

*"The changing model of professionalism have been highlighted by stuff like "The Apprentice" where people lied on their CV and got away with it, and that changes notions of what is and what isn't professional behaviour – to 'it's professional as long as I don't get caught'. You can't make assumptions about what constitutes professional behaviours in different circumstances. Sometimes it's basic politeness, sometimes it's a pattern of behaviour, there is no standardisation so it's hard to generalise". Interviewee 10*

Specific unprofessional behaviours were mentioned by several tutors with regard to the disparity of what is taught in the classroom/PBL setting and what happens on clinical placements:

*"And they (sic students) were very surprised at... kind of... I'm not going to say professionalism, but all they're taught is not practiced in the big, wide world". Interviewee 5*

Professional and unprofessional behaviours were also seen as being blurred in the context of PBL, where behaviours of patients and colleagues might well be discussed, but also inappropriate revelations to do with socialising or drinking might also be disclosed:

*"As far as the professional behaviours in PBL perhaps some aspects are less appropriate and the idea of discussing professional behaviour regarding patients and colleagues is appropriate in PBL but things like dress and appearance are more appropriate to clinical skills or on the ward. Ermm, although the, it depends how far you want to take it with the behaviour, drinking culture or something like that. Not often but occasionally they'll come in and say, they'll recount the activities from the Raz the previous night, things like that and how do you square that with professional behaviour?". Interviewee 6*

*Curriculum context*

Specific references were made to curriculum context and how students view professionalism as another skill they acquire and 'tick that box' or compartmentalise. Interviewees spoke about communication and PPD covering aspects of professional behaviour without being explicit about it. The debate in current medical education literature about professionalism being attitudes or behaviours also arose during the interviews:

*"Ummm, lectures and seminars on professionalism... there's also difficulty with... that umm, some of the ways of looking at professionalism focuses very much on technical skills rather than attitudes and I think that's really quite difficult in a lot of cases... . They are very focused, they're still focused on competencies rather than qualities. With first years that is definitely the case". Interviewee 7*

*"It's fragmented and not a lot of it. And I don't think if you asked them they would know what the overview, what the main message was. .. I don't think it's something ingrained that they see the Liverpool professional as a particular set of attributes or skills including the ability to speak up when they have to about their own or other people's behaviour and what to do as a result of that. Yet it's in all the GMC stuff". Interviewee 3*

*"Erm, I think basically, I can only answer for, on the academic side... and therefore, the only thing we would do for this in PBL is part of the PPD were you would look at the attitude of doctors to patients, vice versa, the health care professionals attitudes to stigma and things like that. So I think they draw it from that". Interviewee 5*

*"Ummm, well, you have an induction day and you give them all kinds of things about signing confidentiality forms, about all this sort of thing which is again about professionalism and how to react on the ward, how to dress and so on and so forth. And I think they're not ready for that until they go out there and maybe they're not doing it... but effectively from a PBL point of view I don't think we really talk about that and there is too much of other things to do and professionalism to them is PPD sessions, that's in my opinion". Interviewee 12*

*"Yes, I think it needs to be in context, and, and I don't think that we offer sufficient clinical exposure to.... before that context has developed". Interviewee 2*

*Professionalism as a new concept*

Several tutors made reference to a lack of clarity on the part of students regarding professionalism – what it was and how they were expected to behave accordingly.

There was also the appreciation that professionalism means different things to students from a diverse range of backgrounds:

> *"Ah well, there you are, there's a point - when students try to explain it to me they say and 'thingy' and 'such and such' and you know there will be other things and I'm like, I need you to explain that to me in a lot more detail because I really don't understand what that is". Interviewee 4*

> *"And I ... so the answer to your question is I think they're really a bit confused as to what professionalism is". Interviewee 5*

> *"It's getting that right. I'm not sure what students think about it, about professionalism. I think it depends on the students actually. It depends on their background and their understanding and what they've grown up with". Interviewee 3*

One tutor wondered if students had even considered what professionalism meant to any extent, and it is assumed they have an implicit understanding of what was meant by the term and its application:

> *"I think its erm, one of those things that I don't know that students would sit down and consider to the nth degree, do you know what I mean? Or maybe even consider it kind of specifically you know... I think probably there is a classic understanding that we all know what we mean by that, rather an implicit understanding about professional behaviour rather than an explicit one and I think the other thing is that so often when people talk about professional behaviours they do talk in kind of general terms". Interviewee 10*

One tutor mentioned that the issue of professionalism had never featured in the PBL session, and they were unaware of such definitions or behaviours:

*"I wouldn't be aware... do you mean in terms of their relationship between the teacher and them or just themselves as participants? No, I have... no, it's not an issue... I can't remember it necessarily having come up...". Interviewee nine*

*Ethics and morals*

Professionalism was seen by two tutors to be closely linked to ethics and moral behaviours, with some cross over between the terms:

*"... the other thing that's just come to me now is, is I would have thought that perhaps, and I may be totally and utterly wrong, that perhaps professionalism to them is all about ethics and morals and therefore that is professional but isn't actually necessarily professionalism is acting in a very professional manner". Interviewee 5*

*"We were talking the other day about ethics and I think... we were listing ethical principles but I turned it round a bit, and you know, defined what the different ethical principles are, putting it into a patient doctor context. And I think, I think, a lot of professional behaviours are probably about operationalising some of the ethical issues and concepts. Which sounds, which I don't think it's easy as people don't understand it that way, I don't think people see it... ethics are in one box and, you know, you unpack it and... they don't see the real life application of it". Interviewee 8*

*Teamwork*

Working as a colleague and appreciating the status of the patient were also identified as key professional behaviours with regard to PBL and the method of learning students are experiencing. One tutor summarised by saying:

*"So, I keep, as you say, professionalism at the moment is not clinical, clinical by the wayside, it's about working in teams... one of the students just reported back that actually they really wanted to be the group leader all the time and*

*that's not a going to work, erm, something else that's just come to mind and made me think is one place I worked where they were hiding patients because there was such a hierarchy and a feeling of intimidation among the staff that by hiding the patients literally...and I think PBL... avoids things like that because people wouldn't walk off on students and open things out like questioning rather than intimidation". Interviewee 12*

*Where and when peer feedback should be conducted*

One of the key questions for the research was where, when and how tutors thought peer feedback should be conducted. This resulted in a wide range of suggestions and opinions about the best method, setting and time to effectively conduct peer feedback.

*Method*

Suggestions for methods to conduct peer review were centred on either a paper or face to face system. One tutor felt that the main point was to be able to demonstrate an improvement in behaviour, and offered the link to communication skills as an example of this:

*"Well, I mean the only way of doing that is if you actually had it in electronically or paper and they are in fact are given a score like 'you weren't very good at that oral presentation' or whatever, or 'you're shy' or whatever and then show the next time you do it in six months or a year, have you improved? So that, that is a possibility to show improvement and if there isn't any improvement then you have to consider.... So, I think, I think it probably is a good idea if it's consistent and they can actually show an improvement". Interviewee 5*

Practical concerns about how paper or electronically submitted comments could be misinterpreted by the recipient were also raised:

> *"Right, errmmm, the difficulty with things being electronic is people can take all kinds of umbrage (laughs) at things that are written down, because in a system where you don't have, well, if you're in a discussion forum it would be bad enough where you have all these smiley things that tell you whether somebody's angry or embarrassed or, with what you say and we wouldn't want to let them loose on that kind of thing (laughs) 'I'm really angry with you today', angry icon. But without that in a plain email system or plain message system, you don't quite know.... humour can get taken as something completely different and, all kinds of misunderstanding". Interviewee 1*

It was also suggested that students should be asked about how they wanted to receive feedback and how such a peer system would operate and what it would cover:

> *"Yes, and I think to ask them, I mean in a formative stages in terms of the feedback to get them to think about not only how they give feedback and what's going on there but how they receive feedback and how that can kind of works for them, you know what their feelings will be and how they would like to receive feedback, I mean it's a very obvious question but you know, we don't ask it often enough. You know, I would give you feedback on, you know, your performance in X, Y and Z, how would you like me to do it?" Interviewee 10*

*Where*

Different settings for conducting peer feedback included clinical placement, which could link to communication and using patients for learning more effectively:

*"That would... on a student ward round where the.... they do work in pairs for a lot of clinical stuff and actually if we could clue them up a little bit more within those pairs you might actually find the learning process, and the communication again I don't think they use the patients for learning and development maybe as well as they could and so... thinking now... things like evaluating, you know, what tests have been done and why and how and whether or not they should have been done and all those sorts of issues. Hmm, there might be an opportunity in threes rather than twos, two's can be a bit of a nightmare". Interviewee 3*

Yet PBL was still seen as a good place to practice feedback over the duration of the course, so people would get more comfortable with the process:

*"I think the evaluation component of the PBL sessions should, right from the word go, be used to bring in, you know, to kind of introduce concepts to do with peer and tutor review, you know the notion that you've got potential there for a three way interaction haven't you, where you've got student to student, student to tutor, tutor to student so, and I think it's a very flexible kind of setting to do it in. In a situation and moreover you have the opportunity to, the longitudinal opportunity haven't you, to work together as a group over a long period of time, so that you can get people comfortable with one another". Interviewee 10*

*When and why*

Comments relating to the suitability of peer feedback for year groups identified second and third year as the best time as they were experiencing more clinical contact and taking on more responsibility in their learning role. First years were often seen as too young and still 'settling in' to the course, although one tutor felt the sooner the better in terms of receiving this kind of feedback. It was also mentioned to make it clear why peer feedback was being undertaken, making it as positive as

possible and using mentors or older students to give feedback to younger colleagues:

> *"To be honest, errmmm, I think unless they're asked to do that from year one then... then they do find it becomes more and more uncomfortable. I think by the time they get to year three, they do appreciate it because they feel, they've grown up a bit and that's when it's going to kick in more, so... making it easier...". Interviewee 4*

> *"I think in the second year they should... maybe not in the first year, that is slightly different but when they are let loose on the wards in the second year, doing it with them, they should be doing it from straight away, helping each other learn. That's about... helping each other to see how they could do it better or what they missed out or... or maybe they need somebody... I don't know... from a different year to help them at that stage. A fourth year or something, I don't know". Interviewee 3*

> *"I think that year two is not an unreasonable time to introduce that. I think it needs to be made..... entirely clear that the aim of the exercise is to help each other rather that just, you know, they should not feel retribution". Interviewee 2*

*"Well, usually people from third year onwards – a couple of second years but mainly second years when they start on clinical placements. So I think the more, ummm, the more they observe their colleagues... and also the more they feel that they're prospective doctors". Interviewee 7*

*Face to face or anonymous*

Tutors had mixed opinions on whether peer feedback should be anonymous to ensure confidentiality and promote honesty or if students should be prepared to

confront difficult or uncomfortable conversations face to face as part of their role and general communication skills:

*"Yes, perhaps introduce it first anonymously then do it face to face in second year". Interviewee 6*

*"So you know, we're expecting them to develop all these marvellous communication skills face to face, and errr, thinking about messages they give from non verbal and that other people give and that's what they're doing in the communication skills side, I would expect that feedback with their peers should be face to face really. In the same way that they would be face to face with patients and have to confront difficult issues if the patient had a complaint during the consultation...". Interviewee 1*

*"Oh well, with face to face feedback it wouldn't be necessary, couldn't they just use the form?". Interviewee 6*

*"Absolutely! I mean. I would prefer it to be face to face personally, cos again there is less room for misinterpretation and you can justify what you're trying to say and people perhaps aren't as good with the written word as they would like to think they are. I can see room for it being written anonymously, how used it would be, with an electronic version rather than having to deal with it face to face, it depends on the percentage of uptake of that. Certainly all our facilitators get anonymously reviewed by the students at the end of each semester... but then the sheet of paper is put in front of them to deal with it at a certain time and deliver it back, and so we're kind of monitoring it that way". Interviewee 4*

*"Well, I think students are probably more comfortable giving feedback anonymously. Errr, I think it is actually a professional competence to be able to do it, to give feedback in person and it's an important professional competence, but you find people hide too easily behind anonymity when they should be prepared to defend or explain what they are saying". Interviewee 7*

It was appreciated by two tutors that giving feedback can be a "scary" experience and students could feel vulnerable or even victimised as part of the peer feedback process:

> *"You see, again, erm, not being anonymous can be a bit of a scary thing, but actually I know from, you know, talking to students who have been doing their critical thinking that they actually want more of an iterative process... or they say I don't know what you mean – there are all sorts of levels... there ought to be the opportunity to reply to criticism, other than just 'I'm going to change this' I don't know whether they do have the opportunity to say 'well, I did this and I used your comments"' Interviewee 10*

> *"Basically, I think they would feel victimised and quite vulnerable, certainly in the first semester they are very unfamiliar with what's going on and to criticise them on top of that would make it difficult. But, having said that, one to one feedback, you know, occasionally it's very useful because you can be more honest and open about everything and put the ball in their court and so on, saying did you feel you contributed enough or something like that and I think they would find that a much more comfortable situation for giving feedback and that's the sort of thing they would want, not to humiliate them in front of the rest of the group, not a good idea. Some could take it but I don't think, many wouldn't. I think one-to-one is the best, the best place to do that. But then obviously that's subjective and doesn't develop professionalism to do with the group". Interviewee 6*

*Allocation*

Some important points were raised by tutors relating to how students would be allocated peer reviewers. Self-selecting reviewers were discredited due to bias. Several tutors pointed out that in 'real life' work situations students will receive constructive feedback from colleagues who are not their friends, so they will have to deal with this situation at some stage in their career. Issues that emerged in this section also include the credibility of the individual who is feeding back:

*"They are expected to do this later in life, when there are "mini pats", or the "360 degree assessment", that sort of thing. But the trouble is that, that's a flawed system because they select they select the people who will provide the feedback so it's not a random sample, it's, the feedback is going to come from a pre-selected group... and that is going to influence the outcome of the feedback..... Now, if you give a feedback in an environment, in an environment where it is none threatening, and the whole aim of the exercise is it is helping you realise your deficiencies, then, then that might change things. So, again, context becomes part, an important issue". Interviewee 2*

*"They are going to have to deal with this when, they are going to have to treat patients whether they think they like the patient or not, they are going to have to work with colleagues whether their initial responses that they don't really rate this person or, how they deal with it. But we don't, I don't think we necessarily have those discussions with them". Interviewee 1*

*"Well, probably there should be some randomised process, and otherwise you get deals being struck along the lines of cosy twosomes, if you mark me then I'll mark you". Interviewee12*

*Personal experience of peer feedback*

Tutors were asked about their own experience of giving and receiving peer feedback with colleagues. The question was intended to elicit examples of positive and negative feedback tutors had experienced themselves or with their students.

*"I've been evaluated twice I think, in twelve years; when I started initially and I've had another two or maybe three evaluations and they were sort of positive feedback from an experienced colleague and it certainly changed my practice". Interviewee 6*

*"Informal sure. You know.... yeah, people see it in class, I mean I'm open to hearing what other people, when they try and discuss things if we're working together, and because you know you will miss things, you don't see things, interactions, I really don't, I mean I try and be reflective, I try to reflect on you*

*know, each session and address what I know are my weaker points". Interviewee 8*

*"I find that... with students, it's kind of a struggle to begin with. Again with first years they will just say I do some things OK or I don't do some things OK, and I say you need to be a lot more specific at the end.... With the staff that have, that I've worked with... because I think its University policy here and it has to be done and it's a bit of a shock to them because they didn't realise that was the case. And they do get bothered by it... because some get frightened by it. Some people are the exception. I have the completely different attitude that I like people to tell me what I've done right and what I've done wrong and where I can improve but that's because I'm from a completely different background I suppose. Most of the time they... I've never found anybody who did not appreciate it, the feedback that they've been given, they always find it useful". Interviewee 4*

This tutor further elaborated that beginning the process of peer feedback early in the PBL cycle gets students used to the practice and more willing to engage with it long term:

*"I think once they get into it, especially if the group are joining in to help them discover where they feel that they've done well, so when you're asking them to consider themselves first, and then their peers to consider them... it's kind of getting everybody involved straight away, to get them into the way of feedback". Interviewee 4*

Another tutor explained how they welcomed the opportunity to get feedback on their teaching and found this helpful in terms of developing their teaching style:

*"So * gave me feedback and then * gave me feedback as well on PBL, so I decided because I was new, new to PBL, that I could use it as part of feedback so my experience of it has been generally, I mean it's the only time*

*I've had a peer review done here and I know that the teaching and learning team had been organising it but I had requested both of those and I think I have sent it through the teaching and learning team as well. Erm, I think it's.... errrr, no, I think with my experience of it, personally I never have any kind of problems with anybody sitting in and I quite like the opportunity of people kind of saying, you know, sort of giving a bit of feedback on what I'm doing". Interviewee 9*

Another participant spoke about the PBL tutor development sessions, and how they can learn from peers in that way:

*"Errmmm, I don't know – I mean the, the tutor development sessions can, can be a great opportunity for peer feedback because people are exposing, including myself, the kind of things that you do in sessions and other people comment on that, and then you have a discussion". Interviewee 1*

Provision of appropriate guidance and the importance of feedback ground rules was a consistent theme in the data:

*"I've given.... it needs, it needs supporting, people need to know what the ground rules are, what is helpful and what isn't, but the principles of learning the difference between criticism and feedback and I think it tends to go very well.... I've been on both sides, and it's a big part of my professional career. Mostly it has been unexceptional but useful.... I mean, I deliberately choose junior people to, ummm, to give me feedback and ideally who are not answerable to me in any way, shape or form. So I actually prefer not to... bias the process. I think when I am working, as a senior member of staff, I think it's important for people who are learning professionalism to be treated the same and have permission to say 'you've done a bad job' or whatever. That's fine". Interviewee 7*

Another tutor referred to giving the students permission to honestly comment on their peer's behaviour;

> *"So I've had quite a lot of feedback and the feedback is such that you get it as a positive thing so that you know... I'm fairly confident that people feel empowered to actually tell me what they think, erm, there is also with PBL students give you feedback, I mean recently actually I asked the students you know, what do you think I could do to help you work better as a group – (laughs) we actually had a very good conversation about it. And in fact in some ways as you might predict, in terms of peer feedback, well, not peers but you know in a way they are junior colleagues, their peer feedback to me was in some ways the least useful bit of it, the most useful bit was the fact that I gave them permission to do it and also that they had the round table conversation and were able to, to kind of think about the group in a different way". Interviewee 10*

Giving and receiving peer feedback had been a partly daunting experience for one tutor, who said they had not received training to deliver these sort of comments to colleagues:

> *"Erm, partly because of that and partly because I started a PG Cert (post graduate certificate), and erm, I found that a very challenging - with a small c - experience because in all these years I've never had any training, I've never had any feedback, my worry is they are going to tell me I need to change, which means for the last twenty years I've been doing it... luckily the feedback was OK so * gave me feedback and it was fine, he just observed it and I think I dived in from scenario to brainstorm a bit too quickly and they don't discuss it enough....I think my personality is that it should always be a learning opportunity. I mean, yes, you'll find some feedback difficult"... Interviewee 12*

Finally, mention was made of NHS appraisals for practicing clinicians as part of the revalidation process:

*"We have an appraisal, I have an appraisal each year at the end, on the job that I've been doing which, you know, with the NHS and academic representative sit down and they kind of talk through what you've done over the year". Interviewee 10*

*"The actual annual process is meant to get you to reflect on all of your work, whether it be errmmm, service contribution as a clinician or to the NHS or whatever, and then your academic things to do with research and education, whatever. So there is a culture about it in the NHS, clinical academics are all required to do annually and that includes their education contribution, but how much that, the education stuff actually comes up in those sessions in a peer review kind of way". Interviewee 1*

*Awareness of GMC guidance*

One of the key issues in the research questions was to investigate how much knowledge PBL tutors had of GMC guidance and how this impacted on their role. Most tutors were aware of the guidance and had referred to or read it at some stage:

*"I've seen the booklet for Tomorrow's Doctors and I've skimmed through it, but I have not, to be honest, had the time to sit down and go through it bullet point by bullet point". Interviewee 12*

*"Erm, well, I haven't been aware of it in any kind of official sense, it's always referred to and, and people, I personally use it as a way to get what I want into the curriculum, you know, because if you can point to something in Tomorrow's Doctors, this is something we need to do more of, it's there in Tomorrow's Doctors. I don't, you see, I'm not aware of it coming from the top down but I'm aware of my colleagues and people that I work with on a daily basis saying that what we are doing is delivering what the GMC wants us to deliver, that's our job, that's what we are paid to do. But that's sort of the basic understanding I have of people working at the same level I am". Interviewee 8*

*"What I got out of it for me is important is the GMC guideline 111 about wanting assorted feedback. Now, I'm looking at this regarding communication skills in PBL and it's very important that we are teaching them to be pro-active*

*and to question what we've got and they evaluate continually, and they're being told to do this always, and build confidence throughout their career. I think it makes a real difference to their formative skills, because if they fail, then fail again and therefore they're having to sit through the whole year again, it's logical for them to be saying quietly 'why can't I look at my stations and results and discuss them so I know for next time?' I'm sorry but to me, 111 is something that we need to address in terms of feedback". Interviewee 5*

*"With the guidance from the GMC, well yes, we look at professional issues as far as PPD – personal professional development - is concerned, now how up to date that is, that is probably something that needs to be observed because we just take the students guidance". Interviewee 4*

The emphasis on professional and unprofessional behaviours in the guidance was mentioned by several tutors, along with definitions of professionalism by the GMC:

*"Errmmm, it seems to be the stuff that we already know about, I don't know if there is anything particularly, very important about students responsibility to report unprofessional behaviour and.... as you know, well, the issue would be that they might know that they need to report unprofessional behaviour, but their discomfort in doing so leads to tell tale". Interviewee 1*

*"Well, it's the concepts of professionalism, the ethics of it and legal things, connections with the GMC are all well triggered from year one onwards in problem based learning sessions and scenarios. And so long as there is always a big on there, so long as PBL itself is being implemented properly, then there should be lots of discussions on professionalism, what should happen, what a good doctor should do, what the GP does to make a good doctor, I don't know if we've embedded that much in terms of dilemmas". Interviewee 1*

*"I read the stuff on medical students and professional behaviours and values... I think, most of what is there is not unreasonable... actually, the way that they've... with the later one, the professional values... I can't remember, whatever the latest one is, where they've actually used the same format as for the medics which is the probity and good health and those sort of things which I think is quite helpful...and I think maybe we should use those phrases more*

*when we talk about professionalism so that it... you know.. it... because they... I suspect, I'm just afraid that professionalism is a trash can into which... that people put things. I don't mean us particularly.... but I think that it's a convenient dumping place that... and unless it's unpacked as to what's, it shouldn't be a closed box, it should be very clear as to what professionalism, what we mean". Interviewee 3*

Some tutors were unclear if the faculty had a responsibility to disseminate the documentation or the GMC should take responsibility for this:

*"Nobody has sent it to me! I mean, yes, I got the draft but I haven't, the GMC... I'm still waiting. I assume they'll send it to me because they normally do. Question of course arises is to whether it's our job or that of the GMC, whether or not, that's an issue. I don't know". Interviewee 3*

Two tutors said they were not really aware of the guidance and had not seen it:

*"No, to be honest with you no, I don't know anything about it... is there an assumption then, that people just, ermm, find it themselves?". Interviewee 9*

*"I doubt it, I doubt it... Not specifically no, the principles I think are fairly well known but it's useful to see the guidelines written down". Interviewee 6*

*Current PBL and evaluation*

Interview questions revealed different attitudes and processes in which tutors undertook the PBL evaluation process;

*"Mmm, well, take this PBL... I think the feedback is first of all – I can only say for first and second years because I only work with third year for a very limited time – we would have feedback basically at the end of say one, or group of sessions and I would see them one-to-one based on their LUSID or PDP things and then we... to be truthful, over the years didn't have any time to do it... I think feedback could be a lot, lot stronger. But again, who does it and where's is the time?". Interviewee 5*

*"And I hate to be cynical but some of the people we have, they're under duress, it's not their type of thing, they don't believe in the fluffy side of PBL as in anything other than structure and function, and so evaluation at the end of the time would mean nothing to them, and that's actually if it actually occurs, although it is encouraged and expected". Interviewee 4*

*"I think that's the whole part of the business, to give feedback as a group process, you can do that and ignore the individual. And if you model how you, if as a PBL facilitator you model the feedback session and you do it then it should be a lot easier". Interviewee 7*

*"Well... there are guide.... there are guidelines, and it's just that whether, ermmmm, facilitators do it, they have actually been explicitly told, and some do and some don't". Interviewee 7*

*"Yes, I think you particularly notice it in the second semester when you try and set down ground rules about how the groups will work and it's pretty unfamiliar to them what you are proposing so consistency is not being followed". Interviewee 6*

The current evaluation forms used in PBL met with mixed reactions:

*"Well, we have this self evaluation form and the tutor evaluation form and, almost always they are pretty consistent so I'm just assuming most of the students know if they do not, if they are not contributing or not doing enough work. And you can talk about that in the one-to-one meeting with the tutor". Interviewee 6*

*"Yes, it was with year two. I actually think that, I actually hate the PBL phase – you know, the form what they hand us to do with students. And the reason for that is that it's worded in a very strange way. If you take it at face value then even the best students you can have in a group are not going to score very highly on it because the highest scoring points are such an ideal person that in real life you would never get there. (pause) And it's the same, the other thing is when they are rating themselves they tend to put themselves down, in year one especially they rate themselves down, year two they rate themselves down, in later years they maybe become a bit more cocky". Interviewee 2*

*"Oh yeah – yes. I do remember it now (laughter). I do remember filling it out - I do think they are pretty good markers... did you want specific examples? Yeah, I thought the criteria was very, very good, I just haven't used them much in learning". Interviewee 9*

Creating a comfortable atmosphere in which to undertake evaluation in PBL was discussed in detail by several tutors with reference to reflection and learning:

*"Yes, I think it's a really interesting one isn't it though, because they need to be able to, you, they, need to be able to engender or foster a kind of atmosphere of honesty and... I think my instinct would be if I was with a group I would want to talk it through with them and actually get some, you know, if we had peer review as a strand that was going through PBL more formally, then I think we'd want to develop some ground rules around peer review in PBL with them, we want to say there are lots of different ways we can do this, here are some starters for ten, you know, how do we as a group want to manage this requirement to do some peer review so that we all a) learn a bit more about peer review b) get a bit more comfortable about it and I think that's probably how I'd want to kind of manage it initially but also be prepared to experiment I think". Interviewee 10*

*"I think the idea of students, and you know, perhaps an integral part of PBL already, the idea that students you know, help each other to develop and reflect on providing feedback in a general form about everything and anything, in terms of their performance in PBL, that's fine". Interviewee 3*

*"I mean I think it's important in PBL, I think it's important for them to reflect on how the group as a whole can do better and to a certain extent, their role within the group. But it's difficult to do, I think they find it really difficult to tell other people about... in that public setting, and say that wasn't how you should do it, it's very hard". Interviewee 3*

One tutor admitted they got to a comfortable stage with their group and became almost blasé about the PBL evaluation process, and this had less priority at the end of the session when people were rushing off to other classes or plenary:

*"Yes, I have phases of doing that early on and then we settle down like an old married couple into a way of doing it (laughter), and... I avoid putting one person on the spot, to say 'what about yourself?' and it ends up being a lot of nebulous reflection 'I think we had a good day today' and what I really should be saying is 'what kind of a day did you have?' Erm, so... in the nature of... I don't give enough time to it, because I have my two hour PBL slot with them and then towards the end of term they are still rushing off to the next plenary, and what we might need to do is to say we actually schedule into the PBL staff timetable formal feedback rather than a quick and dirty five minutes whereby I do fall". Interviewee 12*

*Training*

Tutors expressed a range of views on both training for themselves to oversee and support their students to peer feedback, and also what ground rules students should learn:

*"Can you teach somebody that? From my personal experience and I've been doing PBL for four or five years now, and it's been a constant learning curve. Chances are that when I started out I was... almost as good or bad as they are at judging how good or bad somebody was. And it took me several years of experience to see through them. Whether you can teach people that to somebody, or they just need to experience it". Interviewee 2*

*"Training and or experience... I mean, I've got no training so why should I say that they need training more than I do? I think its experience; I think its maturity to say that, just 'it's been a good morning' isn't adequate". Interviewee 12*

*"Yes, giving them some sort of structure that gives them permission to say things and a structure within which to do that, and some ground rules for what... what is not acceptable and some examples of, of, ermm, a bit of a dilemma that might come up and how they might phrase that. It almost requires some formal, ermm, training or material or an induction session about it or, or we have to be sure that the material that they have in front of them and the training of the tutor means that will come out during the sessions". Interviewee 1*

*"You know, you get trainers in who know how to do it... here are things you have to know about people and about managing people and giving feedback. And you can't just tell them this is a good idea, let's do that". Interviewee 8*

The appropriate delivery of feedback – particularly constructive or negative feedback – was also a concern for tutors. It was also proposed that giving examples of good and unhelpful feedback would be a good way for students to start thinking about these issues:

*"I think it would be about how to give appropriate feedback in the most constructive way, so you try and deal with feedback when it's good but also when it's difficult feedback and you have to point something out in the most constructive way possible, and also watching that you don't upset the person too much because you don't want to demolish their confidence. So it's who you would get to ... give a small session on how to give feedback because don't forget it needs to be ensured that it is always neutral, focused on the current objective, but not... no blame, no sense of blame". Interviewee 11*

The role of the tutor in relation to role modelling a positive attitude to peer feedback was also seen as an issue:

> *"Ermmm, so I suppose depending on how seriously you are going to take the evaluation, and the feedback again it has to be a facilitator issue of training and that's extending the role all the time, and I hate to be cynical but some of the people we have, they're under duress, it's not their type of thing, they don't believe in the fluffy side of PBL as in anything other than structure and function, and so evaluation at the end of the time would mean nothing to them, and that's actually if it actually occurs, although it is encouraged and expected". Interviewee 4*

> *"Yes, I think training is always going to be an issue with tutors, but I honestly think sometimes people are not going to be suitable to be tutors. Their facilitation skills aren't going to be up to it however much training is given out or implemented. And, or their contents expertise, they're so uncertain of what, where they should be directing, you know, helping students go breadth and depth wise that they convey to the students, errmmm, well, I haven't got a clue, almost what's coming off from this, well I haven't got a clue, faculty said you had to, you know, there is almost an us and them comes up, so I don't know how notions of professionalism go along in those sort of groups". Interviewee 1*

> *"Well, it should do, it should do. I don't think there is that much on giving feedback. I think they do do about communicating with patients, and maybe they don't join the dots and realise that the same things actually apply for giving patients information and giving feedback". Interviewee 7*

Appropriate training for students was seen as key to positive reflection on feedback:

> *"I don't think they would need that much training at all, because they are already assessing themselves and if you are applying the same principles to it, and they are doing it themselves I don't think they'd need much training at all". Interviewee 6*

*"We have in a way, haven't we? I mean I think it's... I think, erm, it's one of those things – do you remember, erm, Ronnie Corbett when he used to do this sketch sat in a very big armchair with his pringle sweater... well, he used to sound very improvised but it wasn't, it was incredibly well scripted, so it was very well scripted and it just sounded like he was just having a chat with you. I kind of feel that peer review and professionalism are like that, so I think that probably the way to do it is to have something very, very well worked out". Interviewee 10*

*"Whether or not students might need some help in developing their technique in doing that sort of thing, but that's all aspects of feedback, all aspects of their behaviour as the behaviour that occurs is in groups that may not have anything to do with professionalism, whatever you might think about that. But actually, it's still important for people to get feedback. And actually, probably the bigger training needed is to help people to understand how to deal with feedback. How people, getting the atmosphere right and that sort of type of give and take". Interviewee 3*

*Competition*

Most tutors thought competition was an issue for students, from getting into the course then ranking quartiles and other grading systems, and this could encourage this type of attitude.

*"Definitely, yes!". Interviewee 1*

*"I started to hear about this, about ranking the students for jobs, but in my experience at Liverpool we're all in it together. We jump hoops and get each other through. Otherwise you go back to the competitiveness where you're given a difficult case and letting people trip up and for that patient it's terrible". Interviewee 12*

*"I think it is part and parcel of the kind of profession that they're entering into... and the thing about it is, you know, they are increasingly evaluated by patients so, you know, it doesn't stop for them and it makes their job politically and emotionally a very different job to do, to be subject to this persistent, you*

*know, grading in that sense. And I think, you know, I mean I do kind of feel a bit sympathetic towards the pressures that they are under and I'm sure that they have to develop all sorts of strategies in order to contend with those particular issues... I think it's an inevitable part of them; it has to repeat in pretty much everything they are doing. I don't think that kind of competition is really acknowledged... I think there is huge competition just to get into medical school... (competition) it could easily (affect peer review), I think that's why you need the justification for feedback – why you gave it and that's a part of lifelong learning tool. It's a skill, that's important. They need to know why they are doing it on top of everything else because they are stressed and then there is peer review as well. But if it's really explained to them". Interviewee 11*

*"I think it has to be embedded in the pressures that they are under, the long term, you know, significance of them doing the course, their ultimate relationships with each other, and to acknowledge the fact that it is competitive and they are not, well, they are working together in some ways but competing at the end of the day.... I think that has to be taken completely into consideration, and they are not foolish in any respect and they are going to deal with the issues that are most significant to them". Interviewee 9*

Two tutors were unsure if students were competitive with each other. One said:

*"I'd be, I'd be surprised. I think maybe you do get one or two, these very occasional selfish students who've done all the work and won't work in the group, the personalities who don't participate fairly but it is very unusual". Interviewee 6*

Several tutors felt that competition wasn't an issue in the early years of the course:

*"I've seen competition, I've seen some students saying have you found out about that, do you know about that so I've seen competition in that way, now whether that's a power thing so at the end of the time they can say well actually you didn't do this, but they aren't helpless, that's part of how they develop themselves. But having not worked much with fifth years, or at all with*

*fifth years, I just do one and two and three added sometimes. And there isn't that element of competition, no not at all". Interviewee 4*

*"It can be, competition is being fostered by the programme for the F1 posts. I think that the system, although the... erm, although for ten years they have been trying to move away from that sort of competitive edge, but errrr, that does encourage it, and I think that's what we must call it, understand it". Interviewee 7*

It was also pointed out by some tutors that PBL discouraged this kind of competition between students, as they worked in a group and supported each other's learning:

*"But in terms of actually withholding information, erm, I don't know. I personally find that quite surprising because, you know, the benefits of being open and honest with other people about their performance and your perceptions of it, and... what you will get from them as it were, far outweigh the benefits of being competitive with somebody. And actually when you expose that kind of competitiveness to sunlight it doesn't stand up, because who are you competitive with and why? I mean, how is it going to help you if I fail? You know, and particularly in a PBL setting it certainly isn't, because you know, if somebody else doesn't do well in the group then that's one less part contributing to the whole, you know". Interviewee 10*

*"Competition.... I don't think there is much of it in PBL because they are all well, I don't give prizes, the ratings we give are not seen as carrying points, although I understand later on when they are going for their F1 and F2 it gets added up? But I don't think there is much in PBL itself". Interviewee 12*

*"Yeah, and I think that's one of the real strengths of what we do here with PBL, it does help them to work in a none competitive way and yes, the pressure is on later with getting a job, but the way to stand out is to publish a paper, do something with voluntary work". Interviewee 8*

*"Well, I think there is merit in taking the issue of competition head on actually, and talking about it. And you see in some ways I find it quite... it's actually quite disturbing that you have a course based on PBL which is probably one of the least... in many ways, in terms of learning environments, is supposed to be, you know, not a competitive, it's supposed to be collaborative rather than competitive learning environment and they've been through I don't know how*

*many years of that and then turning up with that as a comment". Interviewee 10*

One tutor pointed out that competition could actually be a very positive motivator for some students:

*"I agree it's an issue, competition can be divisive. But it can also be healthy if you have say one very articulate female in the group and then a male doing their best to keep up to speed with her, that does happen and it's probably good as long as they don't pull each other down. I don't like it if it becomes all about undermining or knocking people down, you can't control that if it happens. But I think generally.... There is a great deal of input and I like to think of it as co operation rather than competition, as a tutor it's your job to create a sense of cooperation and competition is fair enough. So it can be driven". Interviewee 11*

This theme was mentioned in another interview with a tutor accepting that some level of competitiveness was desirable:

*"I think that competition is a really interesting issue, erm, because, you know, it's almost about empathy, you want, you want medical students to be empathic but you don't want them to be overly empathic because they've got to survive you know. But equally you want them to be competitive but you don't want them to be overly competitive because you actually want them to be able to work in a team. So, so". Interviewee 10*

*Honesty and objectivity*

There was a lot of discussion in the interviews about how honest and objective students would be when they were feeding back on their peer's behaviour. This

discussion often linked back to issues regarding anonymity and use of the information:

> *"I think again, if you're asking them to be real honest then... they're students and they might take it out on one another because not everyone likes each other. I mean, I thought I've had good groups and people kind of like each other, erm, and get on very well, but I've heard other stories that later on outside they kind of don't particularly like each other or whatever, so I'm not so sure we're get them to be decently objective on that one. If it was anonymous may well be, because they do peer pressure on each other for exam results and other things like that, well, you know, you'll have to look at those results to see what the answers are. I'm not so sure that people would be prepared to contribute to academic results". Interviewee 5*

> *"Erm I don't know, I don't think you can control for bias and I think that's all part and parcel of this... I don't know why anybody would want to control this either... I mean, it depends what they are giving feedback on – if it's on performance that's one thing, but if it's feedback for grading or... you know, on, I mean, it depends what you're giving feedback on.... but, I don't see, I don't see there is many ways you can get around that without having sort of multiple choice, right/wrong answers, those type of things... I mean, and to the extent it depends on what you're talking about". Interviewee 9*

Practical suggestions for trying to ensure honesty in peer feedback included citing evidence as part of the feedback process:

> *"We'd expect them to cite the evidence, wouldn't we, of what they were saying. So in the same way with PBL they are expected to challenge each other, and be challenged about how do you know that or where did you get that from, they would be expected to errmmm, be able to cite examples. You have to be able to illustrate to somebody else, errmmm, examples of why you might have come to that opinion. But you're hoping, you would also want them to, errmmm, recognise that what they are saying to the peer might be just one interpretation of what has gone on, so they need to give some clear examples and then have a discussion between them. With peers, it's not as if one is meant to have all the answers either". Interviewee 1*

*"Well , only by, only by insisting they give evidence for all of their assertions and if they can give evidence and the evidence is agreed then, the err, assertions will be acceptable or unacceptable depending on what happened". Interviewee 7*

As mentioned previously, providing examples of good or unhelpful feedback could highlight issues to do with bias and managing this:

*"If it's going to get into, errmmm, almost... think about giving them permission almost to be honest, you have to sort of give, you have to give them examples of what would be a good, errmm, peer review. What looks realistic for their stage, so that when they do theirs they can't just be really quite bland about it. So you give them an example also, an example of something where somebody was really quite bland but give them, you know, say the behaviour that was happening in the person that they were peer reviewing and yet this is what they said about them, and raise that as an issue". Interviewee 1*

One tutor recognised that a student might have a vested interest in the outcome of feedback and this would need to be recognised. Help to express views would also be required:

*"The other thing in the system, you'd have to be careful to errmmm, if anyone's got a competing interest within a, within a peer review system would declare the interest almost, because if it is that somebody that you've been asked to peer review, there is some sort of history there, in terms of a relationship or whatever it would be really quite difficult. But then you don't want to be exposing it... I don't know what you'd do, errmmm, I mean..... I don't know what you would do. But the idea that there's sometimes competing interests within that system and you have to deal with those and remain objective. So if you give them examples of what would be really quite subjective things to say to somebody and then say objective things, errmmm, you give them examples of something that would be very undiplomatic to say but something that would be realistic to say about a particular behaviour". Interviewee 1*

A comment was made with regard to marketing feedback appropriately as a positive exercise:

> *"Well, I suppose by emphasising that it's a communal thing and they would be helping each other and being helped – pro quo". Interviewee 6*

Finally one tutor suggested that some students might not be capable of giving this kind of feedback, so could they do peer review:

> *"Well, something similar came up apparently in the formative exams, they mark each other and I guess it's about trust and professionalism, it's about doing unto others as you hope they will do unto you. So, ermmm, the thing is you're not going to achieve any favours by deliberate scoring, but, you know, just like interviewing or doing my appraisal with students, you have to be very bold to be critical, and there is this regression to the need, you know and I think it's basic to say there are some students in there who are not good or who should be scored at the extremes... the question was can they do peer review?". Interviewee 12*

*Results for reflective learning*

The use of peer feedback for the students to use in their reflective learning emerged as an issue in several tutor interviews:

> *"Yes, I mean that can only be useful, especially if you make them interact in two ways, like you said they, they were commenting on someone else but reflecting on the way they did it, and how well they gave feedback, so you're not just randomly giving feedback but also learning yourself.... I think communication is key here, it's something that should fit into how... you know, it could be included. I mean, I think we know that communications in medicine... and when I came into this job maybe four years ago, erm, I started looking at what communication was in medical practice and I could*

*see how it was just really part of everything with very little time dedicated to it. It means so much from a service user's perspective". Interviewee 8*

*"Absolutely... and I'm sure as far as they're concerned you know, it has to be just another hurdle among a whole series of hurdles that they evaluate on their own or they just have to get through this... I really think given what you just said about the GMC's procedures, it's that gap between that procedural account of training or practice is going to feature always in the work you do in terms of design, so unless somebody is going to make the effort to really understand how they perceive their education, what their experiences are, the obstacles and how they interact with their peers anyway, unless that's understood it's going to be very, very difficult to sort of reflect their informal ways of going about doing things because that's supposed to be the way that they operate, not according to procedural accounts... so I think it's trying to just assume that we can get students to just fit those models is maybe a bit of a losing battle". Interviewee 9*

One tutor elaborated about the Critical Thinking module in relation to feedback and reflection:

*"They love it – they do it as part of the Critical Thinking module and think it's wonderful. Because, they like knowing how other people are doing, and how other people do things. And they are surprisingly conscientious in the feedback that they give and the effort they put into it. And some of them even realise that by looking at other people's work that they can get some better insight into their own... One of the interesting things about the Critical Thinking module is they have to write a, they have to write a covering letter so when they submit their final proposal they have to address the comments they received in peer review... ermmm, and the impression one... most of them do it absolutely fine, but then there are those who just don't know how to do it, or... and that says more about them than it does about anything else". Interviewee 3*

Limitations

The most obvious issue with the analysis of the results from the tutor interviews is the subjective nature of qualitative data analysis. With such a large volume of data, the selective nature of the reporting process has to be decided by the researcher. In

this particular case the author was mindful to include quotes from all interviewees to try and ensure representation of each participant's views on different topics and themes. Overall the process used for analysing and reporting data has been outlined as clearly as possible to ensure the reader understands how thematic coding has been employed and undertaken by the author, and that this has been consistent.

Silverman (2004) writes about 'low inference descriptors', which means providing the reader with detailed data presentations rather than relying on the researcher's presentation of their own high-inference summaries of data. He continues that the validity of qualitative research is dependent on showing your audience the procedures used to ensure reliable methods and valid conclusions. This is certainly the process undertaken as part of this research (cf chapter 9).

The sample size of the research population is small, limiting the generalisabililty of findings, as acknowledged in the methods chapter (cf chapter 4). The tutors participating in the research elected to be interviewed, introducing an element of bias as they self selected, suggesting they had a particular interest or motivation in the research and contributing to it. However, as data saturation was achieved with regard to the research themes, it is clear the issues raised in the tutor interviews could be more widely applicable.

One of the aims of this thesis is to produce guidance for other medical schools in the UK looking to implement peer feedback on professional behaviour into their

curriculum with reference to the views and experiences of tutors. However, based on the cohort group of tutors involved in this research, it is difficult to say how transferable their experiences would be across other medical schools. Liverpool offers regular training and discussion groups for tutors, they are provided with anonymised feedback from student PBL evaluation forms and the tutor peer review process. These opportunities may not be available in other medical schools as their organisations ethos could be very different.

The variation in teaching and emphasis on small group PBL learning at Liverpool may not be at all applicable to tutors working in other medical schools with more traditional curriculums. It is important to acknowledge this issue with regard to generalisability and the sample size of the research.

Summary

The tutor interviews have provided a rich set of information with regard to views on experience of peer feedback, understanding of professional behaviours and related GMC guidance, and how peer feedback can be usefully incorporated into the PBL curriculum at Liverpool.

The data has illustrated a range of views, and demonstrated the diverse experience and understanding represented amongst the PBL tutor population. The data from the tutor interviews will be discussed in the next chapter alongside information from the

student peer feedback exercises to identify ways in which useful peer feedback can feasibly fit into the undergraduate Liverpool MBChB course.

## CHAPTER 9 – INTERPRETATION AND DATA OUTCOMES

The purpose of this chapter is to reflect upon the theoretical approaches used in this research, and how they have impacted upon various stages of the research data collection, interpretation and analysis. This chapter concludes by reflecting on how the theoretical frameworks applied to the research have impacted upon the thesis overall. Results of the research are then outlined in the following discussion chapter (cf page 296).

### Data collection

As outlined in chapter 5 (cf page 110), the theoretical model applied to this research began with qualitative grounded theory as this allowed an inductive and flexible approach. The benefit of this was seen as enabling the actors or research participants to speak directly for themselves, with a set of semi-structured questions facilitating their own interpretation of questions and individual responses. It also allowed them to add their own thoughts and related observations or experiences. This can be problematic for researchers, as highlighted in the theory chapter (cf page 110). However, while some additional issues did emerge from the tutor interviews, no issues 'diluted' the original research focus.

Research for this thesis was classified as micro social theory, focusing on personal encounters in everyday life and this has been a useful contextual reference point for the author, situating peer feedback on professional behaviour within PBL. Micro social research looks at how relationships are interlinked and a shared

understanding of roles. Detailed analytical reading through student peer feedback from 2010, an observation made by the author was that although students attended a course where shared learning was implicitly implied through PBL, they engaged in different ways and made their own distinct contributions to PBL. Some students were reported as not sharing material with their PBL group while others were happy to explain concepts and draw diagrams for their peers' benefit.

This links to the theoretical approach of symbolic interactionism (cf page 114) which sought to understand student's perception of professional behaviour as a construct and their attitudes to peer feedback, their apprehension about undertaking such exercises and the meanings they applied to professional behaviours. In practice, comment based student peer feedback did have a lot of common themes and positive aspects. Much of this feedback (cf page 191) gave examples of behaviour or actions in PBL which peers found useful or beneficial to their group. Peer feedback did involve students consciously observing the behaviour of their peer's professional behaviour and reporting back on this in an appropriate way. This can be classified, sociologically, as symbolic interactionism.

The use of social construction has been useful to apply to the tutor interviews. Tutors were asked about their own knowledge and experiences, and their understanding of constructs such as GMC guidance and the implications for this on their teaching practice. It was interesting to note the range of opinions and experiences expressed by the 12 tutors, how they rationalised their responses and engaged in the interview

in differing ways and detail (as evidenced by the variance in interview duration and level of discussion).

The research has been largely informed by an action research approach, linking elements of piloting curriculum developments and evaluating these using surveys with students and interviews with tutors. Action research was selected as a theory, representing elements of social construction with a development approach facilitating the piloting and evaluation of new curriculum initiatives. This has worked well, as students and tutors have participated in the research and provided a lot of valuable input. While they cannot have been said to have participated in the actual research process and planning, they have engaged in a meaningful way, particularly the tutors who reported thinking more about issues such as GMC guidance, professional behaviour and the evaluation process in PBL as a result of being involved in this research study.

Data analysis

The five analytical stages described by Ritchie & Spencer (1994) proved valuable in shaping the analysis and coding of data. This involved;

1. Familiarisation by repeated reading of tutor interviews and student data sets.
2. Identifying the thematic framework by reviewing the data and noting themes.

3. Systematically applying the thematic framework to the data.

4. Defining each key topic area for overall data coding.

5. Mapping and interpreting data to finalise associations, links and themes.

This process was inductive as repeated reading of the data shaped the final topics for the data coding. One of the aims of the research was that the data itself shaped the project as part of the emergent and inductive analysis and this has proved to be the case, complementing the grounded theory used (cf page 112).

Once the data codes were finalised, all sets of data (tutor interviews, PBL peer feedback evaluation forms and comment data) were coded using these topics. Once data was grouped into these themes, discussion and interpretation of these results began. These were challenged and verified by the research thesis supervisors and a CEDP colleague to ensure they were valid and defensible.

Data truthfulness

Research by Boldrin and Mason (2009) looked to distinguish knowledge from belief and justify understanding of the relationship between the two constructs. This notion can be applied to the task of the researcher when looking to understand and report their data – what they know and what they believed to be true.

Hozo *et al* (2008) go further, saying that the absolute truth in research is unobtainable, as no evidence or research hypothesis is ever 100% conclusive. They write that scientific inference and decision making need to take into account errors which are unavoidable in the research enterprise. They suggest optimising the chances of correct conclusions and correct decisions by synthesising (statistical) approaches.

This issue of objectivity relating to decision making and inference requires careful justification and transparency on the part of the researcher to explain how they have used data to arrive at their reported conclusions. For this thesis all the questions asked have been presented as Appendices (cf pages 350-367). The methods used to analyse the data have been outlined previously (cf page 102).

In order to challenge and justify this process, the author had regular meetings with the project supervisors and a colleague in the CEDP team to explain the coding framework and how it applied to interview and survey data. The model used by Miles and Huberman (1994) (cf page 102) proved key in developing this system with regard to assigning data codes, and verifying themes for analysis and presentation.

Data presentation

Having the opportunity to discuss interview transcripts with other staff helped ensure the author was aware of how the discourse could be interpreted differently. This

process is an accepted practice to triangulate interpretation in qualitative research (cf page 102). By presenting quote excerpts from interviews and the verbatim data obtained from student evaluation surveys, the author has sought to support analysis and assumptions with words directly from the research participants.

The different methods used to obtain data (interviews and surveys) have been synthesised and presented together to reinforce themes and discussion results. It is accepted that this is still subjective, but the transparency and triangulation used is hoped to demonstrate how conclusions have been reached.

Data interpretation

How the data has been interpreted is also subject to researcher bias and how they understand the actions and meanings of the phenomena they are studying. Carr and Kemmis (1997) write about this situation, explaining:

> *"The behaviour of human beings, however, consists, in the main, of their actions, and a distinctive feature of actions is that they are meaningful to those who perform them and become intelligible to others only by reference to the meaning that the individual actor attaches to them. Observing a person's actions, therefore, does not simply involve taking note of the actor's overt physical movements. It also requires an interpretation by the observer of the meaning which the actor gives to his behaviour. It is for this reason that one type of observable behaviour may constitute a whole range of actions".* (p. 88)

With regard to this research, the author, supervisors and CEDP colleague have interpreted interview data from 12 actors (tutors) using the process previously outlined through the verification and coding of comment data. The thematic interpretation of data was inductive (cf page 264), with the author coding each interview transcript into topics, then creating a set of overarching key topics and recoding each transcript into these categories.

Whether the interviewee would have agreed with this coding could be a matter of some debate. Their comments could have been misunderstood, said in jest or in an ironic tone of voice. This is a noted issue in discourse analysis (cf page 261), where the subtle influence of the researcher could overwhelm or misinterpret the words of the interviewee. To guard against this, the triangulation of data and clear presentation of conclusions is both crucial and necessary. Revisiting elements of data collection and theory can also support the research outcomes and demonstrate reflexivity on the part of the author. This includes referring back to field notes and notes made in the interview transcription to clarify laughter or pauses, was also helpful for clarification.

## Conclusions

As previously recognised in the method chapter (cf page 84) and reiterated in this section of the thesis, the qualitative nature of this research means it is to some degree subjective how the research is analysed and reported. The approach used in relation to different aspects of the gathering, interpretation, analysis and presentation

of the data has been explained and outlined. From the perspective of the author the approaches used have offered different ways to understand the data process, and the importance of transparency in ensuring that data is presented as truthfully as possible.

The inclusion of the 5 elements of theory in the research could be seen as overly elaborate, but it is hoped that the justification of each and how they relate to elements of different data justifies this decision. Grounded theory offers a qualitative theoretical basis but lacks details; micro social theory elaborates on the PBL environment and how it is constructed; symbolic interactionism emphasises how individuals understand each others' behaviour; social constructionism looks to assess elements of individual knowledge and experience and, finally, action research adds an educationally based evaluative model to the study. The model adopted from the work of Ritchie & Spencer (1994) demonstrates elements can be meaningfully linked together. All these aspects of theory have guided the research and provided useful points of reference for different aspects of the study. These include understanding professional behaviour, how students interact with each other, how the "hidden curriculum" is understood by tutors in Liverpool.

Using these theories is veering away from standard research practice in the medical education literature, where socially constructed phenomena are rarely acknowledged. Yet these models provide a relevant and helpful system for understanding how professional behaviours are understood and acted upon. The author has to some extent 'cherry picked' elements of related theoretical frameworks

and merged these to create a suitable framework to support the data collection and analysis process. The emergent and inductive mechanisms associated with the analysis of grounded theory data have proved to be appropriate and guiding for the coding of the different data sets. The limitations of the theories have been previously acknowledged (cf page 122).

The next chapter concludes the research thesis by revisiting the original research questions and highlighting points from the discussion in relation to these and current GMC guidance. Implications for policy and practice, along with recommendations for future related research studies are also outlined.

# CHAPTER 10 - DISCUSSION

This chapter will discuss the findings of the tutor interviews, PBL and peer feedback research data. The original hypothesis outlined as part of the introduction chapter (cf chapter 1) will be revisited. An overview of recommendations is provided with full discussion presented in the final conclusions of the thesis (cf chapter 11).

The coding and analysis process was undertaken initially by the researcher, with coding and interpretation challenged and verified by the research supervisors and researcher in the CEDP (cf chapter 9). This was to ensure the data presentation was justified and validated. The below diagram outlines this process:

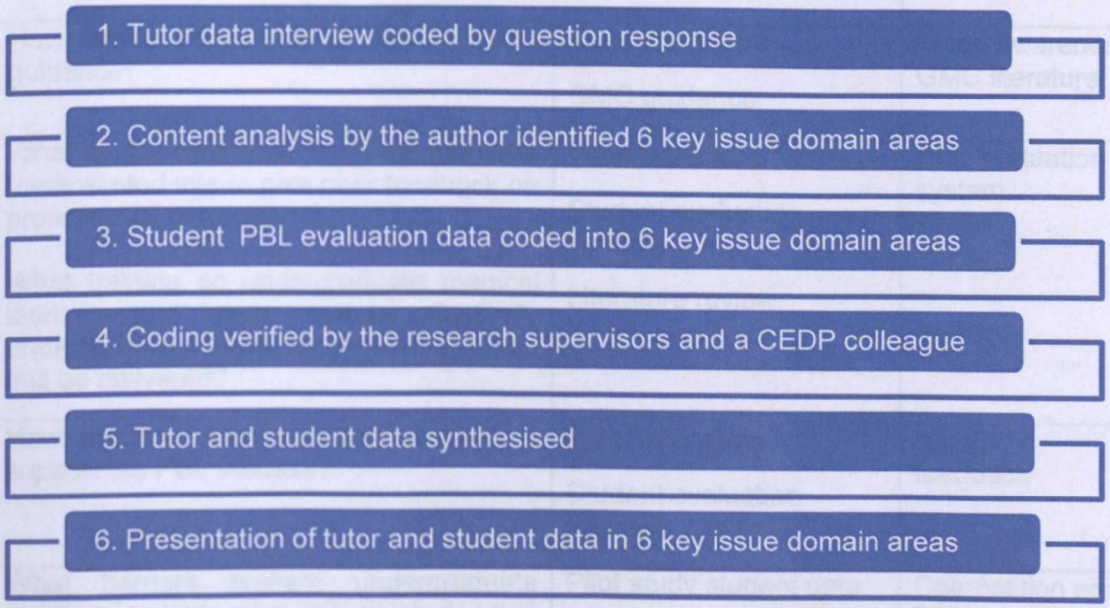


Figure 24 – Data coding process

Data from tutor and students has been synthesised in order to fully address the research questions. This was undertaken using several of the analytical stages outlined by Ritchie and Spencer (1994) as a framework model. Initially this was done by coding the tutor data according to the interview research questions. These categories were further refined into 6 key issue domain areas. The relevant student PBL evaluation data was then coded into the 6 key issue domain areas to synthesise both sets of data to enable comparison and contrast.

| Research Question | Data / References | Outcome |
|---|---|---|
| Can peer feedback be integrated into a PBL curriculum? | Tutor interviews<br>Pilot study student data<br>Student evaluation surveys<br>Literature review | Conducting peer feedback on professional behaviour |
| What do tutors' and students think of peer feedback and its use? | Tutor interviews<br>Student evaluation surveys | Views and experience of peer feedback |
| How aware are tutors of current GMC guidance? | Tutor interviews<br>GMC guidance | Tutor awareness of GMC literature |
| What is the best time for undergraduate medical students to give peer feedback on professional behaviours?<br>What training do undergraduate medical students and tutors need to effectively undertake peer feedback, and how should this be delivered? | Tutor interviews<br>Student evaluation surveys<br>Literature review | PBL evaluation system |
| How can peer feedback best be used to support the PBL process? | Tutor interviews<br>Student evaluation surveys | Using peer feedback |
| What barriers prevent undergraduate medical students from objectively feeding back on the professional behaviours of their peers? | Pilot study student data<br>Tutor interviews | Competition and PBL |

Figure 25 – Synthesising data

Suri and Clarke (2009) refer to the work of Noblit and Hare (1988) whereby a meta-ethnographer makes appropriate translations, checks initial assumptions, and constructs a text that presents the synthesis process and product as suitable for the target audience. They also make reference to qualitative health care researchers who assert that some synthesis is essential to enhance the practical value of qualitative research in policy making and informing practice at a broader level.

Information from tutor interviews and the student data have been presented jointly to combine the issues and themes from the research findings. Links to current literature and GMC guidance have been included as part of this discussion to highlight how the research relates to recent academic writing on this topic.

Conducting peer feedback on professional behaviour

The mechanics of implementing peer feedback into an already crowded curriculum was one of the key challenges for the research, as described in the literature review highlighting the work of Goldie *et al* (2007) (cf chapter 2). By trialling and evaluating two methods of peer feedback in PBL and interviewing PBL tutors about methods of delivering peer feedback, a range of data regarding practical considerations and the existing curriculum structure were collected.

With regards to 'if' peer feedback should be conducted, several points arose regarding the reasons for measuring professional behaviours. It was questioned if

indeed professional behaviours could be measured, and how this could be a useful reflective learning exercise rather than a course 'add on' which didn't link into the overall course curriculum. This issue was as highlighted in the literature review by the work of Elliott *et al* (2009) who identified medical professionalism as part of the pre-clinical curriculum as an integral part of medical education (cf chapter 2).

Tutors expressed differing views about why we should try to measure professional behaviour in the students, particularly when staff and students within the medical school did not have a clear, explicit definition of these behaviours. One tutor made reference to the GMC's definition of professional behaviours, and how this could be made more explicit in relation to the curriculum agenda at Liverpool. This tutor felt it was important to underline the importance of professional behaviour in practice.

A clear and consistent definition of professional behaviours is needed if both students and tutors are required to demonstrate, observe and report these attitudes or behaviours.

There was concern about using summative assessments or measures due to the subjective nature of professional behaviours, and how this could disadvantage some student's progression. Tutors implicitly regarded peer feedback as a formative exercise for reflective learning, as highlighted by the work of Howe *et al* (2009) and Elliott *et al* (2009) (cf chapter 2). Tutors considered the kind of professional

behaviours which could be measured in this way when they were directly asked to specify or define them.

It was suggested that adding an element of peer feedback on behaviours raises the profile of professionalism and promotes good practice. One tutor made reference to the student's 'professional antennae' and how exercises like this can have a positive effect by making students consider how they behave professionally and what this means to their colleagues and patients. Again, this would require a clear definition of what is meant by professional behaviours.

Students themselves approached the peer feedback appraisal exercises with some degree of apprehension. The pilot study data showed that often students did not understand why they were being asked to undertake feedback with their peers (cf chapter 7). Therefore, written guidance on why peer appraisal was being conducted was provided on both PBL peer feedback appraisal exercises in Liverpool. These made reference to professional behaviours generally and the GMC's emphasis on giving and receiving feedback as outlined in *Tomorrow's Doctors* (2009).

However, the evaluation data from students undertaking peer feedback indicated that students still did not see how this exercise fitted into the curriculum and what the purpose of the peer feedback was. As with the pilot study, students thought they were not in a position to make judgements on the behaviours of their peers as they were still learning about such things themselves. This finding is consistent with

recent work on peer review and professional behaviours where students expressed a desire for leniency while they are undergraduates (Finn *et al*, 2010). This research found that students feel they should be exempt from measures of professional behaviours while they are still developing their own understanding and practice.

There was also concern about the credibility of peers as appraisers, which emerged as an issue in the work of Anvik *et al* (2007) discussed in the literature review (cf chapter 2), with regard to how objective and honest they would be, and how personal bias could affect peer feedback appraisal. As was identified in the literature review by the work of Lurie *et al* (2006) on bias impacting upon peer feedback, (cf chapter 2) students worried that peer feedback appraisal would be a popularity contest whereby high scores would be awarded to friends and anyone with a grudge would be able to abuse the process and give damaging or unfair feedback to a peer they did not get on with. This scepticism on the part of students could suggest that peer feedback needs to be promoted in a more positive light.

Students are likely to approach a task with a positive attitude if they can see the benefit for themselves or (altruistically) others – what one tutor called 'positive intent'. Although the second comment based peer feedback information did include a point from *Tomorrow's Doctors* (2009) about giving and receiving honest feedback, students still expressed doubts about the process. This does demonstrate a contradiction on the part of students – data from the pilot study focus group shows that students want more constructive feedback on their performance (cf chapter 6),

yet when they are offered the opportunities to give and receive feedback they criticise the methods or process involved.

Therefore, how peer feedback will develop personal skills and offer insight into professional behaviour is a beneficial point to emphasise in the delivery of peer feedback.

Information from the tutor interviews explored where peer feedback could slot into the curriculum, so it is not an 'add on' or adjunct to the core modules. Ideally professionalism should be embedded into all PBL scenarios with clear pointers to GMC guidance and the promotion of professional attitudes and behaviours. It was suggested that elements in PBL scenarios should clearly relate to a defined model of professional behaviours so these values are constantly reinforced through the PBL process. These topics are already incorporated into scenarios but are not explicitly highlighted as such.

Several tutors spoke about how the professionalism agenda links to the communication skills teaching of the curriculum, so it would best fit into the context and skills set being taught there. Giving and receiving feedback can be classified as both communication and professional competence, so it can be argued this would best be situated in this area. One of the issues to emerge during the PBL tutor interviews was a lack of knowledge about the curriculum relating to communication and clinical skills. There was appreciation that peer feedback linked to this area of

the course, but a lack of knowledge about course content and outcomes was evident. One of the PBL tutor interviewees did teach communication skills and it was interesting to note the emphasis this tutor made on the importance of tutor's role modelling and the example they displayed to students. The importance of communication skills in relation to peer feedback does need to be highlighted and integrated into elements of the communication skills sessions and PBL scenarios to ensure consistency.

How the professionalism agenda is currently situated within the curriculum raised several issues from tutors with regard to the current learning environment and the degree of control students have over their contribution to it, and the amount of ownership or accountability it places upon them to take responsibility for their learning and professional development and that of their peer colleagues.

The behaviours listed as professional by the tutors from the vantage point of the students included both attitudes and behaviours, as previously highlighted in the literature review (cf chapter 2). The views of tutors were varied – one tutor spoke about an almost 'robotic' model of what a professional doctor looked like and how they behave which included not being friendly with patients. A more simplistic definition of being professional was simply behaving like an adult, which happens as the course progresses and students are exposed to more 'real life' clinical situations and mature as a result of this experience.

Characteristics of professionalism identified by tutors included consistency, timekeeping, accountability, altruism, teamwork, respect, being prepared, friendly and polite. Hilton (2004) and Meakin (2007) suggested the GMC focus is on technical and clinical competencies rather than attitudes which are much harder to explain and measure. Therefore, tutor suggestions were consistent with those identified by writers included in the literature review.

Ethics and morals were closely linked to professional behaviours by two tutors, which is an interesting dimension to the professionalism definition debate and one which did emerge during the literature review in the work of Rees Jones (2003) (cf chapter 2). It is interesting that these issues are perceived by tutors as being part of students understanding of professional behaviours. The ethical dimension was suggested to be a mechanism for operationalising some of the professional concepts, as the unpacking of ethics for students doesn't involve the real life application of morals or related issues.

It was also acknowledged that the tutors role in role modelling professional behaviours is influential, which is consistent with current writing as cited in the literature review in the work of Stephenson *et al* (2006) and White *et al* (2009) (cf chapter 2). Yet these findings also offer further scope for understanding why tutors or clinicians displaying unprofessional behaviour offer a "double edged" model to students – in one way it normalises unprofessional behaviour and demonstrates that doctors can 'get away with it' (Finn *et al*, 2010).

Yet students can also observe unprofessional behaviour and relate it to their own professional code of practice and moral standards and vow not to behave in such a way when they are qualified and practicing. This contradiction offers an interesting dilemma to medical educators – is the display of unprofessional behaviour an accepted part of medical practice - or one which students should be empowered to challenge and report to ensure their own professional behaviour in the future? This is an issue which emerged in the literature review from research by Karnieli-Miller *et al* (2010) (cf chapter 2). This will be referred to in the conclusion chapter (cf page 313).

One issue which was apparent was the context of the professional behaviours which was crucial to their application. As outlined in the literature review (cf chapter 2), Lave and Wenger (2008) speak about the context of situated learning and how participating in the practice of a community enables the individual to better engage in it.

This style of learning is described by several tutors in relation to the context of the curriculum and how students see professional behaviours as another competency to be completed rather than internalised and practiced. Several tutors suggest students compartmentalise their learning without applying 'different parts of the jigsaw' across situations because of the sheer volume of what they are supposed to learn,

This reflects the more traditional scientific focus of medicine than the perceived "softer" communication orientated aspects of it. Data from tutor interviews referred to

the classroom based context of learning compared with the reality of being in a clinical setting where students learn very different (sometimes even contradictory) ways of working. This appreciation of tension between the learned competency based measurable aspects of professionalism and the quality of attitudes and expected altruism of the profession are not easily married together, and acknowledging this difference is certainly an issue medical educators need to consider.

The term professionalism was suspected to be unfamiliar to some students according to tutors. One tutor mentioned students referred to professionalism as 'thingy' while others suggested it was a new concept to them, or one that hadn't really been considered before in any great detail. This again highlights the need to have a clear, concise workable definition of professionalism which can be referred to and highlighted in relation to different competencies, skills and behaviours so students know what is being referred to as professional and can apply this more knowledgeably to their practice. The general vagueness currently associated with professional behaviours needs to be acknowledged to encourage tutors and students to appreciate the importance of the professionalism agenda, as suggested in the work of Cohen (2007) reported in the literature review (cf chapter 2).

The mechanics of how and when peer feedback should be delivered created a number of comments from both tutors and students. The context of this discussion was presented as using peer feedback in a formative way so it would not affect the academic progress of the students – rather it would be an opportunity for reflective

learning and enhancing performance improvement, as described by Overeem *et al* (2009).

The format for conducting peer feedback generated a lot of discussion from tutors who could see benefits and flaws in different data collection mechanisms. One point was that any such exercise should be consistent so that students can demonstrate how they have reflected on feedback and changed their behaviour or shown some improvement in light of peer comments, as illustrated by the work of Sargeant *et al* (2008) (cf chapter 2). It was also suggested that students should be asked how they would like to receive peer feedback and what would work best for them. This notion suggests flexibility across groups, so each PBL cohort could decide how they would like to give and receive feedback in a way they felt comfortable with. Certainly, offering options to students about how the process would work could give them some ownership of the exercise and result in better 'buy in' from students.

Issues raised with regard to the electronic format of peer feedback included how students could take offence at comments without being able to clarify or adequately understand the context of the feedback. This could understandably cause offence, resentment or anger. One tutor pointed out that what may have been intended as humour in a written anonymous review could be taken as something very different causing misunderstandings. This is clearly a communication issue, and has implications in terms of training and how students learn to use language and appreciate the reactions their phrasing may cause. The role of tutors in delivering this type of training or simply reinforcing the message to be mindful of feedback in

terms of accountability is also worthy of consideration. As the 'role modelling' aspect of tutor's actions mentioned in the literature review by Suchman *et al* (2004) (cf chapter 2) has such influence, their part in delivering this type of information cannot be underestimated.

The setting or location for student peer feedback created debate in the pilot study, where it was suggested that PBL was both a good place to practice peer feedback on professional behaviours, yet also suggested that real clinical situations would be a better location for useful feedback. This discussion continued in the tutor interviews where student ward rounds were proposed to be a good location for peer feedback as the students are often in pairs or groups of three, so they can give direct face to face feedback and actually use the patient for learning in a different way about their own professional behaviours.

PBL was still seen to be a good place to introduce and practice the basic principles of peer feedback, as the longitudinal opportunity to observe and comfortably establish relationships with peer colleagues in a flexible setting.

The best time to conduct peer feedback was identified by tutors as being in the second year. This was mostly due to the increased maturity of students having settled into the course and learned how the PBL group learning process worked, as highlighted by Schonrock-Adema *et al* (2007). There was concern expressed by one tutor that students might have their confidence knocked in the peer feedback

process, yet this issue could be avoided through appropriate training and guidance. Again, the emphasis should be on constructive feedback as a mechanism for reflective learning so students do not feel threatened or defensive about peer feedback.

It was also suggested that students could do anonymous peer feedback in their first year, with face to face feedback being required from second year onwards. This approach to practice, then developing feedback skills demonstrates measurable progression over the duration of the course which could fit in with other curriculum communication objectives such as clinical practice.

As has been highlighted in the literature review by the work of Arnold *et al* (2005) (cf chapter 2), anonymity is a key issue relating to peer feedback generally. Results from the pilot study (cf chapter 6) were mixed with both face to face and anonymous methods being favoured by different students. The methods used for the peer feedback exercises were paper and electronic formats in order to preserve anonymity. These formats still fell short of the GMC's emphasis on giving and receiving feedback face to face in *Tomorrow's Doctors* (2009), but anonymity did prove to be an issue for students in both instances. Trying to safeguard anonymity was part of the planning process for the peer feedback appraisals. In the first exercise students were allocated a peer colleague by seating arrangements in the PBL room. As students were sat close together, anonymity was compromised and students were able to tell who was appraising who by looks and gesture inferences.

In the case of the electronic exercise, allocation was done randomly by the EXCEL selection process (cf page 90). However, distribution using this method was still compromised as students discussed their feedback appraisals amongst groups and individuals.

In both peer feedback exercises, students reported through the evaluation processes that their peer colleagues had discussed who had been allocated who and breached the confidentiality of the exercise. This issue raises concern about the professional behaviours they were supposed to be feeding back upon. Treating peer feedback seriously and maintaining the confidential aspect of the exercise is demonstrating professional behaviour in itself. Information for both peer feedback exercises did make specific reference to the importance of maintaining anonymity, so it is unfortunate that some students did choose to disregard this request. This can be excused as human nature, and it could be suggested that the second year of the course is either too late or too early for students to take peer feedback seriously.

The data collected demonstrates two types of peer feedback with different aims. The first is anonymous and helps students with their own professional development. The second is face to face and aims to develop communication skills. By separating these methods of delivering peer feedback, students can better understand what they are learning.

With regard to tutors, there was an appreciation that giving and receiving face to face feedback was part of the communication skills agenda and just as students will have to get used to confronting patients with difficult issues, they will be doing the same with colleagues. There was an appreciation that both forms of feedback should be practiced as part of learning professional competencies which link to *Tomorrow's Doctors* (2009),

One final concern regarding the exercise was to avoid creating any more paperwork requirements when there are already so many aspects of this already in existence. One tutor interviewee mentioned how current PBL evaluation feedback is collected and used, suggesting this information could be better utilised by students and tutors.

This section summarises this aspect of the research findings, with full recommendations of the research presented in the concluding chapter (cf page 313). The summary is that peer feedback should be conducted face to face with second year students, preferably on their clinical placements. Training and a full explanation of why peer feedback is being undertaken, with a clear definition of professional behaviour, should be provided by the School of Medicine to students and tutors. This should be explicitly linked to GMC guidance and future accountability as a doctor. Emphasis should be given to the giving and receiving of constructive feedback for personal reflection with any inappropriate use of peer feedback appraisal classifying as unprofessional behaviour.

Criteria and guidance for peer feedback needs to be concise – the current PBL evaluation measures are limited in structure and are not conducive to getting students to think constructively about individual performance if there is a set of boxes to tick. Yet open comments require guidance and training to ensure they do not become a bland version of feedback. Citing examples and providing evidence based comments is clearly the best method for reflective learning in both giving and receiving peer feedback.

Giving students permission to comment on their peers is part of the tutor's role which needs to be positively conveyed. Students may need encouragement to make constructive judgements and it is the tutor who can support this process.

Finally, a face to face system could also alleviate the issue about credibility of peer appraisers in each other's eyes – they will know the person giving them feedback and be able to clarify or challenge any assertions they feel are biased or unfair. This would allow for feedback on the feedback, making the peer feedback process as transparent as possible.

Views and experience of peer feedback

Tutors reported feeling initially apprehensive, challenged and hesitant when they first experienced peer review on their own teaching or practice. Yet overall, they have found the process helped them to reflect and change their practice, offered ways

they can improve, been useful and constructive and an opportunity to learn from more experienced colleagues.

It was also mentioned that the peer review process used with PBL tutors offered the opportunity to discuss practice, allows people to 'expose' how they facilitate sessions and provides a supported way to give criticism as one tutor phrased it – to give permission to say 'you've done a bad job'. References were made to unexceptional feedback but this still being useful, illustrating how helpful for reflection feedback can be generally.

Several tutors mentioned their NHS revalidation appraisal as being a good opportunity to talk through what they had been doing over the year, and this being a part of the culture of the NHS in terms of reflection. This is another reason which could be marketed to students in terms of their peer feedback appraisal and also link to the self evaluation element of PBL they currently perform.

Student feedback on the peer feedback appraisal exercises gave positive and negative experiences. The compromise of anonymity mentioned previously, particularly in the 2008 paper based cohort group, undermined the process as people felt they could not be honest or objective and subsequently felt uncomfortable. Although it was not explicit in the evaluation data, it is worth considering that in situations where students did break confidentiality and discuss who they were giving feedback appraisals to, this created pressure on other students

to tell who they had been allocated. It should be acknowledged this kind of peer pressure is difficult to manage, and if asked directly students may feel they have little choice but to 'name names'.

Some positive experiences of students were reported, with over half of evaluation respondents in both cohort groups agreeing they felt comfortable appraising their peers. It was also acknowledged in the 2010 evaluation data that the peer information had been beneficial, led to personal adjustments and reflection. However, it was also felt not enough time had been given to undertake the exercise properly and guidance on how to give constructive criticism had been lacking – particularly considering this was the first time many students had undertaken such an exercise.

In the case of the 2008 peer feedback exercise, the structure of the PBL evaluation form was so defined that little investment of personal observation was required. However, in the 2010 peer feedback exercise, open comments required more detailed and considered responses. Coding of these comments into five categories (cf page 261) demonstrated that most were very positive about feedback on peer behaviours in PBL. Constructive criticism was coded as 'areas for improvement' and often these kinds of comments were 'cushioned' by the peer feedback appraiser saying they felt they had to offer a suggestion for improvement as part of the process, or it was a minor issue not to detract from the peer's contribution generally. One evaluation comment mentioned that they had not heard of anyone giving a 'bad'

review and attributed this to flaws in the exercises anonymity, so feedback was intentionally toned down to be "bland".

It is clear from the data collected from students and tutors that some apprehension is evident when initially undertaking peer review for the first time. People are naturally nervous about their performance being commented upon, but appreciate the useful learning and reflection opportunity this provides. One tutor said they worried in case they had to change their teaching style which had developed over twenty years – but the feedback was actually OK, although some feedback may be difficult to accept, it is ultimately a learning opportunity.

As peer feedback is an accepted part of teaching and learning at the University, in NHS practice (RCP, 2005) and increasingly emphasised in GMC literature (GMC, 2009), it should be marketed to students as a positive learning opportunity where they are permitted and encouraged to be as constructive and honest as possible to improve their own practice skills and those of others.

Tutors awareness of GMC literature

It is important to acknowledge the lack of data collected from students on their awareness of GMC guidance. This is not to the detriment of the data collected from tutors on this topic, which proved to be insightful and useful.

Two tutors had limited knowledge of *Tomorrow's Doctors* (2009) and related GMC guidance, while others (mostly owing to their role in the medical school) had been involved in the consultation process undertaken by the GMC for *Tomorrow's Doctors*. This disparity suggests a gap in the training and information relayed to tutors by both the GMC and the medical school. It is difficult to issue blame for this situation (if indeed blame is to be issued) as the GMC do not specify how the guidance information should be disseminated, and the medical school (at the time of writing) has no formalised system for distributing GMC material to PBL tutors.

Finding the time to locate and read the latest GMC guidance was an issue for tutors who already had busy workloads to manage. The findings of Watmough (2008), outlined in the introduction chapter highlighted the issues of reforming the curriculum at Liverpool in response to GMC guidance, and how speciality consultants remained ignorant of the GMC's role with regard to the undergraduate medical curriculum and the content of *Tomorrow's Doctors*. This research indicates that clarity with regard to linking GMC guidance to the teaching of the course remains elusive.

Prior to the interviews, tutors were provided with a summary of points from *Tomorrow's Doctors* (2009) and *Medical Students: professional values and fitness to practice* (2009) relevant to the interview discussion (cf Appendix 11). Several tutors mentioned they had found this document easy to read, and it would be helpful if the medical school could circulate a list of the guidance points directly relevant to PBL tutors. This would clarify the points PBL tutors should focus on and highlight issues in relation to students and learning.

Professional behaviour was one of the GMC guidance issues tutors commented on with regard to definitions, how the guidance links to PBL scenarios and fitness to practice systems. Again, tutors felt more emphasis should be placed on this information and it should be promoted across the faculty. With particular regard to the definition of professionalism, one tutor outlined how the themes and phrases from the GMC guidance such as probity and good health should be used more to familiarise students with the terms and embed them in their learning. The tutor also suggested that by not unpacking the guidance it remains a closed box, and the opportunity should be used in order to promote professional behaviour generally.

The interviews with tutors highlighted the lack of a formalised system for distributing GMC information, and that this was something of a lost opportunity in terms of promoting the professionalism agenda and the terminology favoured by the GMC in relation to professional practice. By producing a summary of GMC guidance points and relating these to PBL scenarios, a link between the curriculum and professional behaviour would be established.

As outlined in the introduction chapter (cf chapter 1) the faculty produced a curriculum review and recommendations relating to the guidance in *Tomorrow's Doctors* (2009). This document was launched with a presentation for staff (03/02/10). Events similar to this could be held more frequently to emphasise the importance of GMC recommendations and how this relates to the delivery of PBL and tutor facilitation.

The PBL evaluation system

The current PBL system allows for some flexibility within each group and at the discretion of individual tutors. Processes including the PBL tutor peer review mechanism and the evaluation method, whereby students can feedback on their facilitator's management of sessions, ensure that systems are in place to identify any poor tuition or problems with the course.

Data collected from tutors showed that this system has led in some instances to inconsistency and varying degrees of evaluation. One tutor said when they had proposed a 'round table' evaluation where students give feedback on the session, it was clear this was a new concept for them, and they hadn't done it before.

Similarly, other tutors openly acknowledged they didn't devote the time to the specified PBL evaluation where students are prompted to discuss their contribution and what went well and could have been improved during the session. One tutor asked where the time was to conduct this in the session, and another pointed out that students are often rushing off to a plenary so after PBL the evaluation slips in priority.

One tutor went as far as to say the evaluation element of PBL was seen to be 'fluffy' by some tutors, and even though evaluation was expected and encouraged by faculty, it means nothing to some tutors so they do not practice it.

This is contradictory to the professional element of the PBL ethos which encourages reflection on personal approach and contribution to the session, as highlighted in the literature review by the work of Maudseley and Strivens (2000) (cf chapter 2). If the evaluation is delivered correctly students should feel empowered to talk about their experience during PBL, and should help each other develop as part of the process by offering feedback. Theoretically, an element of peer feedback is built into the PBL process but, evidently, this is not being consistently delivered by tutors.

The current PBL evaluation form was acknowledged as being of limited use because of its structure and wording. The scoring scales were seen by one tutor to be unobtainable by even the best students. Another felt that the PBL evaluation form feedback produced consistent results, and assumed that any issues that didn't emerge through the tutor and student evaluations would be picked up in one to one meetings. Only one tutor was explicitly positive about the PBL evaluation form and felt it was good, although they admitted they didn't use it in learning.

The 2008 triangulated PBL evaluation data (cf chapter 7) demonstrated that tutor and peer scores correlated, while self scores were lower, indicating that peers are well placed to observe and comment upon their fellow students behaviour. However, issues relating to anonymity prevented students from giving honest feedback as they were not comfortable completing paper based peer feedback appraisal in a group setting.

One student commented that the PBL evaluation form rating scale was flawed as it did not reflect how well a person had performed in PBL and did not allow for 'unscoreable' contributions involved in a peer's ability to contribute to the PBL process. Qualities such as being sociable, fun, happy, good at diagrams or contributing a deeper understanding of 'structure and function' were evident in the PBL peer feedback comment exercise, and could be incorporated into the existing PBL evaluation form. This might seem 'fluffy', as mentioned in tutor interviews, but could make the PBL evaluation form more positive, relevant and accessible to students.

The tutor interviews also demonstrated a range of approaches and opinions about the PBL evaluation process in its current format. This is clearly an issue which needs to be clarified in terms of ensuring the inclusion of evaluation at the end of each PBL session for students to offer feedback to each other. This process should be facilitated by tutors to encourage students to give professional and constructive feedback in a supportive environment.

Some tutors say they find it difficult to make time for this process, but it is a fundamental part of PBL and should be highlighted as such. The evaluation is an ideal time to get students thinking about feedback and focus on providing the opportunity to give and receive feedback as specified in the GMC's *Tomorrow's Doctors* (2009) guidance. It also promotes professional behaviour generally. For tutors who consider this process to be 'fluffy', there should be some guidelines

available on how evaluations should be conducted with suggested methods for doing this.

It is clear from the data collected on the current PBL evaluation process that there is room for improvement. The PBL evaluation form offers limited opportunity for individual student strengths and weaknesses to be identified. The scoring structure was seen as unrealistic and inflexible, making reflection on the results of the forms limited in their transferability. The purpose of the PBL evaluation data is to monitor student's performance and identify any anomalies in this data for discussion. The data is kept but not used for any other purpose.

This could be seen as a wasted opportunity, giving little useful feedback. It also offers little "tie in" with the verbal PBL evaluation which is supposed to happen at the end of the session. As has been established, this process is delivered inconsistently as different tutors deliver it in different ways – one referred to having five minutes of 'quick and dirty' evaluation, while others have a range of prompts and ways to include all group members in the evaluation process. Ideally, PBL evaluation should be given dedicated time and all tutors should be clear about the purpose of the evaluation process, how it links to GMC guidelines and encourage all students to participate in the exercise. Establishing consistency in PBL evaluation will enable the students to give face to face feedback on a regular basis throughout the duration of the course. They will be supported to be constructive in giving and receiving their feedback and become accountable for the comments they make about colleagues. They will be able to discuss the issues relating to their performance in PBL and clear

up any misunderstandings in the resulting feedback, improving their communication skills and raising their awareness of professional behaviour generally.

This would require additional training for both tutors and students but should ensure professional competency. Any students who have problems identified as part of this process could be supported to improve their future behaviour without the need for 'fitness to practice' or more serious issues. Finally, the group work element of this proposed PBL evaluation system encourages team contributions and can offer flexibility across groups so students have some control over the process and are more likely to 'buy in' to it.

Using peer feedback

As has been established in the previous paragraphs, the current PBL evaluation process offers little useful material for students to reflect on their performance.

The comment based feedback system offered more information in terms of reflection. The third largest number of comments received as part of the feedback related to areas for improvement, offering suggestions for how students could improve their performance or contribution to PBL sessions.

As reported in the PBL and peer feedback chapter, the scope of suggestions included in the 'areas for improvement' section demonstrated that students could give useful, constructive feedback for reflection and provide evidence for their suggestions.

The evaluations for both peer feedback exercises (cf chapter 7) asked students if the information from their peers had helped them to reflect on their performance in PBL. Almost half (48%) of the 2008 respondents agreed this had been the case, whereas over half (55%) of the 2010 respondents agreed. It is important to note that the sample size of the 2008 respondents was much bigger (145 students in 2008 compared with 33 students in 2010). Yet around half of both groups agree peer feedback is useful for reflection which is certainly encouraging.

The evaluation surveys also asked students if PBL was a good place to practice peer feedback appraisal or review. Of the 2008 group over half of respondents (53%) agreed with this statement with this reflected in the 2010 respondents where 52% agreed.

These evaluation results demonstrate that students generally agree that PBL is a good place to practice peer feedback and they find the results helpful for reflective learning. Linking this information to previous sections, where the current gaps in PBL evaluation have been identified and discussed, a new approach incorporating peer

feedback appraisal in PBL could benefit the skills and professional competency of medical students.

In terms of reflection, both the PBL peer feedback exercises have provided written information which is traditionally easier to reflect on – it can be re read, considered and revisited. It can also be used and quoted as part of portfolio's to demonstrate personal professional development.

Oral feedback, as outlined in the previous section, is more opaque in terms of reflection unless it is recorded at the time, which might not always be practical or convenient. So the face to face PBL evaluation process meets GMC guidance, but requires further investigation with regard to providing written peer feedback for reflection purposes.

Competition and PBL

The issue of competition between medical students and how this could impact on the objectivity of peer feedback appraisal emerged during the pilot study (cf chapter 6). It was discussed with students in the pilot study focus group, which provoked mixed reactions from participants. It also emerged in the PBL peer feedback evaluation exercises.

Tutors were asked about their views on competition between medical students, with several acknowledging that it was competitive to get into the course and elements of this competition continued for some students over the duration of their careers. Pressure begins early in the course and being high performing students from their school days continues this pattern. Competition was seen by one tutor to be a good thing as it encouraged students to perform better. Most tutors did not view the situation in the same way, though.

It was clear that competition is an issue, and one that is rarely acknowledged, as highlighted in the literature review with McCormack *et al* (2007) being the exception in the literature acknowledging 'unhealthy competition' between students. Only two tutors were unsure – one saying students displayed camaraderie and the other that with the exception of the odd selfish student who didn't want to work with the group but had done the work.

One tutor described how students are working together in some ways but also competing with each other at the end of the day. This apparent contradiction does offer a challenge with regard to peer feedback appraisal – we expect students to work together and support each others' learning then compete for places as part of their foundation training. One tutor succinctly phrased it that:

> *"As with empathy we want students to display empathic qualities but also to survive, we also want them to be competitive but not overly competitive so they can work as part of a team".*

With regard to peer feedback, there is also a political dimension to this discussion – as one tutor spoke about how competition could easily affect peer review. With so much pressure to perform well, students might not want to tell their peers how to improve their professional practice despite this being one of the duties of a doctor, thereby giving them a future advantage in their careers. This isn't a pleasant thought, but one which needs to be considered as part of the discussion.

However, several tutors mentioned that the PBL process does not foster competition as students learned to work as a group in a non-threatening environment where they share resources, collaborate and contribute to each other's learning. It was suggested that early in the course (first and second year) there is rarely suggestion of competition but they could see how it might emerge during later years with regard to foundation training posts.

There were no conclusive outcomes from the tutor interviews with regard to competition, but it was an interesting discussion to raise the issue and identify different attitudes towards it. With regard to peer feedback appraisal it is possible some students could theoretically abuse the system, deliberately not give objective feedback in order to further their own progression.

This isn't the model of the good doctor promoted by the GMC in *Good Medical Practice* (2006), and perhaps peer feedback appraisal could help identify and support such an individual in future. If such a student was part of a group, their peers

will likely have noticed this and giving them permission or the opportunity to raise this as an issue could improve learning for the group generally.

Additional issues

Additional issues to emerge from the data included training, honesty, role modelling and justification for peer feedback.

Training was a multi faceted issue as it applies to both students and tutors in relation to the delivery of peer feedback, as reported by Rees *et al* (2005). One question was if tutors thought they needed training to support students in giving and receiving peer feedback. Another issue was if student needed additional training to give and receive peer feedback.

Students were asked about this as part of the online evaluation surveys. In the first 2008 results over half of respondents disagreed they needed extra training to undertake peer review (59%), while in 2010 this number fell to around a third of respondents (36%). Even allowing for the differing size of sample sizes referred to earlier (cf page 100) this does suggest a decrease in the number of students wishing to receive training.

One suggestion for this difference could be the mechanisms used in the two peer feedback exercise in PBL. In the 2008 exercise students used the existing PBL evaluation form which they had previous experience of using. However, the 2010 comment based system was a new way of providing feedback for many students. A comment submitted in the evaluation survey pointed out that this was the first time many students had given such feedback and they needed better information and guidance to be able to effectively comment on the professional behaviour of their peers.

This does illustrate the difference between scale based measures of professional behaviour that students are already familiar with, and actually making an observation and evidence based comment which can be used for reflection and improving practice. Previous comments from tutors showed how written comments could mean different things to different people and humour or jokes might be misinterpreted.

One student comment from the evaluation also pointed out that flaws relating to anonymity meant it was difficult for people to give genuine constructive criticism as they might be identified which they were not comfortable with.

Guidance in relation to giving and receiving constructive feedback should be necessary in any training, and the most effective way to deliver this would be face to face. One student commented in the 2010 evaluation that one of their peer appraisals said untrue things about them by a weaker member of the group who was

intimidated by the confidence and amount of work the student contributed. It is difficult to clarify this – potentially the confident student could dominate the session and other, quieter members of the PBL group have an issue with this.

Again, this is the kind of confusion that could be avoided with face to face peer feedback where people can clarify what they mean and avoid any degree of ambiguity in their feedback. While this process could be uncomfortable at first, it also offers a real opportunity to learn about how students perceive each others' behaviour and contribution.

Returning to the tutor data, one respondent commented that rather than simply teaching how to give and receive peer feedback appraisal, it was something that was a constant learning curve, and students acquire this kind of skill by experience. This tutor continued by explaining how they had attended a course on peer review/peer assessment and they could not remember a single word or sentence from it.

This issue about learning from experience was reflected in interviews with other tutors, who admitted to having no formal training in giving or receiving feedback, but their experience of it had given them sufficient understanding of its importance and relevance. The justification for the feedback – in terms of reason and evidence – was also raised as an issue in that people had to understand why they were doing it and how it could impact upon their learning.

The cultural context of feedback and role modelling was mentioned by one tutor who suggested that currently tutors might not be positively portraying the importance of feedback, seeing it as a 'touchy feely' aspect of the PBL process that they ascribe little importance to. This relates to a previous part of this discussion, where a tutor suggested that PBL evaluation was seen by some tutors to be the 'fluffy' side of the course, which they see as being less valuable than the "Structure and Function" elements of PBL objectives.

Tutors overall did think that some training on peer feedback would be beneficial for students. Suggestions for the delivery of this training included having examples of guidance as a 'barometer' of behaviours they could use for discussion. Ground rules, dilemmas and formal induction training sessions were mentioned. One tutor thought that external trainers who were experts in managing feedback would be best placed to deliver this training, as they could demonstrate the objectivity and process of feedback as a generic process. This would certainly be interesting as following a business model of feedback could demonstrate how widespread the practice is and how medicine is no different from other professions in terms of accountability and honesty in the workplace.

Providing constructive feedback is part of a doctor's professional role as defined in *Good Medical Practice* (2006). One tutor spoke about how even a short half hour session on guidelines for giving and receiving feedback could be helpful, as it could emphasise feedback making the individual a better team member and possibly even a better doctor because they learn and reflect on a regular basis. This tutor did

stress that constructive feedback should allow for difficult things to be said, but without causing upset or demolishing confidence. This point particularly related to the receiving of feedback and how students need to be prepared to acknowledge constructive comments without becoming defensive, argumentative or overly depressed. Another tutor picked up on a similar point, suggesting that good and not so good examples of feedback should highlight differences so students could practice and discuss the best method for feedback and why they thought this would be the case.

Whether training on peer feedback should be given to tutors gave rise to different perspectives. One tutor admitted that some tutors are simply not suited to PBL facilitation, no matter how much training they are given. Another tutor made reference to a 'perfect world' situation where tutors are giving and receiving feedback from each other as a matter of course, and this should model good behaviour generally, as suggested by Van Mook *et al* (2007).

One interviewee made the valid point that there was not much difference between breaking bad news and giving feedback, and students would have to do both as part of their role. This is part of the communication skills agenda and particularly receiving feedback as a part of this training. The example was provided that if two or three peers said similar things about a colleague, that colleague shouldn't be asking 'who' has said these things, it should be 'why' they are saying these things. This is part of receiving and understanding constructive feedback for reflective learning, which is the overall objective of the peer feedback process.

The issue of training in relation to peer feedback is of key importance to the success and quality of the information provided. With regard to students, they may not think they need additional training in this area as it is covered as part of communication skills. Yet they could benefit from exploring how they can appropriately word feedback and consider the impact their comments could have on the person receiving them. If the feedback is face to face or written they need to be clear about what they are saying and how useful it will be to the recipient.

Receiving feedback should hold equal status as giving it in any training. Providing examples for discussion can help students appreciate how feedback could be misinterpreted or misunderstood. Guidance should support the training given to provide as much information as possible on why feedback is important in terms of personal reflection and professional competence.

Tutors may also benefit from training in order to highlight the link previously discussed between GMC guidance and feedback in the PBL evaluation sessions. The perception of evaluation feedback as 'fluffy' or 'touchy feely' sends out the wrong message to students. This needs to be acknowledged and addressed. Tutors are an important role model to students and have a responsibility to take this part of PBL seriously and consistently.

Training for both students and tutors would ideally be mandatory, so the medical school sends a clear message that peer feedback appraisal is an expected part of

life in the medical school for both students and tutors. This should be clearly marketed as part of the professional competency agenda and made clear in PBL scenarios so consistency is endorsed across year groups and tutors. The delivery of the tutor training could be done by external consultants and then cascaded down to students as part of PBL evaluation or with dedicated training sessions for students. It is clear that training is a necessary investment for delivering meaningful peer feedback, and this finding is relevant to all medical schools.

With regard to honesty and ensuring objectivity when students undertake the feedback appraisal of a peer, the key factor in ensuring this again relates to training. The GMC is clear that part of professional behaviour is providing colleagues with honest and constructive feedback. Students need to understand that they are accountable for the feedback they give colleagues, and this demonstrates their maturity and professional approach. There is no getting around the fact that providing unfavourable feedback can be an uncomfortable experience. Yet, as the tutor interviews and GMC guidance have made clear, this is part of a doctor's career and they will have to get used to doing it. Consequently, the more practice students have of this the easier they will find it, and be able to better judge how to phrase and deliver this kind of information in a competent manner, as outlined by Sargeant *et al* (2008).

If students do abuse the system – and examples of this or certainly misunderstandings relating to peer feedback are present in the student data – then they should be held accountable for this. In the case of the 2010 comment based

electronic system all the feedback appraisals were read and verified by the researcher (cf page 259) to ensure that any unsuitable comments were challenged. No malicious or detrimental comments were received, indicating the system had not been misused, rather some students had misconstrued or taken umbrage with comments they felt were overly harsh. This also related to training with regard to receiving feedback and learning to accept constructive criticism as a point for reflective learning and self improvement. Once again these instances of misunderstandings would be easier to address with face to face feedback.

Role modelling and the important influence of the tutor did emerge as an issue, particularly with regard to the evaluation of PBL and how this was facilitated. One tutor acknowledged that some tutors would never be good at the role even with training. This raises a difficult issue for the faculty in terms of identifying tutors who are not delivering PBL well and providing a positive role model for students. There are mechanisms for doing this, such as the peer review system for tutors together with feedback from colleagues and students being regularly collected and monitored. Yet more could be done to ensure consistent standards of PBL delivery and evaluation, as identified by Reiter *et al* (2002).

There is also the issue with regard to unprofessional or bad clinical practice which students see when they are on placement, and which can normalise such behaviours. Students can see a difference from what they are taught in PBL and what happens in practice. Such displays of poor professional behaviour need to be acknowledged and students supported to report or challenge them. One tutor

suggested witnessing this poor practice would galvanise students to do better, and while this may be the case as reported by Karnieli-Miller *et al* (2010), it still means patients or colleagues could be dealing with this unsatisfactory behaviour.

Finally, the justification for peer feedback appraisal needs to clearly link to GMC guidance, PBL scenarios and curriculum outcomes. Students need to understand why they are being asked to do this and how it links to their learning and reflection. The reinforcement of the importance of professional behaviours should replicate this so the terminology around the professional agenda and what is expected is familiar to students.

Incorporating peer feedback into PBL scenarios

The hypotheses of this thesis were:

- Peer feedback on the professional behaviours of medical students by medical students is a formative learning tool, which encourages personal reflection and learning.
- Students who are prepared through training and discussion to complete peer feedback on professional behaviours are better prepared to meet their obligations as doctors and future educators as directed by the GMC in *Tomorrow's Doctors* (2009).

- Undergraduate medical educators benefit from peer feedback data as it can assist in the identification of unprofessional behaviours and provide evidence for supporting and assisting struggling medical students.

Data collected as part of this research demonstrates that tutors and staff agree that peer feedback encourages personal reflection and learning. There is a need for a clear definition of professional behaviours in order that tutors and students understand the importance of this in their practice and that of their colleagues.

It has been shown how current GMC guidance links to peer feedback and how this should be part of the PBL process. The current PBL evaluation system offers the ideal mechanism to promote professional behaviours and familiarise students with the GMC's terminology on issues relating to this topic. It could also encourage the giving and receiving of face to face feedback, meeting GMC guidance and fostering accountability and honesty amongst student groups.

The exact mechanism for delivering this will require further review of current PBL scenarios, and the most appropriate place to include peer feedback. It will also require additional training and support for tutors and students. This implementation is discussed as part of the thesis conclusions (cf chapter 11).

Interviews with tutors illustrated that they appreciate the giving and receiving of feedback as part of the necessary skills and professional competencies of a doctor. However, there was little evidence that tutors thought it would help them identify unprofessional behaviours in medical students who were struggling. There was an appreciation that not giving or accepting honest and objective feedback was unprofessional in itself. The role of tutors was generally agreed to be key in role-modelling professional behaviours, promoting evaluation and feedback in PBL and promoting GMC guidance objectives.

Additional training would be beneficial for tutors to promote the latest GMC guidance on professional behaviours and discuss different ways PBL evaluation can best be facilitated to encourage face to face feedback in a supportive environment and ensure that evaluation is consistently delivered throughout the duration of the course. Tutors are ideally placed to role-model professional behaviours and seek to reassure students about the positive benefits of giving and receiving honest and constructive feedback from their peer colleagues.

The "hidden" and informal curriculum emerged as an issue relating to curriculum delivery in the literature review (cf chapter 2). The position of tutors as role-models was acknowledged in several tutor interviews, and this research highlights how important it is that tutors are aware of this responsibility in relation to *Tomorrow's Doctors* (2009). This issue will be further explored as part of the thesis conclusions (cf chapter 11).

The work of Lave and Wenger (2008) viewed learning as a situated activity, where participants engage in the socio cultural practices of a community as part of their mastery of skills and knowledge. This is how individuals 'learn by doing' and begin to participate in their professional community. This concept of learning emphasises the learner as a character who by witnessing the behaviours of others begins and then assimilates this information into their own character. Rather than simply absorbing facts and information, the learner actively engages in a process of learning in which they peripherally participate until they are part of this community.

In relation to professional behaviours, students are involved in observing the practice of established doctors through their clinical placements and contact with PBL tutors. They formulate their own understanding and interpretation of situations as part of this process. It should be acknowledged the incredibly important influence role-modelling by educators plays relation to professional behaviours.

The context of situated learning in PBL should be highlighted and acknowledged. PBL offers the opportunity for students to take ownership for their own learning. This needs to be appropriately facilitated by PBL tutors with clear reference to GMC guidance and professional behaviours to ensure students are exposed to positive role models and consistent examples of good practice.

Limitations of the research

In terms of generalisability, the research focuses on the PBL curriculum at Liverpool and peer feedback on professional behaviours within this course. The tutors interviewed as part of the research were limited to twelve in number. It is accepted that this group of PBL tutors may not entirely represent the views of the wider tutor population at Liverpool, or PBL tutors at other medical schools, as acknowledged in the tutor interviews limitations (cf page 255).

This illustrates the issue of achieving transferability in qualitative research data. The in depth information collected as part of this process has provided detailed suggestions and insight answers to the research questions which would not have been possible using quantitative or structured data collection methods.

The subjective nature of data interpretation must also be acknowledged. The theoretical approach undertaken related to grounded theory, emergent data coding and analysis. Reporting of this data followed a social constructionist model, so tutors expressed their own views and experiences in their own words. In the comment based peer feedback exercise students also used their own language to describe the professional behaviours of their peers. Careful consideration was given to the coding and presentation of these comments to illustrate the variety of opinions, similarities and opposing perspectives recorded as part of the research discussion.

Alvesson and Skoldberg (2001) describe how reflection by the researcher is a question of fully recognising the notoriously ambivalent relation of a researcher's text to the realities studied. They expand that reflection means interpreting one's own interpretations, looking at one's own perspectives from other perspectives and turning a self-critical eye onto one's own authority as interpreter and author. Some judgement and interpretation by the researcher is an accepted part of qualitative research process, as outlined by Silverman (2007). It is hoped the clear mechanisms used in the research reporting and analysis (as outlined in the Methods and Interpretation and Data Outcomes chapters) have made this thesis as clear and transparent as possible.

The rapidly changing focus of medical education and GMC guidance should also be mentioned. Fitness to Practice guidance was launched in 2008 by the GMC and MSC and updated the following year, along with the *Tomorrow's Doctors* documentation. This has meant constantly revising the literature review and research questions to ensure the issues covered were as relevant as possible, and addressed GMC guidance and curriculum issues. This offered insight to other medical schools relating to peer feedback and professional behaviour. This will be further explored in the Conclusions chapter (cf chapter 11).

# CHAPTER 11 - CONCLUSIONS

As outlined in the discussion chapter, the findings from the student peer feedback exercises and the tutor interviews have been linked together based in the structure of the tutor questionnaire schedule, with reference to current GMC guidance, PBL evaluation, the useful transferability of peer feedback and what is understood by the term 'professional behaviours'.

This chapter revisits the original questions and aims of the research to ensure the data collected fully addresses these issues. Relevant points from GMC guidance were discussed in the previous chapter, and are highlighted in the conclusions of this thesis. The limitations of the research and some retrospective analysis on what could have been done differently during the course of the study conclude this chapter. Some recommendations of the research featured in the previous Discussion chapter and are also highlighted in the conclusions.

## Integrating peer feedback on professional behaviours into PBL

Peer feedback should be an established, integral part of the PBL process. One of the key elements of the PBL model is the emphasis on shared group study. Students should be consistently supported to offer meaningful, constructive feedback on their peer's performance in PBL, and accept such feedback as an opportunity for reflective learning. This feedback should feature in small group learning situations, and would be a valuable part of clinical attachments and other placements.

At present each year group in Liverpool has the following number of PBL scenarios:

Year one – 11

Year two – 15

Year three – 14

Year four – 13

Graduate entry programme (years one and two) – 18

Each of these scenarios should be reviewed with reference to the GMC's guidance and definitions of professional behaviour. Where appropriate, each scenario should be amended to accentuate professional behaviour, heighten student awareness of these issues and their responsibilities with regard to accountability.

In particular the following *Tomorrow's Doctors* (2009) guidance points should be highlighted:

> *"Students are responsible for: raising any concerns about patient safety, or any aspect of the conduct of others which is inconsistent with good professional practice". (6c)*

> *"Systems and procedures will: inform students, and those delivering medical education, of their responsibility to raise concerns if they identify risks to patient safety, and provide ways to do this". (28e)*

*"As future doctors, students have a duty to follow the guidance in Good Medical Practice from their first day of study and must understand the consequences if they fail to do so. In particular, students must appreciate the importance of protecting patients, even if this conflicts with their own interests or those of friends or colleagues. If students have concerns about patient safety, they must report these to their medical school. Medical schools must provide robust ways for concerns to be reported in confidence and communicate these to students". (33)*

In relation to communication, *Tomorrow's Doctors* (2009) outlines that the doctor should:

*"Communicate clearly, sensitively and effectively with patients, their relatives or other carers, and colleagues from the medical and other professions, by listening, sharing and responding". (15a)*

*"Communicate effectively in various roles, for example, as patient advocate, teacher, manager or improvement leader". (15h)*

With regard to learning and reflection *Tomorrow's Doctors* (2009) is clear that doctors should:

*"Establish the foundations for lifelong learning and continuing professional development, including a professional development portfolio containing reflections, achievements and learning needs". (21b)*

*"Recognise own personal and professional limits and seek help from colleagues and supervisors when necessary". (21e)*

*"Function effectively as a mentor and teacher including contributing to the appraisal, assessment and review of colleagues, giving effective feedback, and taking advantage of opportunities to develop these skills". (21f)*

*"Respond constructively to the outcomes of appraisals, performance reviews and assessments". (23f)*

The importance of feedback and opportunities for students to learn from this is also highlighted in *Tomorrow's Doctors* (2009):

*"Students will have regular feedback on their performance". (85)*

*"Students must receive regular information about their development and progress. This should include feedback on both formative and summative assessments... All doctors, other health and social care workers, patients and carers who come into contact with the student should have an opportunity to provide constructive feedback about their performance. Feedback about performance in assessments helps to identify strengths and weaknesses, both in students and in the curriculum, and this allows changes to be made". (111)*

Tutors should aim to elicit discussion as part of the evaluation to encourage reflection on these behaviours and how students perceive them in relation to their own practice. This would promote discourse on professional behaviour and familiarise students with these terms and concepts. This focus on PBL evaluation has training implications for both students and tutors. For students, the importance of giving and receiving feedback is a communication competence and part of the clinical skills agenda.

The current resource material available on this topic should be revisited and revised, again making reference to the GMC guidance to ensure consistency in the curriculum, as outlined in *Tomorrow's Doctors* (2009):

> *"Medical schools must make sure that everyone involved in educating medical students has the necessary knowledge and skills for their role. This includes teachers, trainers, clinical supervisors and assessors in the medical school or with other education providers. They should also make sure that these people understand Tomorrow's Doctors and put it into practice. The medical school must ensure that appropriate training is provided to these people to carry out their role, and that staff-development programmes promote teaching and assessment skills. All staff (including those from other education providers) should take part in such programmes". (148)*

One tutor suggested dedicating a training session for students on giving and receiving constructive feedback. This would be an efficient mechanism for highlighting this practice. Such a session or plenary would highlight the GMC's emphasis on being honest and objective when appraising or assessing the performance of others, and contributing to the education of other students to demonstrate fitness to practice. It would address the specification in *Medical students: professional values and fitness to practise* (2009) that:

> *"In order to demonstrate that they are fit to practise, students should: reflect on feedback about their performance and achievements and respond constructively". (19e)*

> *"Doctors and students must be willing to contribute to the teaching, training, appraising and assessing of students and colleagues. They are also expected to be honest and objective when appraising or assessing the performance of*

*others, in order to ensure students and colleagues are maintaining a satisfactory standard of practice". (21)*

*"In order to demonstrate they are fit to practise, students should: be willing to contribute to the education of other students". (22c)*

The session would also explain:

- How PBL is designed to promote shared reflective experience, and learning about professional behaviour from peers is a part of this process. Giving and receiving constructive feedback is standard practice in the NHS and part of the curriculum.
- Examples of good and unhelpful feedback – these could include some information gathered as part of this research. Students could be asked why these examples are useful and what can be learned from them.
- How guidance for appropriate feedback should include the importance of non-verbal communication and the need to provide evidence for comments so students can fully understand the feedback they are being given.
- Comments from students about their experience of peer feedback should be acknowledged – both positive for learning opportunities and negative with regard to initial fears of being uncomfortable or worry about offending friends and peers.

The earlier in the course this guidance is presented, the more likely it is students will adapt to the face to face feedback requirement of PBL and become more confident in expressing opinions about the performance of their peers. Key points from this

session would be of interest to other UK medical schools using small group sessions and clinical placement evaluations, as it would highlight relevant GMC guidance transferable to their own curriculum outcomes.

The issue of the best time to deliver peer feedback will depend on the structure of individual medical school curriculums. However, it is clear that giving and receiving peer feedback is a skill required as part of the duties of a doctor and needs to be addressed. This research has indicated that the second year would be an appropriate time to introduce face to face feedback, but at this stage students have already established relationships and find it harder to give objective face to face feedback to their friends.

As face to face feedback is a learning opportunity and professional competence emphasised by the GMC, the sooner it is explained to students and they can practice it, the better it will be for their professional development. PBL is the ideal opportunity to practice giving and receiving feedback to colleagues and alongside the current PBL evaluation form adds another dimension to personal reflection and learning.

The role of tutors in delivering this evaluation element of PBL is possibly the most important issue. Tutors acknowledged they have very different approaches to the evaluation element of PBL which can be confusing for students and impact upon their learning. Consistent delivery of PBL is an important issue the medical school can address through training.

The mechanism for tutors to discuss their practice already exists, and peer review of tutors is an established part of teaching in the medical school. This mechanism and the training of PBL tutors needs to emphasise GMC guidance and how professional behaviours are defined and expected of medical students. Therefore, the following issues should be undertaken in relation to the training and development of PBL tutors:

- A summary of GMC guidance should be presented to tutors for discussion, particularly with regard to professional behaviours. Additional training sessions should be dedicated to the promotion of the GMC guidance in relation to PBL feedback evaluation opportunities. Attendance at these events should be mandatory to ensure tutors understand that consistent delivery of the PBL evaluation agenda is required.
- Training programmes for new PBL tutors need to incorporate GMC guidance and PBL evaluation as a core requirement of facilitation.
- Tutors should dedicate a 10/15 minute slot at the end of each PBL session to evaluation, where student provide face to face feedback on their peer's professional behaviours.
- A bank of questions to promote this discussion will be provided in consultation with tutors to help them tailor each evaluation to their PBL group. It is appreciated that some PBL groups are quiet and do not easily engage in discussion. However, it is the role of the PBL tutor to facilitate such conversation in a consistent manner.

- A professional development qualification should be provided for PBL tutors to demonstrate their continued commitment to learning. Such a qualification could be used with PBL tutors in Liverpool and other medical schools following PBL or small group learning to establish a 'gold standard' for facilitation.

The implementation of these points will introduce expected standards of PBL evaluation and these will need to be monitored for consistent delivery. It is acknowledged that additional resources will need to be allocated to PBL tutor training. However, this updated PBL evaluation system will meet GMC guidance and improve the opportunities for students to practice feedback within a supported learning environment and assist in the development of their professional competencies.

Issues preventing objective peer feedback on professional behaviours

The issues students raised in objection to giving feedback to their peer were consistent with those identified in the literature review (cf chapter 2). These were anonymity, use of peer feedback and bias or personal relationships.

Anonymity was a key issue in both peer feedback exercises. This compromised how honest students thought they could be, for fear of upsetting or jeopardising

relationships with their peers. This is understandable, as it can be a new and uncomfortable experience commenting on other people's behaviour.

Yet this is a professional competence they will have to demonstrate throughout their career. If a colleague is acting unprofessionally, risking the health of a patient or behaving in a compromising manner then it is their duty to address this. The more experience they have had during their training, the better prepared they will be to phrase their concerns appropriately and evidence such claims.

Anonymity makes students less accountable for their feedback. Students should be supported in giving face to face feedback early in the course so it becomes part of their lifelong learning skills development. Face to face feedback will lessen misinterpretation and allow for discussion and clarity of understanding. It would also build confidence in the student's ability to give and receive feedback.

How peer feedback will be used was an issue of contention for some students concerned about negative feedback impacting upon their student record or career progression. Students expressed concern that if they were constructive in their feedback then students might be marked down or even fail elements of the course. This would stop them being constructive and lead to bland feedback as mentioned in the Discussion chapter (cf chapter 10).

The emphasis here has been placed upon reporting negative behaviour, but students should be encouraged to recognise and praise good professional practice when they encounter it. Positive feedback is a good motivator (Harackiewicz, 1979) encouraging team work and creating a good working environment. Peer feedback in the undergraduate curriculum as part of PBL evaluation can also promote, encourage and advance professional behaviour. This emphasis could encourage students to objectively give feedback to their peers, and enable them to cushion more constructive points they also might want to raise.

Tutors views on peer feedback and its use

The tutors interviewed for this research had varied experiences and mixed views on peer feedback. Generally, it was accepted that feedback they had received on their own teaching and practice had been useful, although a little uncomfortable at first. It was generally appreciated that receiving feedback from colleagues and peers was part of lifelong learning.

With regard to students, tutors overall felt that peer feedback should be formative, commence in second year, and ideally this should be face to face. It was appreciated this would be uncomfortable and students would find it difficult at first. The use of peer feedback was linked to personal reflection, lifelong learning and professional competence. Tutors own use of peer feedback data was rarely mentioned. It was seen as primarily a communication exercise for students.

There was some concern expressed that peer feedback could generate additional paperwork for tutors and students, and this would be unwelcome by both groups. This issue has been acknowledged previously in the Discussion chapter (cf chapter 10) as relating to promoting peer feedback effectively, and this is a cross-cutting theme for students and tutors. Both groups need to see the value in completing peer review and how it can help learning and development, as well as demonstrating a professional competence and personal skills in PBL.

Promoting face to face feedback of professional behaviour and consistently providing this as part of PBL evaluation will fit in with the PBL model used at Liverpool. Tutors will require training, guidance and support to deliver this effectively. They will also need to understand how peer feedback provides them with additional information about student's development with regard to giving and receiving feedback. It will also demonstrate who might be struggling to fit in with the dynamic of the group, or does not contribute to the sessions. By acknowledging these issues, under the facilitation of the tutor, any problems in the group can be openly discussed. This will help tutors gain better knowledge of individuals within their group.

<u>The impact of the "hidden curriculum" on professional behaviour</u>

In effect students see professional and unprofessional behaviour demonstrated in PBL and on clinical placements. This is the view of tutors who acknowledge the impact of both.

The impact of the "hidden curriculum" on the developing behaviours of students is difficult to assess on the data collected from tutors during this research. Tutors commented on students seeing clinicians on placement transgressing basic hygiene standards such as hand washing, and more serious instances such as being rude to other members of staff or not teaching students or even acknowledging their presence. *Tomorrow's Doctors* (2009) is clear that:

> *"Every doctor who comes into contact with medical students should recognise the importance of role models in developing appropriate behaviours towards patients, colleagues and others. Doctors with particular responsibility for teaching students must develop the skills and practices of a competent teacher and must make sure that students are properly supervised". (149)*

There is something of a contradiction between the current recommendations of the GMC with regard to professional behaviour and what students see on clinical placements. This situation "normalises" unprofessional behaviour, and it will continue to go unchallenged creating an ongoing pattern of acceptable unprofessional behaviour (Stephenson *et al* 2006). One tutor felt witnessing unprofessional behaviour was a good way for students to learn, as they would recognise poor professional behaviour as such and vow not to imitate it. This is an interesting point, but again places responsibility on the student to deal with the situation.

One recommendation of this research would be to better publicise the reporting system in place so students can discuss any behaviours they see on placement which concern them. This will be their duty as doctors, and it should be promoted

early in their careers. In order to develop true accountability in the profession, all practitioners should be called to account for poor professional behaviour. This system at Liverpool requires better guidance and support for students so they understand their responsibility in this regard.

This system is one way to address the "hidden curriculum" (cf page 60) – by gathering data from students on these behaviours and demonstrating to students the medical schools commitment to accountability at all levels of practice. It is also an opportunity to promote the latest GMC guidance on professional behaviour and standards expected at all levels of the medical profession.

The best time for peer feedback on professional behaviours

According to tutors, this would be second year onwards as students have developed some maturity and become more aware of their professional responsibilities.

However, as part of the conclusions for this research, it is proposed that students should feedback on professional behaviours face to face in PBL evaluation from the start of the course in the first year. The sooner they are in the habit of recognising what constitutes professional behaviour, and are able to comment on this in relation to their peers, the easier it will be for them in the long term.

It is important for students to recognise that if a peer, colleague or friend is behaving in an inappropriate manner that they have a responsibility to address this as part of their role as a medical student and a doctor.

Which professional behaviours students can peer feedback on

It is difficult to answer this question without data collected directly from students. Feedback from the student feedback exercises indicated that the current PBL evaluation form was of limited use as the categorisation used was so limiting. The qualitative comment feedback requires training and supported guidance to ensure it is as useful as possible.

Training and delivery of peer feedback on professional behaviour

As a starting point of training and guidance for students to peer feedback, they need to understand why they are being asked to complete such an exercise. Background information from the GMC should be provided to emphasise the importance of feedback in the doctor role, and the importance of good professional behaviour.

Data collected from students indicated they did not think that they required training, but they also were unclear about why they were being asked to feedback on their peer's behaviours and how this linked to other areas of the curriculum.

Data from the tutor interviews suggested dedicated training on giving and receiving feedback - possibly under the remit of communication skills – because providing feedback was not dissimilar to breaking bad news in terms of appropriate language and mannerisms.

A recommendation from this research would be for medical schools to outline the importance of peer feedback in the recruitment information for the course so it is explicit that students will be expected to give face to face feedback to their peers as part of their learning.

Professional behaviour can then be highlighted as part of a plenary lecture session in the student's induction week which would cause minimal disruption as they attend lectures at this stage. This would be a brief introduction to the GMC guidance and how it fits in with the curriculum and PBL philosophy at Liverpool. It will be made clear that giving and receiving positive and negative feedback is a formative exercise for personal learning and a course requirement – it is not a tool for airing personal grudges or grievances. Students will be expected to provide evidence for all feedback they provide to their peers. This is a professional competence they will be expected to take seriously from the start of the course and throughout their training.

PBL tutors will be asked to explain PBL evaluation as part of their first session and will provide good and bad examples of feedback to illustrate these points. Although this is not dedicated training as such, it will make clear to the students the purpose of

the exercise and give them opportunities to ask questions about the peer feedback process and air any concerns they may have regarding this practice. Overall, this research has indicated that the training implication for peer feedback in PBL is more related to tutors than students.

Peer feedback in PBL

The structure of PBL at Liverpool has time allocated at the end of each session for evaluation. Data collected from the tutor interviews highlighted the inconsistent delivery of this evaluation. Some tutors said once a group had settled down they didn't bother, they didn't have time to, or in some cases groups were not very talkative so little was said, therefore defeating the point of the exercise.

This part of the PBL session was designed to encourage reflection and learning from the students – to develop their skills as group learners, to appreciate what went well and what didn't during the session and how it could be improved for next time.

It is also an opportunity for students to recognise what positive contributions they make to the process – comments made in the qualitative PBL peer feedback exercise were very positive, highlighting what good behaviour, information, resources and skills students bring to their groups. Data from this exercise also demonstrated that students can make effective suggestions for improvement and phrase this appropriately.

The onus is on tutors to facilitate the evaluation process effectively and this does have training implications. It was suggested that a bank of prompts and lead-in questions for tutors could be collected as an ongoing resource to assist in PBL evaluations. This would enable tutors to try different ways of delivering evaluation whilst appreciating the different personalities involved. Some flexibility is required within the PBL evaluation structure as there will not be a 'one size fits all' way of delivering this.

Cultural differences, personality clashes and shyness will all effect how successful PBL evaluation is. It is the role of the tutor to try what works and enable students to participate. This will not be easy in some situations and with some groups. Yet it needs to be recognised as a pre requisite for PBL which needs to be delivered consistently so students understand it is expected of them.

Students (and possibly some tutors) may find this process intimidating initially, but it is anticipated it will get easier and become standard practice. It is recommended that this improved delivery of PBL evaluation begin with first years being inducted in the next academic year intake.

Incorporating peer feedback into the PBL evaluation should be part of the Liverpool professional agenda and the wider curriculum. Linking these together highlights to students how integrated these themes are. One criticism from students participating

in the qualitative comment based PBL peer feedback exercise was that the exercise didn't seem to be related to any other areas of the course and was poorly planned.

Therefore, a clear recommendation of this research is linking themes across the curriculum to ensure consistency and student engagement with reference to GMC guidance, the Liverpool professional model, PBL evaluation and face to face peer feedback. The timing of the PBL evaluation will be clear, as it is included in each current PBL session.

One issue that has not been made clear is how the face to face peer feedback can be recorded. This would be at the discretion of the PBL tutor. The student nominated to scribe during the session would be the most obvious person to do this. Again, appropriate guidance would be provided as part of training and guidelines to ensure accuracy and fairness reporting PBL evaluation. The tutor would also be responsible for overseeing this was appropriately undertaken and recorded.

It is acknowledged that some feedback will not be welcome or received well and this could lead to difficult discussion. Guidance for tutors and students on how to appropriately handle this situation will be necessary. By recording any such disagreement, it might be wise to allow things to settle and encourage reflection and begin the next PBL session by trying to resolve this.

Creating new PBL evaluation resources

A useful training resource for tutors and students would be a DVD of PBL evaluation done well, and done badly. This could be produced as collaboration between faculty, PBL tutors and students themselves.

Each of these groups can offer different experiences and ideas to highlight how PBL evaluation works and what is expected of people. Some exaggerated characters could highlight seemingly awkward situations and how these can best be dealt with effectively without offending anyone involved and enabling the group to work together in future.

This DVD could be the basis of discussion for each PBL group about how they want to evaluate their sessions and ground rules for discussion. It could also be used as part of open day or induction sessions to highlight what is expected of students during their PBL sessions.

This resource could also be used by other medical schools wishing to link together the small group learning process and GMC guidance. The curriculum at Liverpool could be a leading example of how to effectively cover GMC requirements directly as part of the learning experience. Emphasis upon giving and receiving feedback on professional behaviours is important and expected by the GMC and this should be clear in all UK medical schools.

Evaluation training and accreditation for PBL tutors

Previous work at the University of Liverpool has clearly emphasised the role of the tutor in delivering the professionalism agenda. Maudsley (1999) (2) emphasised that tutors must use their expertise subtly and sparingly, with a balance of informal and empathic style. Her conclusions acknowledge a limited evidence base, but highlights that tutoring has major strategic implications for staff recruitment and reward, staff development, quality assurance and educational research.

Maudsley and Taylor (2008) write that students continuing exposure to professionalism concepts as part of an assessed core curriculum theme is not enough to raise the profile of good professional behaviour. Rather, identifying what is effective in promoting appropriate behaviour is an avenue for further work. They continue that staff development in formal and informal settings should encourage tutor colleagues that professionalism is something they could and should model.

International research such as Barroffio *et al* (2007) reports that providing tutors with a training intervention on feedback skills benefits students. Student ratings of tutors who had completed the intervention improved, suggesting effective strategies for faculty development enhances student experiences of PBL.

Therefore, a qualification for tutors completing a short course on PBL evaluation techniques and professional behaviours could be a good incentive for attendance

and personal development. It would also meet the requirement in *Tomorrow's Doctors* (2009) that:

> *"Everyone involved in educating medical students will be appropriately selected, trained, supported and appraised". (128)*

This would allow for discussion on GMC guidance in practice and highlight different ways to elicit feedback from students in a supported and non threatening way. Issues relating to recording PBL evaluation and managing the process would also be covered. This course could provide a blueprint for other medical schools wishing to address GMC guidance with regard to feedback and professional behaviours as highlighted in *Tomorrow's Doctors* (2009):

> *"Medical schools must use evidence from research into best practice to decide how to plan and organise their assessments: from blueprinting and choosing valid and reliable methods to standard setting and operational matters. Medical school must be able to explain clearly their schemes of assessment and demonstrate a wide understanding of them amongst their staff. Medical schools must therefore have staff with expertise in assessment or access to such staff in other institutions to advise on good practice and train staff involved in assessment". (120)*

This training mechanism could be used to share good practice and identify issues other medical schools have with regard to PBL or small group learning evaluation and tutor training requirements.

Current PBL evaluation forms

The peer feedback exercise using the existing PBL evaluation form had limited success, mainly due to issues connected with anonymity and the use of the results (cf chapter 7). Tutors also expressed the extreme nature of the form structure with idealistic almost unattainable standards.

The form could certainly benefit from further consultation with students and tutors to ascertain:

- How useful students and tutors find the form
- How criteria could be improved
- What professional behaviours identified by the GMC could be included
- If data from the forms could be used more effectively in reflective learning
- If forms should be generic or emphasise different points for different year groups
- If triangulating self, peer and tutor PBL evaluation information assists reflection

The inclusion of self assessment and multi source feedback on professional behaviour was detailed as part of the PBL and Peer Feedback chapter (cf chapter 7). Recent research by Eva and Regehr (2008) suggests that the rhetoric of self assessment as a general, personal, unguided judgement of ability on which to direct personal improvements is a fallacy. They propose that the accuracy of self

assessment as a generic skill one can develop should be considered defunct, whilst more research on the pedagogical value of self directed assessment and reflection is needed. Therefore, further research on this aspect of PBL evaluation would be timely and valuable in terms of student feedback on reflection.

Additional context of peer feedback

The conclusions of this thesis have focused upon PBL evaluation as a suitable mechanism for giving and receiving face to face feedback on peer professional behaviours. However, consideration should also be given to how real life clinical situations can also be used for peer feedback.

Clinical situations offer valuable experience with patients and colleagues. They are more spontaneous and demand quick thinking and actions. This setting was viewed as 'real' by students in the pilot study (cf chapter 6) as opposed to the artificially constructed environment of PBL. Therefore clinical placements offer ideal situations for peer feedback as students are learning by observing others – peer feedback can help them recall details of interactions they may forget about in the pressurised setting of ward rounds or clinics. There will be more to comment upon than in the PBL classroom. This can contribute to personal reflection and the aim of producing competent Foundation year doctors as specified by the GMC in *Good Medical Practice* (2006).

Having practiced peer feedback in PBL, students will know what is expected of them and be better equipped to understand professional behaviours in the working environment. They will have learned what feedback is useful and how to evidence

and explain their comments having regularly done this in PBL during their first year. This will form part of their lifelong reflective learning which will continue in a structured and consistent way during the duration of the course.

Recommendation summary

The conclusions of this research have been presented with supporting information from GMC guidance to illustrate how curriculum change with regard to peer feedback in PBL meets current legislation. Practical considerations and support mechanisms have also been included to ensure the outcomes of this research are realistic and clear in terms of implementation. In conclusion, the following summary points have been reached:

- PBL evaluation is the ideal place for students to practice peer feedback on professional behaviours
- This peer feedback will be formative and assist in individual reflective learning and in group work development
- The purpose of peer feedback and its link to GMC guidance will be explicit in course literature and delivery
- Tutors will be offered additional training and guidance in facilitating peer feedback to ensure consistency.

- Resource material will be developed for tutors and students on giving and receiving effective feedback – this will be written, plenary presentations and possibly a DVD.

- Tutors will be invited to contribute their PBL evaluation experiences to a resource bank of questions and prompts to help deliver peer feedback.

- A review of PBL scenarios should be undertaken to identify where professional behaviours are emphasised or could be added in line with GMC definitions.

- The MCBhB course at Liverpool is keen to promote the importance of professional behaviours and preparing students to give and receive peer feedback will better equip them as lifelong learners and 'Liverpool Professionals'.

- Emphasis on GMC guidance will familiarise students with current definitions and expectations of them with regard to professional behaviours.
- The curriculum does not require radical adjustments to accommodate peer feedback – training, guidance and appropriate support are needed for implementation in PBL.

Implications for practice and policy

One of the original aspects of the research thesis has been the use of sociological theory applied to this aspect of medical education. The research was informed by elements of action research theory as this model closely linked to social

constructionism with emphasis on curriculum and educational initiatives. The tutor practitioner as researcher was one of the interesting elements identified as part of the Theory chapter (cf chapter 5). While this research could not be labelled as pure action research, it offers an interesting model for future medical education research.

Action research can be utilised by medical education researchers/practicing teachers in curriculum and classroom developments and initiatives. The model offers further scope and structure for participatory research in small scale settings such as PBL, but also in clinical and rotational environments. This could support the continued professional development of tutors and clinicians, and also students, giving them a theoretical grounding for future research proposals in their practice.

Research method training features in some elements of the undergraduate medical curriculum (GMC, 2009) such as special study modules. Promoting action research theory could provide students and tutors with the appropriate model to encourage their own small scale studies and foster more research focused activity across medical education faculties. The flexibility of action research with regard to theory, method and analysis provides an initial basis for building research ideas and individual tutor and research capacity.

The consistent quality of delivery of PBL facilitation and evaluation is also a policy implication of this research. Tutors and students have mixed expectations of their role and participation in PBL which requires clarification and explicit guidance so

both know what they are going to be doing. This also links to what Faculty understands by professional behaviours. A clear definition of these behaviours should be promoted and endorsed by staff so students are clear about what is acceptable behaviour. Students should also learn what is unacceptable and be able to recognise and challenge this when they witness it in colleagues, tutors and clinicians. This will foster transparency and create an open culture, as specified by the GMC (2009).

Research methods evaluation

The methods chosen to undertake the research have provided a wide range of comparable data. Questions asked in tutor interviews and student evaluation surveys overlapped in content and wording so they would be simple to group together rather than employing an unstructured open coding approach. This made the process of analysis easier to undertake, as categories had been defined to some extent, with space for additional issues as specified by emergent and inductive analysis. This flexibility was also a feature of the theories used in the overarching research framework – namely symbolic interactionism and social constructionism which both mention discourse analysis as a feature of their approaches

With hindsight the study could have sought a wider range of student views from different year groups. More accessible online surveys or maybe a limited number of short interviews could have provided sufficiently detailed additional data. This would have had implications for ethics (separate permission would have been required to undertake such interviews) and selection and incentives/reimbursement would also have been required. Appropriate peer feedback on professional behaviour

mechanisms endorsed by students would be a topic for further investigation in future research.

The interpretation of data and verification of this has been previously outlined (cf page 264). What might have been helpful would have been an external perspective on the data coding and thematic. Both research supervisors and the CEDP colleague involved in this process were all based in medical education and were familiar with PBL and the undergraduate medical education curriculum at Liverpool. Having someone from outside the faculty read through the codes and challenge assumed concepts in the comments might have offered a wider scope of interpretation or even identified additional themes and ideas. This would also been subjective, but would have been an interesting diverse perspective.

Overall the qualitative methods employed have provided sufficient data to address the research questions and provide a good range of opinion and discussion.

Future action research based upon discussion

Possible action research which could be undertaken by tutors and students on issues highlighted by this research are summarised as follows:

- Promoting professional behaviours to tutors and students effectively.
- Identifying examples of poor professional behaviour by tutors and clinicians by students to highlight the "hidden curriculum" and suggestions to address these behaviours.

- How tutors and students would like to see peer feedback on professional behaviours incorporated into PBL evaluation.
- How training for students and tutors to support peer feedback on professional behaviours can be effectively delivered.
- What aspects of GMC guidance tutors and students see as most important and how these can be incorporated into the curriculum.
- How students can be encouraged to engage in faculty and curriculum research and even undertake this themselves.

Within the medical school at Liverpool, more work on the sensitivities of giving and receiving peer feedback to encompass cultural differences, gender and factors which may cause bias would be useful for delivering both tutor and student guidance and support. This would incorporate *Tomorrow's Doctors* (2009) guidance:

> *"Medical schools should have clear policies, guidance and action plans for tackling discrimination and harassment, and for promoting equality and diversity generally. Medical schools should ensure that these meet the current relevant legal requirements of their country and that they are made available to students". (65)*

The importance of cultural differences in the giving and receiving of feedback has been the basis of some preliminary research at Liverpool by the author. Further research on this issue would assist in the provision of training and support materials for students and tutors, with the hope of addressing any such concerns at an early stage.

Additional work with tutors and students in Liverpool could also link together preparedness to practice with the professional behaviour agenda. The University of Liverpool has established an ongoing evaluation programme to investigate how well prepared students feel for practice when they reach their foundation training. This work could extend to include professional behaviour and peer feedback to see if this curriculum approach translates into their new role as a doctor.

How peer feedback is received and interpreted was not part of this research, and would be an area for further research. Conducting more detailed research on peer feedback during clinical attachments with students and tutors is also an area requiring further investigation. Holding focus groups identifying appropriate criteria and situations for delivering this feedback would be useful in the planning and delivery of such feedback.

The lack of research about tutor attitudes emerged in the literature review of this thesis. Further work on the tutor's role in relation to the "hidden curriculum" and role-modelling would certainly be warranted. It would be interesting to hold focus groups for tutors (particularly those based in clinical settings) to discuss how their behaviours shape that of students and what constitutes normalised unprofessional behaviour. Again, with reference to GMC guidance, this could provide valuable information for medical educators in future with regard to PBL tutor training.

The questions used as part of the tutor interviews could be used with tutors at other medical schools to further clarify issues raised in this research and their transferability. Although this would be a challenge with regard to geography and the different curriculum in each medical school, it would be interesting to compare the experiences of different tutors and identify any common ground with regard to future training and support requirements.

Further research with students is warranted to fully explore the kind of feedback they would find helpful for reflection and learning. This information would be useful in structuring future training and guidance for students completing peer feedback.

Finally, GMC guidance could benefit from some instruction on how to effectively disseminate it to ensure all PBL tutors (and tutors in other medical schools) access *Tomorrow's Doctors*. Any best practice developed by other medical schools to address this issue could be of real benefit to many medical schools looking to better inform their tutors about current GMC direction and regulation.

Gaps in current literature the research addresses

As identified in chapter 3 (cf page 80), tutor views on the "hidden curriculum" have not been adequately addressed in current medical education literature. Similarly, research comparing tutor and student views on the peer feedback on professional behaviours have not systematically been reported. How GMC definitions of professional behaviour are understood and promoted across Faculty and explained

to students are also issues unexplored in current medical education writing and included as part of this research thesis.

Original contribution to learning

As previously outlined, the way that action research theory has been applied to medical education in this research is a unique approach offering scope for future research by both students and tutors.

How to develop appropriate, supported peer feedback in PBL, which is insightful and beneficial for both tutors and students was identified as a gap in the literature and has been addressed as part of this thesis.

The role of the tutor in the delivery of peer feedback in PBL, especially with regard to modelling professional behaviour, has emerged as a key issue requiring training and support, along with clear signposting to GMC current literature on *Tomorrow's Doctors* (2009) outcomes. The original hypotheses of the study were revisited as part of the previous discussion (cf chapter 10).

Final limitations

The limitations of this research have been acknowledged throughout the thesis at the end of each chapter to demonstrate reflection as part of the analytic process.

The mixed methods used in the pilot study and the triangulated PBL data have allowed for some statistical testing to be undertaken. However, most of the data collection and reporting has been in-depth qualitative research, and as such is subject to the interpretation and reporting of the author, as has been acknowledged. However, regular feedback from supervisors and colleagues has helped to ensure this process has been as rigorous as possible.

It is recommended that any plans to implement peer feedback should be developed in consultation with representatives from the student body to ensure there is some ownership of the process by students. This in turn will assist with the positive promotion of the concept of peer feedback and encourage students to see it as a professional competency and skill as well as understanding it is a requirement by the GMC.

The tutors who participated in the study were self selecting, and therefore more likely to have an interest or view on peer feedback and professional behaviours. The data is varied enough to represent differing viewpoints and experiences and achieved thematic saturation, but it is important to acknowledge these views do not represent all tutors at Liverpool. The semi-structured nature of questions in the tutor interviews could also be seen as 'leading' the participant onto certain thematic discussions and limiting some topics the interviewee may have wished to discuss or felt strongly about. The structure of the interviews did not appear to limit discussion in this way, and tutors were invited to add any additional related issues they had at the close of the interview. Where discussion veered away from the topic in hand, the author was

sometimes required to repeat questions or channel the conversation back to the research issues. Again, this is the overall criticism levelled at qualitative research and the bias or vested interest of the researcher.

The strength of this research is in the detail and experiences collected. The data collected as part of the PBL peer feedback exercises was very positive overall, and demonstrated that students can give constructive comments when they are pushed. Reading the entire set of peer comments would create a very positive impression of students at Liverpool, who admire each others' qualities and often apologise for any constructive suggestions they make. Further detailed analysis of these comments was not possible in the time scale of this research, but would be interesting to investigate further as they offer a real insight into student's metacognitive interpretation of each other's actions in PBL. As the work of Frohna and Stern (2005) illustrated, qualitative comments are a rich source of information and can be used to support learning on a more personal level.

Similarly, the interviews with tutors gave a real depth of experience and opinions. The variation between tutors awareness of GMC guidance and their idea of what constituted professional behaviour offered real diversity. Again, the time limited nature of this research meant the data gathered was 'skimmed' to pull out the key themes in order to answer the original research questions. Many anecdotal stories and examples given during the interviews did not fit into the focus of this research, as interesting and enlightening as they were. Again, this is the problem with gathering so much data, not all of it can be included in reporting the data findings.

The anonymity of participants has been kept and with the exception of several students who were not happy about their peer feedback, the exercises were well received and been valuable in the information they have provided for future curriculum development at Liverpool, and other undergraduate medical education centres.

One strength of this study is the interest in the results of this research, with presentations delivered at AMEE (2008) and ASME (2010) and publication of the pilot study findings in a peer reviewed journal (Garner *et al* 2010). The author has also published related work on professional behaviour and undergraduate medical students relating to the complexities of developing their identity in a clinical and virtual context (Finn *et al* 2010).

Current interest in these topics highlights the importance of these issues in medical education and the relevance and transferability of such work to different medical schools across the country and internationally. The inclusion of peer feedback on professional behaviour could also be beneficial to health care related courses such as nursing and dentistry.

As regulatory bodies such as the GMC continue to recognise the importance of accountability and honesty in their members, so the providers of undergraduate courses such as medicine need to ensure their courses meet these requirements in a seamless and consistent manner to produce practitioners who will continue to

develop their skills, knowledge and practice through self and peer evaluation as a lifelong process.

## APPENDIX 1 – AUTHOR PUBLICATIONS AND PRESENTATIONS

Publications

Garner, J. (2011) Peer feedback on the professional behaviours of medical students in ; *Becoming Tomorrow's Doctors*. Learning Matters; Exeter.

Finn, G., Garner, J., Sawdon, M. (2010) 'You're judged all the time!' Students' views on professionalism: A multi-centre study. *Medical Education*:**44**:8: 814-825

Garner, J., O'Sullivan, H. (2010) Facebook and the professional behaviours of undergraduate medical students. *Clinical Teacher*:**7**: 112-115

Garner, J., McKendree, J., O'Sullivan, H., Taylor, D. (2010) Undergraduate medical student attitudes to the peer assessment of professional behaviours in two medical schools. *Education for Primary Care*:**21**;1: 32-37

Garner, J., O'Sullivan, H., Taylor, D. (2009) Medical students – in healthy competition?. *The Higher Education Academy*:**01**: 18:5

Garner, J. (2008) The peer appraisal of professional behaviours by medical students. *Medical Sociology Online*:**3**: 1

Conference presentations

20/07/10. Association for the Study of Medical Education Scientific Meeting (Cambridge). *What tutors think about peer feedback on professional behaviours.*

24/03/10. Centre for Excellence Developing Professionalism Symposium (Liverpool). *Do tutors need teaching about professional behaviours?* (poster)

18/07/09. Association for the Study of Medical Education Scientific Meeting (Edinburgh) *Peer review in problem based learning* (poster)

01/09/08. Association of Medical Education in Europe Scientific Meeting (Prague) Constructive criticism or popularity contest: what students think of peer assessing professionalism.

05/05/08. Association for the Study of Medical Education (London) Constructive criticism or popularity contest: what students think of peer assessing professionalism (poster)

09/05/08. SPARC (Salford Postgraduate Annual Research Conference) *Peer assessment and professionalism.*

06/02/08. Centre for Excellence in Teaching and Learning Symposium (Liverpool). *Peer assessment and professionalism – what students think.*

Professionalism and peer assessment.

This short anonymous online survey is being sent to medical students across the North of England to find out what they think about the peer assessment of professionalism. This survey is from the Centre for Excellence in Teaching and Learning based at the University of Liverpool.

What is professionalism?

Professionalism is demonstrated through a foundation of clinical competence, communication skills and ethical and legal understanding, upon which is built the aspiration to and wise application of the principles of professionalism: excellence, humanism, accountability and altruism (Arnold & Stern, 2006)

Why is professionalism important?

There are concerns generally that a link exists between unprofessional behaviours by medical students and disciplinary action against post graduate doctors. Recent guidance from the GMC and other government health bodies has championed the importance of professional behaviour, and the inclusion of this within the medical undergraduate curriculum.

Why should I assess my peers?

Teaching professionalism is difficult because a lot of positive and negative behaviours are better observed than taught. While consultants and registrars might notice or comment on your behaviours, we think your peers are good objective observers of professionalism. Feeding back these observations is a good way for students to learn about themselves and their professional behaviour.

Peer Assessment of Professional Behaviours – Online Survey 1

Which medical school are you attending? Year group (1-5)

Please tell us your age and sex: Age [ ] Male [ ] Female [ ]

Please mark how much you agree or disagree with the following statements:

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| I have received peer feedback previously in school, college or employment | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel comfortable receiving feedback on my behaviour from my peers | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel comfortable assessing my peers | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel guilty reporting negative comments about a peer | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel guilty reporting the negative behaviours of a friend | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment could help me reflect on my professional behaviour | [ ] | [ ] | [ ] | [ ] | [ ] |
| Students should be more involved in assessing each other | [ ] | [ ] | [ ] | [ ] | [ ] |

| | | | | | |
|---|---|---|---|---|---|
| Students are better placed to assess professional behaviour than tutors | [ ] | [ ] | [ ] | [ ] | [ ] |
| It is important to assess professional behaviours at the start of the course | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment is a good way of assessing professional behaviours | [ ] | [ ] | [ ] | [ ] | [ ] |

How comfortable would you feel assessing a fellow student in the following areas:

| | Very comfortable | Fairly comfortable | Neutral | Fairly uncomfortable | Very uncomfortable |
|---|---|---|---|---|---|
| Managing self (e.g. attendance, completing assigned tasks) | [ ] | [ ] | [ ] | [ ] | [ ] |
| Group/team work (e.g. contributes to the group, shows respect, listens) | [ ] | [ ] | [ ] | [ ] | [ ] |
| Communication (e.g. gives and receives feedback well, manages conflict) | [ ] | [ ] | [ ] | [ ] | [ ] |

Please write any comments about the peer assessment of professionalism below

[ ] By submitting this questionnaire I agree that my responses can be used for the purpose of research only. I understand no personal details will be disclosed

Thank you for your help

Peer Assessment of Professional Behaviours – Survey 2

You will remember (hopefully!) a survey sent to you last year about the peer assessment of professionalism. As you may have seen from the feedback on the CETL website, 500 of you took the time to tell us about your views and opinions on this issue. We are interested if your views have changed over the course of this year.

Please take a few minutes to tell us what you think about the peer assessment of professionalism now. You might have participated in some peer assessment exercises which will give you a clear idea about how it works and what you can learn from it. Thanks for your time. A summary of the research findings will be available in the next academic year.

Which medical school are you attending?
Please tell us if you are male or female: [ ] Male [ ] Female
Please tell us your year group [ ] Year
Did you answer the last peer assessment survey? [ ] Yes [ ] No
Have you assessed a peer during this academic year? [ ] Yes [ ] No

Please mark how much you agree or disagree with the following statements:

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| I feel comfortable receiving feedback on my behaviour from my peers | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel comfortable assessing my peers | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel guilty reporting negative comments about a peer | [ ] | [ ] | [ ] | [ ] | [ ] |
| I would feel guilty reporting the negative behaviours of a friend | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment could help me learn about my professional behaviour | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment could help me reflect on my professional behaviour | [ ] | [ ] | [ ] | [ ] | [ ] |
| Students should be more involved in assessing each other | [ ] | [ ] | [ ] | [ ] | [ ] |
| Students are better placed to assess professional behaviour than tutors | [ ] | [ ] | [ ] | [ ] | [ ] |
| It is important to assess professional behaviours at the start of the course | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment is a good way of assessing professional behaviours | [ ] | [ ] | [ ] | [ ] | [ ] |
| Peer assessment should be part of the medical curriculum | [ ] | [ ] | [ ] | [ ] | [ ] |

How comfortable would or did you feel assessing a fellow student in the following areas:

| | Very comfortable | Fairly comfortable | Neutral | Fairly uncomfortable | Very uncomfortable |
|---|---|---|---|---|---|
| Managing self (e.g. attendance, appropriate dress, completing assigned tasks) | [ ] | [ ] | [ ] | [ ] | [ ] |

| | | | | | |
|---|---|---|---|---|---|
| Group/team work (e.g. contributes to the group, treats peers with respect, listens, learns from others) | [ ] | [ ] | [ ] | [ ] | [ ] |
| Communication (e.g. gives and receives feedback well, communicates appropriately with peers and staff, manages conflict) | [ ] | [ ] | [ ] | [ ] | [ ] |

Please write any comments about the peer assessment of professionalism below:

## APPENDIX 3 – HULL YORK FOCUS GROUP QUESTIONS 30/04/08

1. Did you have any issues with the distribution and format of the peer assessment?
2. Did the peer assessment cover relevant professional behaviours?
3. What have you learned from the peer assessment exercise?
4. What suggestions would you make to improve the peer assessment?
5. What issues do you think should be covered in any training for peer assessment?

Field: Sh Field: Sh

**2010/11 Y2 Semester 2**
**The University of Liverpool** Field: Sh
**School of Medical Education**
***Evaluation of student performance in the PBL group***

00

TS2

***Which of these statements best describes the student – completely fill one oval per section.***

**Participation**

Little evidence of participation O
Occasionally participates but usually at a superficial level. Shows limited interest O
Makes regular contributions, and suggests hypotheses and learning goals. Comments are relevant. O
Good participation, and usually shows a deep understanding of the topic. O
Frequent and constructive participation. Asks relevant questions, and always shows a deep understanding.Interested and enthusiastic. O

**Communication**

Poor communication skills. Is unable to express simple ideas. O
Limited skills. Can express simple concrete ideas O
Appropriate communication skills, but has some difficulty with abstract concepts. O
Good skills. Can express complicated ideas. O
Excellent skills. Always able to explain points and views clearly and precisely. O

**Preparation**

Little evidence of preparation for tutorials O
Some preparation, but usually limited to single source, e.g. text book O
Prepares well. Uses different sources, but synthesis sometimes uneven. O
Usually well prepared. Uses different sources and shows ability to synthesize different perspectives. O
Always well prepared, with deep understanding of material from multiple sources. O

**Critical Thinking**

Unable to support comments with reasoning or data. Shows surface knowledge. O
Often unable to support or justify comments. Does not question or challenge others. Shows a limited depth of knowledge. O
Is often able to support contributions, and is willing both to challenge others, and to respond to challenges. O
Usually able to support conclusions and often raises questions that display reflective thinking. O
Can always justify contributions with reasoning and data. Frequently asks questions that help promote a deeper understanding of the subject. O

**Group Skills**

No apparent idea of group process. Uninvolved. O
Passive, with limited group skills. Defensive and resistant when prompted. O
Adequate skills. Sometimes a passive member, but responds to prompting. O
Good group skills, and contributes actively to group activities. O
Excellent group skills. Always attentive and encourages participation by others,but does not dominate the discussion. O

**Evaluation skills**

Defensive. Rejects criticism. O
Reluctance to reflect upon group process and individual performance or to respond to constructive criticism. O
Prepared to reflect upon group process and individual performance after prompting. O
Willingness to reflect upon own performance and respond to constructive criticism. O
Demonstrates reflective practice throughout. O

**Breadth of application**

Concentrates on one or two themes only O
Reluctance to explore issues across all four curriculum themes O
Willing to explore issues across all four curriculum themes O
Prepared to initiate discussion across all four curriculum themes O
Always tries to initiate and integrate discussion across all four curriculum themes O

| Overall performance | *Poor | *Not yet competent | Competent | Good | Excellent |
|---|---|---|---|---|---|
| | O | O | O | O | O |

***Comments or recommendations from tutor to student**
(students will see this form) please continue overleaf and fill this oval O

## APPENDIX 5 – SURVEY MONKEY ONLINE EVALUATION 16/06/08-27/06/08

Dear Student
Thank you for participating in the recent project using the PBL/LUSID evaluation process to pilot ways for you to practice peer review.
Please complete this short survey to tell us your views.
With thanks, Jayne Garner, Rob Skaife, Lyn Williams.

I am... O Male O Female
In my feedback interview I discussed...
O LUSID report
O PBL self evaluation
O PBL peer evaluation
O PBL tutor evaluation

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| The peer review information was easy to understand | | | | | |
| The peer review process preserved my anonymity as a reviewer | | | | | |
| It was helpful to compare self, tutor and peer evaluation information about myself | | | | | |
| Peer review helps me reflect on my performance in PBL | | | | | |
| I was honest about the peer I was reviewing | | | | | |
| I was comfortable reviewing a peer | | | | | |
| PBL is a good place to practice peer review | | | | | |
| I should like training and support to help me peer review in future | | | | | |

Please write any additional comments about peer review in PBL below...

# APPENDIX 6 – VITAL GUIDANCE FOR SECOND YEAR PEER FEEDBACK 2010

Why should we appraise peers?

Appraisal by peers and colleagues is a routine part of life in the NHS. As part of your learning at Liverpool University, we want to offer plenty of opportunities to give and receive constructive feedback on professional behaviours. We believe this will help you to reflect on your practice and make you a better doctor.

The Medical students: professional values and fitness to practice guidance published by the General Medical Council (GMC) and Medical Schools Council (MSC) in 2009 states that:

Doctors and students must be willing to contribute to the teaching, training, appraising and assessing of students and colleagues. They are also expected to be honest and objective when appraising or assessing the performance of others, in order to ensure students and colleagues are maintaining a satisfactory standard of practice. In order to demonstrate they are fit to practice, students should be willing to contribute to the education of other students.

What are professional behaviours?

A definition of medical professionalism is provided by Stern *et al* (2006)as follows:

'Professionalism is demonstrated through a foundation of clinical competence, communication skills and ethical and legal understanding, upon which is built the aspiration to and wise application of the principles of professionalism: excellence, humanism, accountability and altruism'

Key terms associated with professional behaviours are honesty, empathy, compassion and respect for patients and colleagues. As a medical student we expect you to treat other people politely and considerately. You should protect confidential information, and the dignity and privacy of your patients at all times.

What will peer appraisal be like?

You will appraise two peers in your PBL group. This will be done in May 2010. We will email you the names of the peers we want you to appraise, and ask you to submit the appraisals electronically.

We are asking you to keep the identity of the peers you are appraising confidential. *We hope this will help you be constructive and honest in your appraisal.* So when you receive your own peer appraisals, they will be anonymous. The appraisals you conduct and receive will be kept on a central database, and you will be able to access them as part of your reflective learning and for use in your portfolio.

What can I say in a peer appraisal?

Some examples of comments submitted for peer appraisal are provided here. You can also ask your tutor or Jayne Garner in the medical school jayneg@liv.ac.uk for help with peer appraisal. Try and think about the kind of feedback you would find helpful and bear this in mind when you are writing a peer appraisal for someone else. And that any appraisal you do will be kept for personal reflection. Please keep your peer appraisal to a minimum of 30 words and a maximum of 500.

Positive and useful: (Name) attended all PBL sessions, and was an active member of the group during the initial planning stages. (Name) offers lots of suggestions during discussion and is a good participant, happy to listen to others. When the group allocated roles (name) was happy to take leadership producing board diagrams. These were excellent, and the quality of his work all round was very high. (Name) can repeat himself sometimes, so maybe he should try to remember he only needs to make a point once. That is a minor point though! I think everyone in the group would like to work with him again as he encourages everyone to take part. Overall I think (name) was really enthusiastic which was a good motivator for the rest of the group.

Acknowledges attendance issue: The meetings (name) did attend went well – she did contribute and had prepared for the topic and offered some useful reading references for the group. When we shared out work she took the initiative and volunteered to do some research. However (name) was a bit unreliable as she didn't attend one PBL session and didn't telling anyone or send apologies. This was a bit inconsiderate as the group missed out some information. The rest of the time what she said was usually helpful and relevant. I think (name) produces good work and gets on well with everyone, she has a relaxed manner that I think patients would appreciate. She needs to be a bit more confident in her own ability – and remember to tell the group if she is going to be absent in the future.

Lacks detail: (Name) turned up on time to all the PBL meetings and contributed to the group. What she did say was useful. In future PBL sessions she could get more out of it if she spoke more. She does know her stuff.

Constructive criticism: (Name) is a very active and reliable member of the PBL group. He is always ready to contribute an opinion and express his views on the progress of the group. I think this can occasionally be a bit overbearing and a couple of times (name) spoke over some other members of the group who are a bit quieter. So maybe he needs to be a bit more aware of other people trying to speak. Aside from this I think (name) was excellent and a great member of the team.

Remember:

This is a valuable opportunity for you to learn about yourself and others – we expect you to be professional, and not abuse the peer appraisal system with regard to personal grudges.
Peer appraisal is not the place for you to talk about yourself and your experiences or views!
Don't be vague – give examples to back up the points you are making, provide details.
Make sure all your peer appraisal points are relevant – would you find them helpful, for example?
The more detail you provide in a peer appraisal the better – this is your chance to practice giving feedback and phrasing it appropriately.

Any serious incidents relating to unprofessional behaviour reported in a peer appraisal will be referred to the school office for further investigation.

Please do not get offended by any constructive criticism – this is meant to help you learn about yourself, and aid reflection on your own behaviours.

If you think any peer appraisals you receive are unfair, biased or hurtful, please contact your PBL tutor in the first instance to discuss the feedback you have received.

Please keep the appraisal positive – if you are making a constructive comment back this up with evidence of what made you submit it – overall we want the peer appraisal to be positive with no negative, unnecessary, hurtful or offensive feedback.

Remember this is part of your development as a medical professional and we hope you will treat it as such!

## APPENDIX 7 – COVER REQUEST EMAIL SENT TO STUDENTS 05/05/10

Dear *

As part of the Student Feedback Appraisal, you are required to anonymously appraise two peers in your current PBL group.

You will be appraising: * & *

Full guidance on this process is available on VITAL under the Professionalism and Personal Development Module. Please write and return your two peer appraisals in an email to this address by Wednesday 13th May 2010.

If you have any questions regarding this process, please contact me on the details below.

Best wishes, Jayne

Jayne Garner
Research Fellow
Centre for Excellence in Developing Professionalism
School of Medical Education
University of Liverpool
Cedar House, Ashton St
Liverpool, L69 3GE
Telephone 0151 794 8387

## APPENDIX 8 – COVER FEEDBACK EMAIL SENT TO STUDENTS 13/05/10

Dear *

Thank you for completing the peer appraisal exercise.

Attached are the appraisals from two of your PBL colleagues. If you are missing this information, it is because it was not submitted by your nominated peer appraisers. If this information is sent subsequently, I will forward it for your information.

This appraisal is for your own reflective learning. If you are unhappy about comments made in your peer appraisals, please contact me on the details below for a confidential discussion.

Yours sincerely

Jayne Garner

Jayne Garner
Research Fellow
Centre for Excellence in Developing Professionalism
School of Medical Education
University of Liverpool
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I submitted: ❍ no peer appraisals ❍ 1 peer appraisal ❍ 2 peer appraisals
I received: ❍ no peer appraisals ❍ 1 peer appraisal ❍ 2 peer appraisals

Please add any additional comments regarding the peer appraisal exercise and how it could be improved in the box below:

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| I understood why we were asked to appraise our peers | | | | | |
| The peer appraisal guidance on VITAL was easy to locate | | | | | |
| The peer appraisal guidance on VITAL was easy to understand | | | | | |
| The peer appraisal process preserved my anonymity as reviewer | | | | | |
| I was honest about the peers I appraised | | | | | |
| I was comfortable appraising my peers | | | | | |
| Information from the peer appraisals I received helped me reflect on my performance in PBL | | | | | |
| PBL is a good place to practice peer appraisal | | | | | |
| I should like training and support to help me undertake peer appraisal in future | | | | | |
| Peer appraisal should be part of the curriculum | | | | | |

Dear colleague

I am doing research as part of my PhD on the attitudes of medical students and PBL tutors to the peer review of professional behaviours, and how this links to current GMC guidance (the latest version of Tomorrow's Doctors is due to be released in September 2009).

You are being invited to participate in an interview as your 2nd year PBL group took part in a related study last June. Your PBL group was asked to peer review other members of the group using the PBL tutor and self evaluation form criteria.

Interviews will be based around semi structured questions and will last no more than an hour. The information from the interviews will be treated confidentially and participants will not be identified. Interviews can be scheduled anytime between 14/09/09 – 16/10/09 at a time and location convenient to you.

If you would like further information on the research or are interested in participating, please do not hesitate to contact me.

Best wishes, jayne

Jayne Garner
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Tomorrow's Doctors

6c. Students are responsible for raising any concerns about patient safety, or any aspect of the conduct of others which is inconsistent with good professional practice.

21f. Reflect, learn and teach others. Function effectively as a mentor and teacher, including contributing to the appraisal, assessment and review of colleagues, giving effective feedback, and taking advantage of opportunities to develop these skills.

23f. Protect patients and improve care. Respond constructively to the outcomes of appraisals, performance reviews and assessments.

28e. Systems and procedures will inform students, and those delivering medical education, of their responsibility to raise concerns if they identify risks to patient safety and provide ways to do this.

33. As future doctors, students have a duty to follow the guidance in Good Medical Practice from their first day of study and must understand the consequences if they fail to do so. In particular, students must appreciate the importance of protecting patients, even if this conflicts with their interests or those of friends or colleagues. If students have concerns about patient safety, they must report these to the medical school. Medical schools must provide robust ways for concerns to be reported in confidence and communicate these to students.

85. Students will have regular feedback on their performance.

111. Students must receive regular information about their development and progress. This should include feedback on both formative and summative assessments. .... Feedback about performance in assessments helps to identify strengths and weaknesses, both in students and in the curriculum, and this allows changes to be made.

112 Medical schools must ensure that all graduates have achieved all the outcomes set out in this document.... Students' knowledge, skills and professional behaviour must be assessed. There must be a description of how individual assessments and examinations contribute to the overall assessment of curricular outcomes, which must be communicated to staff and students.

120. Medical schools must use evidence from research into best practice to decide how to plan and organise their assessments: from blueprinting and choosing valid and reliable methods to standard setting and operational Medical schools must be able to explain clearly their schemes of assessment and demonstrate a wide understanding of them amongst their staff. Medical schools must therefore have staff with expertise in assessment or access to such staff in other institutions to advise on good practice and train staff involved in assessment.

148. Medical schools must make sure that everyone involved in educating medical students has the necessary knowledge and skills for their role. This includes teachers, trainers, clinical supervisors and assessors in the medical school or with other education providers. They should also make sure that these people understand *Tomorrow's Doctors* and put it into practice. The medical school must ensure that appropriate training is provided to these people to carry out their role and that staff development programmes promote teaching and assessment skills.

Medical students: professional values and fitness to practise

3. Medical students have certain privileges and responsibilities different from those of other students. Because of this, different standards of professional behaviour are expected of them. Medical schools are responsible for ensuring that medical students have the opportunities to learn and practice the standards expected of them.

12. Basic medical training gives students the opportunity to learn professional behaviour in a supervised environment that is safe for patients. It is also an opportunity for medical schools to identify types of behaviour that are not safe, and to take appropriate action to help students improve their behaviour; or if this is not possible or is unsuccessful, to make sure they do not graduate as doctors.

14. Students must be aware that their behaviour outside the clinical environment, including their personal lives, may have an impact on their fitness to practice. Their behaviour at all times must justify the trust the public places in the medical profession.

18. Students are expected to keep up to date and apply the knowledge necessary for good clinical care. They should understand that as doctors they will have to participate in audit, assessment and performance reviews throughout their careers as part of revalidation and licensing.

19e. In order to demonstrate they are fit to practice, students should: reflect on feedback about their performance and achievements and respond constructively.

21. Doctors and students must be willing to contribute to the teaching, training, appraising and assessing of students and colleagues. They are also expected to be honest and objective when appraising or assessing the performance of others, in order to ensure students and colleagues are maintaining a satisfactory standard of practice.

22c. In order to demonstrate they are fit to practise, students should: be willing to contribute to the education of other students.

28f. In order to demonstrate they are fit to practise, students should: dress in an appropriate and professional way and be aware that patients will respond to their appearance, presentation and hygiene.

31. It is also important that doctors and students protect patients from harm posed by another colleague's behaviour, performance or health. They should take steps to raise any concerns with the appropriate person.

58. Students must be aware that unprofessional behaviour during their medical course, or serious health issues that affect their fitness to practise, may result in the GMC refusing provisional registration. This is the case even if the circumstances in question occurred before or early on in medical school. In reaching such a decision the GMC will consider all the available evidence and will also take into account the outcomes of any investigations undertaken by the medical school or other bodies.

1. What issues does the latest GMC guidance present for the curriculum in Liverpool? (Challenges and gaps in guidance, staff knowledge, attitudes and reactions)

2. What do you think students understand by professional behaviours? (FTP, definitions)

3. What is your experience of peer feedback? (Context personal, theoretical or in practice)

4. Are there any ways of giving peer feedback you think students would feel more comfortable with? (what works best, why)

5. How comfortable do you think students are receiving peer feedback on their professional behaviours? (examples, again personal, theoretical, practice)

6. What type of training would students need to be able to objectively appraise their peer's professional behaviours? Would they/you need training to facilitate this?

7. How can we ensure that students are honest and objective when appraising each other's professional behaviours? (Why wouldn't they be objective, how to handle that)

8. Students in a pilot study suggested competition between medical students could impact upon the objectivity of peer review – do you think this could be the case? (quartiles, F1)

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