Developing an instrument to assess professionalism in medical students

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Abstract

The aim of this study was to develop an instrument to assess the development of professionalism in medical students.

A mixed methods, grounded theory approach was used to establish the elements of professionalism that students consider important, and to identify the domains to which those elements contribute. The initial phase of the study used the Q-sort technique, which was subsequently validated and extended by nominal/consultative group exercises and focus groups. The main study population was medical students, drawn from the first, third and fifth year of their programme. Additional data was obtained from colleagues in healthcare education and recently graduated medical doctors.

The initial phases of the study showed that whereas "competence" was highly regarded by all study participants, personal qualities assumed a greater importance following graduation. Three domains were shown to contribute to professionalism, namely competence, personal qualities and relationships.

The instrument derived from the study possesses face and construct validity, and the domains concerning personal qualities and relationships possess statistical reliability. The "competence" domain is marginally statistically reliable. The value of the instrument lies in its use as a diagnostic tool, and in facilitating self- and peer-assessment.

Declaration

This work is original and has not been submitted previously in support of any degree, qualification or course.

Acknowledgements

Any academic undertaking a higher degree at this stage of their career is bound to be indebted to the generations of students and colleagues they have worked alongside. I am very well aware that this study could not have been undertaken without the support and encouragement of John Smith, Mary Jane Platt, Helen O'Sullivan and my long-suffering and indomitable collaborator Gillian Maudsley.

Throughout this study I owe considerable debt to the cohorts of students who have participated in the study, and in the conversations formal and informal which have been held over the past five or six years. I hope that they have benefitted, I know that I have grown in understanding, and, I hope, insight.

Two of my students, now colleagues, helped in the earlier stages of the project, so I gratefully acknowledge the contributions made by Dr Emma Green (née Sayle) and Dr. Bethan Royles to the work detailed in chapter 3.

My PhD student, Jayne Gardner, helped by facilitating three of the focus groups, and Professor David Brigden facilitated another. Their skilled and willing assistance meant that the focus groups took place with the right cohort of students, and reassured me that the answers from the focus groups I facilitated were not off-beam.

In a fascinating and enjoyable reversal of roles I am also indebted to Simon Watmough, once my PhD student, who helped me rediscover the joys of qualitative research.

The support and encouragement of Anne Qualter and Janet Strivens has been extraordinary, and rekindled dormant enthusiasms. I have learnt so much from them over the past few years, and realised that perspective changes with experience.

Final thanks go to Sue, Jennifer and Ellie for their patience, love and support, as I worked long and lonely hours in my study.

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Chapter 1: Introduction

I have been for some years perturbed and distressed about the situation of many of the great professions in our country

The venerable Dr Gordon Khurt (Royal College of Physicians 2005)

The profession is often regarded as being arrogant...actually it is its diffidence and the fact that it does not sell particularly well [what it is doing] that is equally a problem.

Professor Sir Graeme Catto (Royal College of Physicians 2005)

As the two quotes above illustrate, public conceptions about professionalism, and the respect accorded to professions in society, have challenged professionals to consider their credentials. Although the discussion that follows here will be sharply focussed on medical professionalism, since that is my focus of interest and employment, I consider it to apply equally to other professions. As a brief interlude, and to set the scene for the ensuing debate, I belong to three of the five groups of people regarded as professionals by Ed Pellegrino (Pellegrino 2002),these being doctors, lawyers, teachers, clergy and the armed forces. My credentials lie in the last three.

Pellegrino considers that there are two elements to profession, namely an intent and promise to work in and for the public interest (arguably in and for the *individual* interest), and a public declaration of assent and commitment (Pellegrino 2002). British society being what it now is, that means that the ranks of the professionals are pruned back to doctors, lawyers, military and clergy. The Royal Colleges, who act as the learned and academic societies for the many and various specialities to which a doctor can belong, provided an excellent and congruent definition of professionalism.

Medicine is a vocation in which a doctor's knowledge, clinical skills, and judgement are put in the service of protecting and restoring human well-being. This purpose is realised through a partnership between patient and doctor, one based on mutual respect, individual responsibility, and appropriate accountability.

Figure 1 The Royal Colleges' description of professionalism (2005)

Pellegrino argues from the standpoint of virtue ethics, and therefore has expectations that a professional must only do good things if they are to retain their status. Broadly speaking this seems to be the public concept, since the behaviour of our own Dick van Velzen in Alder Hey (Liverpool) and, on another plane entirely Harold Shipman, caused serious damage to the standing of the medical profession (Dyer 2000). The reaction was to tighten controls on the profession(Smith 2005), and a vigorous enquiry into the meaning of professionalism both in the United States (Cohen 2006) and the United Kingdom (Royal College of Physicians 2005).

One of the more interesting aspects of the debate, was that the American view of professionalism (Project of the ABIM Foundation 2002; Cohen 2006) was dominated by statements about what a professional did, and the British view focussed on the sort of person they were.

- maintain professional competence
- be honest with patients
- respect patient confidentiality
- avoid inappropriate relationships with patients
- advance scientific knowledge
- fulfil the obligations imposed by membership of the profession
- improve quality of care
- improve access to care
- promote the just distribution of resources
- maintain trust by managing conflicts of interest

Figure 2 The view of professionalism propounded by the Professionalism Project (2006). A doctor should...

- Integrity
- Compassion
- Altruism
- Continuous improvement
- Excellence
- Working in partnership with members of the wider healthcare team.

Figure 3 The view of professionalism propounded by the Royal Colleges (2005). A doctor should demonstrate...

The difference in philosophical outlook between the two societies may go part way to explain the dichotomy noted in a recent book , which is basically whether professionalism is taught(Cruess, Creuss et al. 2009) or caught(Maudsley and Taylor 2009). At the outset, it should be made clear that the true dichotomy is whether it is taught or learned.

One of the contributors to the Royal College of Physician's report was Sean Hilton, who developed a model based on the satisfying assumption that medical training was a balance between attainment and attrition (Hilton 2004; Hilton and Slotnick 2005).

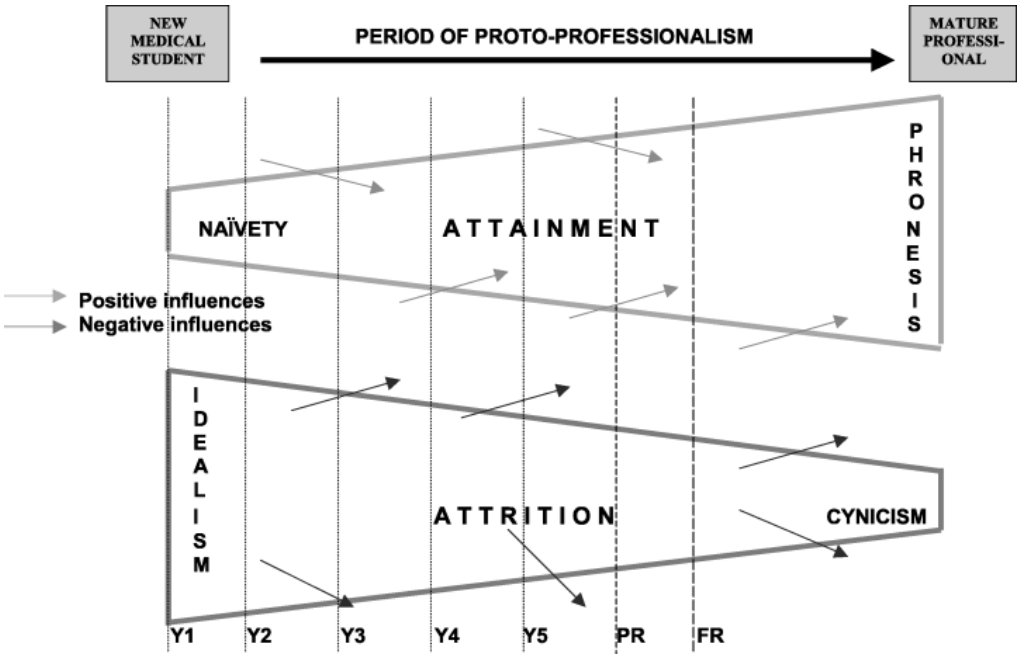

Figure 4 Hilton's proto-professionalism model (Hilton and Slotnick 2005)

The term proto-professionalism implies that students observe and mimic the professional traits that they will eventually display. In Liverpool we have spent considerable energy in devising a curricular approach that will maximise the attainment and minimise the attrition aspects of the educational process (Maudsley and Taylor 2009).

The process starts on the first day of medical school, when the medical students all assent to the Declaration of Geneva (World Medical Association 2006), this prefigures the public statement of assent that they will make on admission to the profession at graduation. We took the deliberate decision to introduce it at the beginning of the programme, rather than wait, for instance, for a white coat ceremony(Doukas 2006) on the first day in the clinic. This was to help us demonstrate to the students that they were at the start of a life-long journey, one part of which would be graduation, but all of which would be directed to the common good. During the PBL programme the students are presented with a series of vignettes, which are planned in such a way as to ensure that they acquire the necessary cognitive components. They are assessed on their understanding of the cognitive components, and required, through various exercises to demonstrate that they can identify and reflect upon professionalism(Maudsley and Taylor 2009). We are all too aware that there is a hidden curriculum, Eraut's "tacit knowledge"(Eraut 2000), whereby the positive influences can be reinforced or derailed(D'Eon, Lear et al. 2007; Foster 2009). With Richard Cruess and his colleagues we are clear that professionalism is a dynamic entity, which is not simply defined as a list of qualities and attributes, fixed in time(Cruess, Cruess et al. 1999).

In a recent collection of anecdotes, Kirsty Foster (Foster 2009) provides a useful summary of the nature of professionalism.

- Professionalism is a dynamic entity depending on the social and cultural context of the doctor, and is not defined by a list of qualities and attributes(Cruess, Cruess et al. 1999)
- Attaining professionalism is a staged process during which the novice medical student/proto-professional acquires the values, attitudes, interests, skills and knowledge of the medical profession, and moves towards expert status(Cruess and Cruess 2006)
- Acquisition of professionalism requires an explicit cognitive component, reinforced and internalised through experiential learning(Cruess and Cruess 2006)
- Professionalism arises from experience and reflection on experience and is a combination of phronesis (practical wisdom), specialised knowledge and technical skills (Hilton and Slotnick 2005)
- Development of a professional identity is the result of simultaneous positive and negative influences on the proto-professional during undergraduate and postgraduate training(Hilton and Slotnick 2005)
- Emotional stress and harassment by supervising physicians can subvert the professional behaviours educators seek to encourage(D'Eon, Lear et al. 2007)

Figure 5 The nature of professionalism, quoted verbatim from Foster 2009

The aim of the programme in Liverpool is to provide "authentic learning" (Andersson 2005), where people learn from others who have acquired the knowledge in an appropriate context. Like the PBL process itself (Taylor and Miflin 2008) this emphasis on a common frame of reference invokes active participation of learners and instructors to push the boundaries of their zones of proximal development (Vygotsky 1978).

The focus of this study is to devise an instrument which can be used to measure the acquisition, attainment or attrition of elements of professionalism, the intention being to support self- and peer-evaluation. In order that we may better understand how to assess professionalism in our students we need to know how they conceptualise professionalism. The tools that are currently available (Cohen 2001; Arnold 2002; Lynch, Surdyk et al. 2004; Arnold, Shue et al. 2005; Veloski, Fields et al. 2005) are heavily biased towards the American conception of professionalism (see figure 2 earlier)(Cohen 2006). A mixed-methods (Howe 2004), grounded theory(Harris 2003) approach, has been used , which will be discussed in the following chapter. The conceptual framework (Bordage 2009) which underpins this approach is derived originally from Sean Hilton's work (Hilton and Slotnick 2005). If Hilton's model is correct, then it should be possible to identify elements of professionalism which grow, and possibly others which decline, or change in importance over the course of a medical career. The instrument developed here is intended to be used by individuals for self-assessment, reinforced by peer-

assessment. It should be both formative, in that it can aid personal reflection and development, and diagnostic, to identify areas for growth and support.

In the first phase of the study, students identified the elements of professionalism most important to them. The second stage involved colleagues classifying those different elements of professionalism into domains. The third stage was validating the importance of the different elements, and domains using focus groups, and the final stage was the development of the instrument and the assessment of its reliability.

Chapter 2 : Methodology – short introduction to the general approach.

Personal introductory reflection

In the light of the following section, it is important to consider the approach used in this study. As befits someone previously trained in the Popperian approach to science, where considerable effort is placed on refining and refuting hypotheses, I am most comfortable with the positivist/postpositivist paradigm. During a formative period of my scientific training I worked under Sir Peter Medawar, who taught me to understand that even scientists come with preconceptions, which colour their approach, which in turn determines the type of questions they ask and the answers they obtain (Medawar 1967; Medawar 1972). It follows, to my mind, that any approach needs to be verifiable using a number of different approaches and as free from the values of the researchers as possible. The former criterion leads me to a brief discussion of the mixed methods approach, and the latter to a consideration of grounded theory.

Mixed methods approach

The term "Mixed methods" means the application of multiple tools to analyse a particular theoretical problem. Quantitative tools analyse numerical data with the intention of testing (ideally falsifying) a hypothesis. Qualitative tools analyse textual data, with a view to supplying insight into the underlying meaning. Mixed methods research combines the two approaches to bring a problem into sharp relief. There has been some debate over the years, concerning the relative purity of mixed methods approaches, and the danger of giving priority to quantitative/experimental approaches over qualitative/interpretivist approaches. This argument is convincingly articulated by Howe (Howe 2004). Howe argues that a mixed methods approach "elevates the voice of the research participants", so that truth will out. The importance of stating the approach used comes in the light of an editorial by Steven Wartman (Wartman 1994), who warned medical education researchers that they needed to be more rigorous in their experimental approaches to counter the

perceived differences in rigour between clinical and educational research. This, in turn is due to the perception that education does not deserve the same rigorous approach as clinical research.

"All doctors have been successful medical students, and it seems easy to assume that this alone qualifies them to educate others. Few surgeons would claim that surviving a surgical procedure qualifies a patient to perform it on another."(Petersen 1999)

The difficulty in gaining acceptance, however, needs to be faced, since ultimately we need an evidence base from which to develop, from which to challenge unfounded assertions, and to ensure that we do not continue to reinvent the wheel (van der Vleuten, Dolmans et al. 2000) .

Grounded Theory and the approach used in this study

Elements of this and the following section have been presented previously (Taylor 2009).

Proponents of grounded theory believe that a study should flow out of the responses of the research subjects (Miles and Huberman 1994). It is an inductive emergent approach, which is grounded in experimental observation, and was first propounded by Glaser and Strauss (Glaser and Strauss 1967). Over the subsequent twenty five years, the original co-authors diverged in their opinions (Boychuk Duchscher and Morgan 2004). Glaser believed that he was holding fast to the original idea (Glaser 1992), avoiding "interpretivism"., Strauss felt that the original concept denied the existence of pre-defined concepts (Strauss and Corbin 1994) and consequently felt able, therefore to be directive in the questions he posed. In this study I have adopted Strauss' broader approach on two grounds.

- Truly objective analysis of data, without preconceived ideas is probably unattainable, and is antithetical to the original concept, which was that theory should flow out of the original data. It then becomes a "chicken and egg" argument.
- On pragmatic grounds I believe that one should use the maximum amount of data available, and this should include preconceived ideas, and information from sources outside the immediate dataset.

The disadvantage of this approach is that it makes it difficult to separate the researcher's preconceived ideas from the research participants' views. This can be countered by using data from several different sources to validate one's conclusions. A common use of mixed methods research is to verify, or validate, results obtained through one method, but using another method. This is often loosely called "triangulation". Some care is needed over terminology. The term "triangulation" refers to the cartographer's technique of measuring the distance of an object from two known and fixed standpoints. Clearly if the object doesn't move, then the two measurements can be taken, independently, at any time. If the object moves, then the observations must be simultaneous. In the (grounded theory) experimental approach used here, the term "triangulation" would be inappropriate, since one method is used to determine the question asked by another method. Despite the hermeneutic differences between Glaser and Strauss, their basic premise, that text can be disaggregated and coded into themes, is the basis of the analysis of the focus group interviews used in this study. The other crucial debt that this study owes grounded theory is the point that the study takes a direction which proceeds from the previous data.

Overview of the methodology employed in this study.

This study has four distinct sequential elements:

- The Q-sort developed van de Camp's work (Van de Camp, Vernooij-Dassen et al. 2004), which was based on an extensive literature review. It provided the baseline information that there are multiple elements to professionalism, which change in perceived importance as the students progress thorough their career. The study prompted questions about the elements comprising each of the factors, and also what students meant by some of the terms.
- The nominal/consultative groups iteratively clustered the items into themes (which had similarities to, but differed from, the themes derived in the van de Camp study and the factors derived from the Q-sort). Crucially, this work was carried out in a multicultural/multilingual/multiprofessional setting (South African

Association of Healthcare Educators (SAAHE)workshops 2007, 2008)

- The student focus groups helped in understanding the elements of professionalism from the student point of view, clarified some of the terms and validated the Q-sort and nominal /consultative group results
- The questionnaire was developed from the three preceding studies, thereby gaining validity, and tested with groups of staff (SAAHE) at all levels of seniority from teaching assistant to Dean. All participants were multilingual; their primary languages were drawn from all 11 South African languages, but they were principally from Xhosa, Zulu, "Cape Malay", English and Afrikaans cultures. The developed questionnaire was then tested on small samples from the prospective study population in the UK.

Ethical Permission

Ethical permission for this study, up to validation of the final instrument, has been obtained from the School of Medical Education Research Committee and the University of Liverpool Committee on Research Ethics. Throughout this study the research has been conducted within the guidelines of the Declaration of Helsinki and the International Committee of Medical Journal Editors(International Committee of Medical Journal Editors 2008; Eva 2009). The Q-sort, focus groups and questionnaire development were completed under the direct auspices of the University of Liverpool. The nominal/consultative group studies were performed under the auspices of the South African Association of Healthcare Educators, who did not at that time possess a research ethics committee. The research elements of the workshops were approved by the Conference organising committee, and all participants signed up voluntarily, were free to withdraw at any time, and consented to the use of the data in this and other studies and publications.

Although no ethical permission will be required to administer the final instrument for educational and development purposes, separate ethical permission will be required to use the data so obtained for research purposes, fundamental to this will be preserving the anonymity of the respondent.

Standards of evidence required of qualitative research

There are a number of considerations which need to be addressed in assessing the value of qualitative research. As mentioned above, it is important to be explicit about one's methodological approach and standpoint (Harris 2002), but there is a series of exceptionally valuable criteria to which one must adhere for work to be published in the medical education literature (Inui and Frankel 1991; Inui 1996)

- *Is an important question clearly stated?*
- *Is the sampling strategy described and justified?*
- *Are the data collected appropriate to the question?*
- *Has there been sustained or prolonged exposure to the phenomena of interest and time interspersed for reflection on the data before further data collection?*
- *Are data archives available?*
- *Is the method of analysis appropriate to the question and the data?*
- *In the presentation of the results – are observations presented in their context?*
- *Is the history of the inquiry and the investigator's role and perspective described?*
- *Were there procedures for reflexive review of the data by the investigator, study participants, and peers?*
- *Were accommodations made for "contrary" data?*
- *In considering inferences made – is there sufficient data detail or "richness" to support the overall results?*
- *Is there coherence or internal consistency?*
- *Does the final result make thorough going sense of the phenomena of interest?*
- *Is the work generative, in uncovering new perspectives and pointing to subsequent needed work?*

(Harris, 2002, p66, after Inui & Frankel 1991 pp485-486)

In the following chapters I shall endeavour to show that these criteria have been met throughout (Inui and Frankel 1991; Harris 2002; Harris 2003)

Chapter 3: Methods and Results Q-sort study

Elements of this part of the study have been published previously (Sayle and Taylor 2006; Taylor, Royles et al. 2007; Taylor, Royles et al. 2007; Taylor 2008) and submitted towards the postgraduate diploma (Taylor 2007) preceding this work. Sufficient data and explanation is given in this chapter to contextualise and prepare for the discussion of subsequent methodologies.

The research question

The study arose from a desire to track the development of professionalism in medical students from their early years in medical school into their postgraduate and subsequent career. Since it was desired to use an instrument that would be self-completed and also used for peer-assessment, (Arnold 2002; Arnold, Shue et al. 2005), it was felt important that the students themselves should be involved in determining the elements that comprised the instrument. The question posed, therefore is:

"What terms do students regard as important in describing professionalism?"

What is a Q-sort?

A Q-sort is an exercise whereby a number of statements ("items") are sorted in order of importance or agreement, by a single individual. The important points are that there should be sufficient statements, and a sufficient range of statements, to render this non-trivial. Q-sorts can be performed with as few as 30 items, or as many as 120. Commonly they involve 80 or 90 items, which provides the compromise between time taken to perform the exercise, and a large enough item pool. The items should not be cryptic, and if they are statements they should all be in the same sense, although it does not matter particularly whether they are in the positive (*I like*...) or negative (*I don't like*...) sense.

Each of the items is typed onto a card, and each card is given a number to act as a proxy for the statement in the subsequent analysis. The participant sorts the cards into piles – ranging from least favoured to most favoured. The number of piles should be at least seven, since this is commonly regarded as the optimum number of discriminant points (Geoff Norman, personal communication, Prague 2008). A larger number of piles means that the data will approximate a normal distribution more

closely. The fundamental consideration of the sorting is that it is a "forced choice", whereby the number of cards in each pile is restricted, and across the continuum the number of cards in the piles are normally distributed. In this study eleven piles (numbered 0-10) were employed. The distribution of cards in each pile is shown in Figure 6.

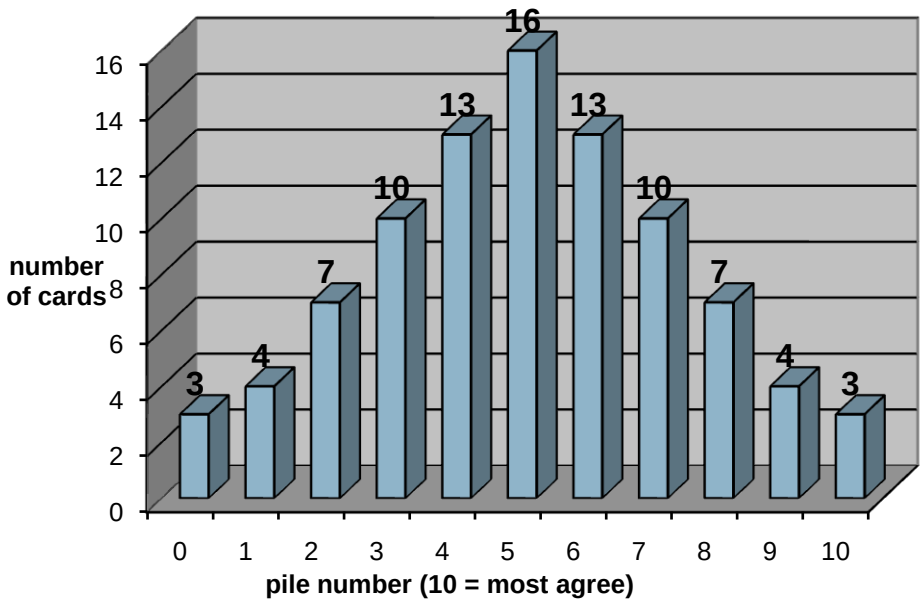

Figure 6 The distribution of cards within a 90-item Q-sort (from Taylor 2007)

The participant is allowed to query the meaning of cards, and also has access to a dictionary, they can take as long as necessary to complete the task. Most participants take about 20 minutes for a 90-item Q sort.

Once the cards are sorted, each statement is assigned a score from 0-10. Because the cards have been sorted over a normal distribution, this renders their scores eligible to more sophisticated statistical analysis (Stephenson 1953; Block 1961; Brown 1980; Kerlinger 1986).

The chosen methodology

The Q-sort technique was developed by Stephenson in the 1950's (Stephenson 1953), working alongside statisticians of awesome stature like Cronbach. It has both advocates and detractors. The principle advocate for many years has been Jack

Block, who demonstrated that it could provide a reliable and reproducible method of assessing changes in personality (Block 1961), it was subsequently used by the American military to determine the effects of training programmes (Kerlinger 1986), and has been used more recently in attitudinal studies in medical education (Block 1994). Advocates tend to use the Q-sort as a form of Q analysis, to group respondents into distinct families built around what they do or say. Detractors of the method argue that the sample sizes are far too small to allow confidence in the data, a Q-sort of 80 items would need around 800 respondents to satisfy statistical power requirements for a true Q-analysis (Norman and Streiner 1999). This argument can be countered, by using the data to fuel more detailed studies which could reasonably be expected to show contrary trends. This is the approach taken in this study, but there is a further significant difference. Although a "Q-sort" was performed, the data have been treated as an R-analysis, whereby the focus of the investigation is on the items in the analysis rather than the respondents.

The item set

The statements for the Q-sort were obtained from a systematic review of the literature on professionalism in medicine (Van de Camp, Vernooij-Dassen et al. 2004).

The full list of items (taken from Taylor, 2007after van de Camp, Vernooij-Dassen et al., 2004) is shown overleaf.

Absence of impairment
Accountability
Adherence to guidelines
Altruism
Appreciate literature and arts
Ask help when necessary
Autonomy of professional associations
Avoiding misuse of power
Being well-organised
Benevolence
Be knowledgeable
Be responsive to patients' and colleagues' age, gender and disability
Be sensitive
Be thoughtful
Blow the whistle if necessary
Calling
Caring
Carry out professional responsibilities
Clear professional values
Commitment
Commitment to continuity of care
Communication skills
Compassion
Competence
Courage
Critical analysis
Critique
Deal with high levels of uncertainty
Deliverance of quality
Duty
Educate patients
Enhancing welfare of community
Excellence
Expert authority
Fight for and guarantee standards
Flexibility
Faith in life's meaning and value
Give patients information they understand
Goodwill
Good clinical judgement
High level of expertise
Honesty
Honour
Humanistic values
Humility
Integrity
Interpersonal skills
Justice
Know limits of professional competence
Leadership
Lifelong learning
Maturity
Method and thoroughness
Morality
Motivation
Negotiation
Not letting personal beliefs influence care
Not ripping people off
Participation
Professional awareness and sensitivity
Professional conduct
Protect confidential information
Relationships with colleagues/team
Reliability
Respect
Respect patients' right of shared decision making
Response to instruction
Response to stress
Responsibility
Self-awareness
Self-improvement
Self-regulation
Sensitivity to a diverse population
Service
Simplicity
Social contract
Submission to an ethical code
Suspension of self-interest
Technical competence
Temperance
Tolerance
Transparent rules
Treat patients politely
Trust
Understanding history
Use of explicit standards
Value medical work intrinsically
Virtue
Willingness to admit errors in judgement
Willingness to take time to complete work

Figure 7 Items used in Q-sort (from Taylor 2007)

Participants

Students from years 1,3 and 5 of the programme were invited to participate in the study. The cohorts were chosen since they correspond to increasing clinical contact, from year one, where contact is limited, through year 3 where students encounter specialities for the first time, and year 5, which in Liverpool is a clinical apprenticeship year.

All participants volunteered in response to an emailed request to participate. About a third of the volunteers said that they had come because their friends had found the experience interesting, All received an information sheet and signed a consent form. They were supervised by the principal investigator, or one of two medical students (Emma Sayle, at that time (2007) a third year medical student, Bethan Royles, a 5th year medical student).

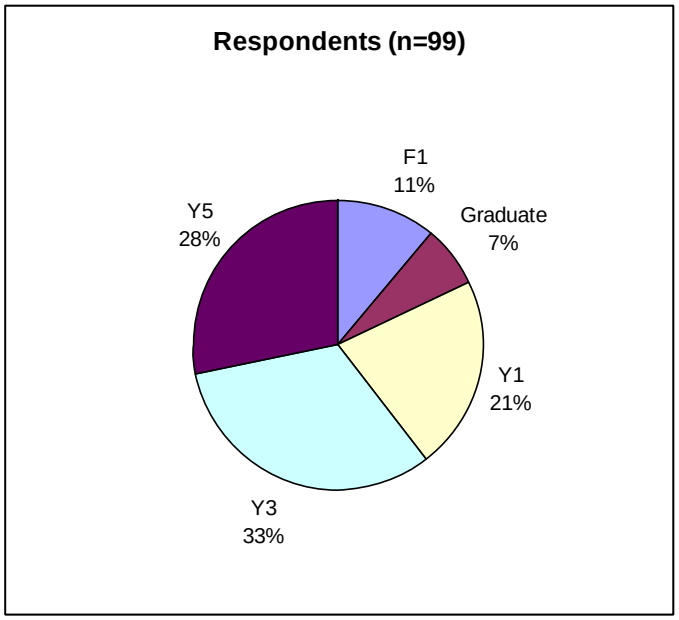

Figure 8 Number and distribution of respondents for Q-sort study (from Taylor 2007)

There is an approximately even split between students from years 1, 3 and 5, although the first year students were further subdivided into whether they were on the conventional five year, or the graduate entry programme. The initial estimates (based on previous experience with Q-sorts (Taylor 1996)) indicated that 20 students per year group would be sufficient to provide reliable results in terms of identifying "important" elements. A small but important number of participants were recently

graduated doctors (F1), their results have been shown because they were strikingly different from the undergraduates.

Analysis of data

Data collection and analysis took place over a period of 15 months, between March 2006 and May 2007, giving sufficient time for reflection and additional data collection.

The simplest and statistically safest analysis of the data is to inspect the modal scores attained by each of the items. Modal scores have the advantage of excluding the outlying results. This diminishes the detail obtained, but this is compensated for by the later stages of the study. In the first stage of the analysis, the data from all participants was collated and the overall pattern observed.

Competence	10
Communication skills	8
Ask for help when necessary	8
Give patients information they	8
Honesty	8
Professional conduct	8
Good clinical judgement	7
Protect confidential information	7
Know limits of professional competence	7
Respect patients' right of sharing in decision making	7
Integrity	7
Trust	7

Figure 9 Mode scores from all respondents (n=99, range of scores 0-10) (Taylor, 2007)

This combined result indicates the primacy of "competence", although it is not clear what students might mean by that, this will be discussed later in relation to the focus group study (chapter 5)

Item	Mode score
Competence	10
Good clinical judgement	9
Protect confidential information	8
Communication skills	8
Ask for help when necessary	8
Give patients information they can understand	8
Know limits of professional competence	7
Relationships with colleagues	7
Be responsive to patients' anxiety	7
Respect patients' right of shared decision making	7
Honesty	7
Deliverance of quality	7
Commitment	7

Figure 10 Mode scores year 1 A100 entry (n=21) (Taylor 2007)

Item	Mode score
Respect	10
Professional conduct	10
Know limits of professional competence	9
Trust	8
Protect confidential information	8
Relationships with colleagues	8
Communication skills	8
Ask for help when necessary	7
Responsibility	7
Give patients information they can understand	7
Good clinical judgement	7
Reliability	7
Accountability	7
Not letting personal beliefs interfere	7
Critical analysis	7
Clear professional values	7
Be responsive to patients' anxiety	7

Figure 11 Mode scores, year 1, A101 entry (n=7) (Taylor 2007)

In the analysis which follows, the data from the graduate entry students will be pooled together with the other year 1 students, because they represent a relatively small sub-population.

Item	Mode score
Good clinical judgement	10
Competence	9
Honesty	8
Professional conduct	8
Integrity	8
Protect confidential information	7
Ask help when necessary	7
Communication skills	7
Respect patients' right of shared decision making	7
Self-awareness	7
Compassion	7
Willingness to admit errors in judgement	7
Avoiding misuse of power	7
Motivation	7
Trust	7

Figure 12 Mode scores year 3, first rotations through specialties (n=32) (Taylor 2007)

Item	Mode score
Competence	10
Know limits of professional competence	10
Good clinical judgement	9
Professional conduct	8
Ask for help when necessary	8
Respect patients' right of shared decision making	8
Give patients information they can understand	8
Honesty	7
Integrity	7
Protect confidential information	7
Willingness to admit errors in judgement	7
Lifelong learning	7
Treat patients politely	7
Professional awareness and sensitivity	7
Deal with high levels of uncertainty	7
Humility	7

Figure 13 Mode scores, year 5; clinical apprenticeship)n=28)(Taylor, 2007)

Item	Mode score
Competence	10
Know limits of professional competence	10
Professional conduct	8
Ask for help when necessary	8
Give patients information they can understand	8
Communication skills	8
Good clinical judgement	7
Respect patients' right of shared decision making	7
Honesty	7
Integrity	7
Protect confidential information	7
Trust	7

Figure 14 Mode scores, all undergraduates (n=88) (Taylor 2007)

Item	Mode score
Honesty	10
Ask for help when necessary	9
Trust	9
Responsibility	9
Morality	9
Give patients information they can understand	8
Good clinical judgement	8
Know limits of professional competence	8
Interpersonal skills	8
Compassion	8
Protect confidential information	7
Integrity	7
Willingness to admit errors in judgement	7
Respect	7
Relationships with colleagues	7
Be sensitive	7

Figure 15 Mode scores, F1: newly graduated doctors (n=11)

From inspection of the data it is clear that both competence and personal qualities are important in conceptualising professionalism. The fact that the Q-sort data is normally distributed means that it can be subjected to factor analysis. In practice this can be easily and rapidly performed using public domain software (PQMETHOD 2.11) which allows Q-sort data to be input and analysed (Schmolck 2002). Rather than use centriod analysis, which would be more appropriate to the original use of Q-analysis, varimax rotation was used to account for the variance due to each factor (Norman and Streiner 1999). The statistical package SPSS (issues 13 through 16) was used to produce the Scree plots, which were used to determine the number of factors retained for rotation and subsequent analysis, the Eigen values and the corresponding Cronbach's alpha scores.

Aggregating the entire undergraduate data set (n=88) masks the perceived differences between the years, but shows three factors, which together account for 42% of the variance (Cronbach's alpha 0.973).

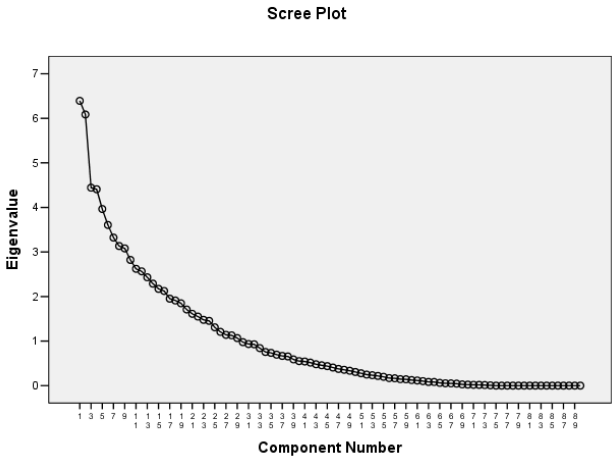

Figure 16 Scree plot from all undergraduates, showing inflexion after three factors (Taylor 2007)

Item	Variance accounted for
Know limits of professional competence	31%
Competence	
Technical competence	
Protect confidential information	
Ask for help when necessary	
Professional conduct	
Carry out professional responsibilities	
Good clinical judgement	
Honesty	6%
Respect	
Humility	
Compassion	
Avoiding misuse of power	
Trust	
Blow the whistle if necessary	
Know limits of professional competence	
Protect confidential information	
Respect patients' right of shared decision making	
Good clinical judgement	5%
Accountability	
Technical competence	
Caring	
Competence	

Figure 17 Factors for all undergraduate students (n=88) (Taylor 2007)

The alliterative terms *competence*, *compassion* and *caring* could be seen to describe the factors, but the (relatively) small number of students, and their heterogeneity, mean that the concepts need to be re-examined using other metrics.

The equivalent analysis for the newly graduated Doctors (n=11) shows two factors accounting for 52% of the variance (Cronbach's alpha 0.825).

Item	Variance accounted for
Communication skills	39%
Good clinical judgement	
Accountability	13%
honesty	
humility	

Figure 18 Factors for F1 doctors (n=11)(Taylor 2007)

The smaller number of subjects accounts for the differences in the number of elements in each of the factors. Although "Competence" is seen as important by the significant majority of students, the relative importance of personal qualities increases on graduation. This is in agreement with the data from the mode scores

shown earlier, and it is this distinction between the different elements of professionalism which is the subject of subsequent analysis.

Questions raised by the Q-sort study

There are two key questions raised by the Q-sort study.

The first of these is whether the factors have validity. There are several uses of the term "validity", but here it is being used on two senses – do the factors have *face* validity (do they make sense and fit with what people would expect), and do they possess *construct* validity (can we make inferences based on them). This will be answered by the nominal/consultative group process, and also partly by the focus group study.

The second, equally important question is what the students mean by the term "competence", and how they actually describe professionalism. This includes validity (as above) and will be answered by the focus group study.

Chapter 4: Methods and Results Nominal/Consultative Groups

This part of the study relies on a series of workshops run under the auspices of the South African Association of Healthcare Educators (SAAHE) in 2007 and 2008 at their annual meetings. Some of this material has been published by the Actuarial Association of South Africa (Taylor 2008).

The research questions

The Q-sort study required students to sort a pre-defined series of statements concerning professionalism, and yielded preferential terms. Close factorial analysis of the data after varimax rotation suggested that the concepts could be grouped into three domains, loosely termed competence, caring and compassion. The research question which develops out of that work is as follows:

"Do the terms favoured by the students possess "face validity" and could the factors possess predictive value or "construct validity"?"

Nominal/consultative groups

Nominal and consultative groups are ways of reaching consensus through discussion. They differ from focus groups, principally in the way they are analysed. Whereas focus groups are analysed by the elements of the discussion, nominative and consultative groups are analysed by final outcome. Typically nominative groups are strongly guided by a facilitator, whereas consultative groups are more loosely facilitated. Nominative groups reach their output by consensus, consultative groups by voting. The group system used here had similarities with both.

2007 Workshop

34 participants self-selected into six groups, equipped with pens and *Post-it®* notes. After a brief introductory plenary, to explain the purpose of the exercise, they were asked to think quietly for themselves for a few minutes about the elements that they thought would define professionalism. They were then invited to write their terms on *Post-it®* notes and talk through their chosen terms with other members of the groups. In the course of this exercise they were able to add, reword or remove items, thereby filtering out duplicates and confusing terms. Finally they put their *Post-it®* notes on a large wall, and put the terms into clusters of related concepts.

These were photographed, retained, and transcribed as the starting material for the workshop in the following year.

2008 Workshop

28 participants self-selected themselves into four groups, and were given the clusters (unlabelled) of terms from the previous year. They were asked to identify the overarching themes covered by the clusters, and rank the clusters according to their importance. In a second part of the workshop they completed the pilot version of the questionnaire, which will be discussed later.

Participants

Participants in each workshop were attendees of the SAAHE Annual conference held near Cape Town and were drawn from across South Africa. They all worked in hospitals or Universities, and were involved in training health professionals (not only doctors). They represented all levels of University staff, and all of the cultural backgrounds found in South Africa. All spoke English, but their natural language was most frequently Afrikaans , English or Xhosa. There were approximately equal numbers of males and females, although the males tended to be more senior, and were more likely to teach medical students. This is why the groups were allowed to self-select, discussion was freer, and different groups came up with markedly different issues.

Results from the 2007 workshop

Figure 19 A group of participants from the SAAHE 2007 workshop clustering their comments

The groups generated a total of 158 statements, which they aggregated into 35 clusters, some of which appeared to overlap. The clusters were then photographed, removed from the wall and placed on flip-chart paper for subsequent analysis back in Liverpool.

There were several instances of duplication, but clusters were clear and possessed face validity.

Figure 20 Overlapping clusters of Post-it notes from SAAHE 2007 workshop

The items in each cluster were then transcribed, but no attempt was made to ascribe the clusters to over-arching domains. The items and clusters are shown on the following page.

Currency (CPD)

Beneficence
Fairness
Altruism

Knowledge exposition
Knowledge
Know limits
Updated knowledge

Competence
Critical thinker

Education
Application of theory
Life long learning
Skilled
Transfer knowledge
Share knowledge

Competence
Accuracy
Precision

Authoritative
Competence
Life long learning
Decision making
Limits, boundaries legal competencies
Professional training institutions
Skills

"Right" "positive" attitude

Scientific
Body of knowledge

Continuing medical education
Competent
Praxis
Ask for help
Know limits
Taking responsibility
Dealing with uncertainty
Management skills
Commitment to excellence

Decisive
Conscientious
Open minded
Logical thinker
Learner
Dedicated

Personal conduct
Courageous

Personality type
Attitude
Personal identity
Conflict management
Coping with change

Reflection

Non-judgement

Good understanding

Understand social/political environment

Belief in others dignity
Respectful of others rights
morality
Non-judgemental
Non-malefiscence
Non-discrimination
Attitude
Respect for teachers
Attitude to time
Attitude respect for patients
Respect for colleagues
Patient's religion, personal space and dignity
Committed
Commitment to service
Commitment

Confidentiality
Approachable

Dress code
Confident
Considerate
Polite
Appearance
Self control
Tolerant
Tolerance
Patience
Trustworthy

Tact
Sensitivity
Humility

Self awareness

Communication
Communication skills
Effective communication

Understand
Endurance
Considerate

Congruent
An example

Teacher
Role model
Mentor

Reflective
Know own strengths and Imitations

Work/home boundaries
Accessible
Life skills (stress)

Teamwork
Value all roles
Teamworker

Verbal communication
Good listner

Punctuality
Time aware

Get rich

Humility
Compassion
Courage
Prepared to speak out when it looks wrong
Ethics impartiality
Ethics values
Ethics/confidentiality

Dependence
Loyalty
Respect for human dignity
Respect
Compassion
discretion
honesty
self control
morality
empathy
ethical/moral
morality
accountable
respect
caring
self respect
empathic
trustworthiness
equality
compassion/caring
confidentiality
non-judgemental
integrity
honourable
reliable
responsible
avccountable
role model
respect for others
conviction/belief

rules & regulations
responsible
know your own limits
integrity
moral and ethics
empathy
courteous
kind
good
ethics
morality
religion
ethnicity
caring
openness
ethical legal
respect
autonomy
self-awareness
acknowledge own short comings
wiling to share
teacher
unselfish
nurture
philosophy
law abiding
empowering
ownership responsibility
accountable/accountability

Figure 21 Terms and clusters which formed the output of the 2007 SAAHE conference

Results from 2008 expert reference group

The involvement of colleagues from South Africa adds to the applicability of the results, but as an internal reference point a parallel task was completed by three expert colleagues at a workshop in Liverpool. The number of attendees was unexpectedly small, so those who did turn up were given the free choice of attending another workshop, going for a coffee, or acting as a reference group for this study. The group comprised Dr Peter Dangerfield and Dr Gillian Maudsley (both clinicians and major contributors to medical education, with whom the author has worked very closely over many years)) and Janine Caroll, formerly a research technician in clinical psychology, in Liverpool (with whom the author had worked for five years), at that time Janine was a postgraduate student (medical education) in Manchester. They were free to leave at any time, and were aware of the use to which the data would be put.

The process was similar to that observed in SAAHE 2007, in that the participants talked together and reflected upon the various elements of professionalism. They then wrote the individual items down on Post-it® notes and then stuck them on flip charts negotiating the contents of clusters, and discarding duplicates. The process differed from the SAAHE process in that my colleagues wished to ascribe labels to the clusters.

The results are shown on the following page.

How the person acts
Takes notice
Efficient
Shows perspective/humour
Pursues excellence
Knowledge
Research
Decision maker
Own decision
Freedom
Common sense
Work appropriately in context
Sensible
Shows leadership
Makes a difference
Able to take initiative
Accepts responsibility for own actions
Organised
Learned society member
Curiosity
Thinks outside the box
Observer
Thinker
Ponders
Reflective
Academic
Willingness to self correct
Willingness to learn
Monitors own learning
Keeps on learning
Seeks to increase knowledge/qualifications

Society
BMA
Certified
GMC
Never goes on strike
Position in society
Government
society

personal/social awareness
self awareness
aware of limitations
takes overview
sociallly aware

Attributes
Trustworthy
Integrity
Honesty
Non-judgemental
Concerned
Thoughtful
Has clear defensible values#
Empathic
Humane
Not egotistical
Consistent in approach
Fair
Approahchable
Kind
Ethically sound
Humility
Ethical
Respect
Accepting/unbiased
Veracity
Cares about getting it right
Responsible
Sensitive
Considerate
Polite
Motivated
Greater good
Caring
Helps others
Altruistic
Understanding
Integrity

Working with others
Good team player
Consults
Good relationships with patients, colleagues, relatives
Networker
Social
Resists control
Group member
Self-employed
Employee
Relates well to others
Other health workers
Nurses
Works with others

Meeting expectations
Careful
Attends to detail
On time
Act at any time
Dress code
Well presented
Finisher
Keeps deadlines
Identity – professional
Appearance/manner
know role
how they see themselves
confidence
dependable
good time keeping
structured
delivers
does what is promised
reliable
punctual

Communication skills
Listens
Competent
Explains simply
Informative
Communicative
Good communication
Skilled
Clinical competence
Good communicator

Motivation
Financial
Motivated
enthusiastic

Knowledge/behaviour /experience
Competent
Well read
Outside interests
Intelligent
Experienced
wise

Figure 22 Clusters offered by expert reference group March 2008

Results from the 2008 SAAHE workshop

The participants were given the results of the 2007 workshop, and a discussion was held to prompt deeper reflection on categorising the clusters (the participants were unaware of the earlier results of the Liverpool expert group.). Initial discussion centred around using the concepts of knowledge, skills and attitudes. This was partly to re-engage the participants, and partly to familiarise them with the data set from the previous year's conference.

A series of slides, generated at the time are shown below.

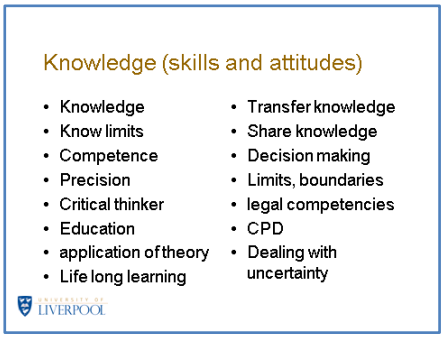

Figure 23 SAAHE 2008 "Knowledge cluster"

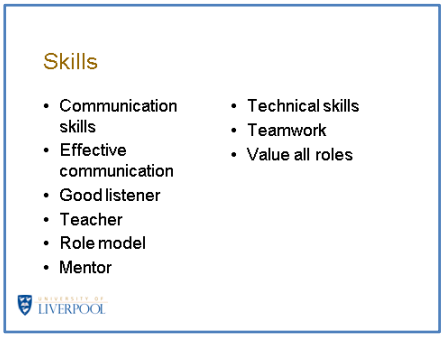

Figure 24 SAAHE 2008 "Skills Cluster"

Figure 25 SAAHE 2008 "Attitudes (personality traits?)" cluster

Figure 26 SAAHE 2008 " Attitudes" cluster

This exercise prompted the participants to choose to assign the items to domains using Venn Diagrams. Furthermore, they chose to use different domains, relating to competence, relationships and personal qualities.

Figure 27 Groups working on Venn diagrams at SAAHE 2008

Some representative (well travelled) examples of the outputs are shown on the following pages. Although there were some small differences between the groups, they are all related to whether an item should be in a single domain or in the area of overlap with another domain.

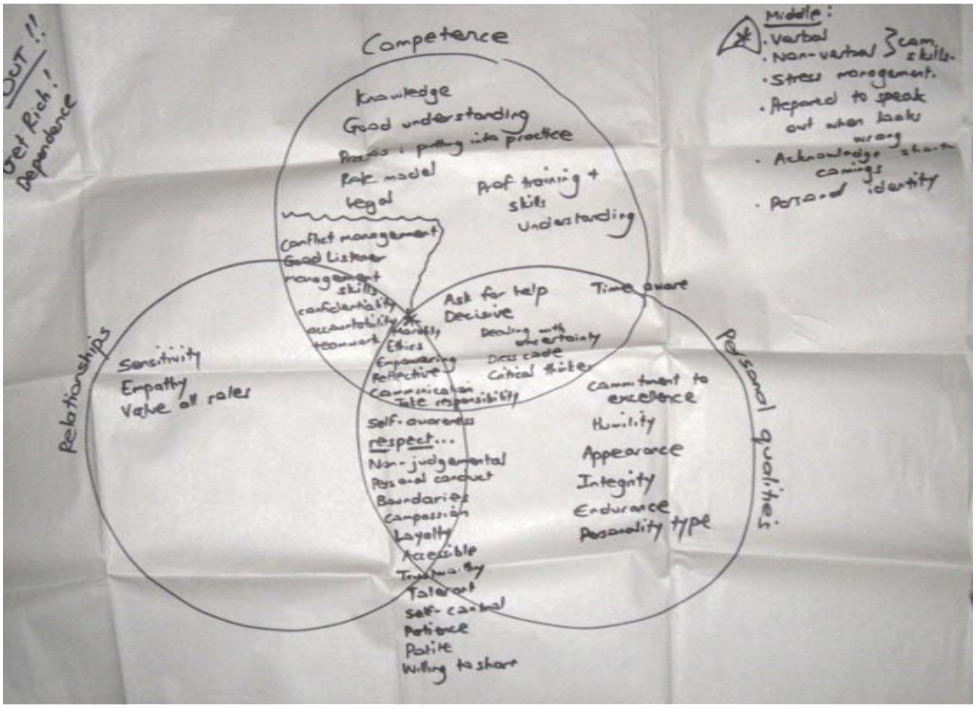

Figure 28 SAAHE 2008 group A Venn diagram

Figure 29 SAAHE 2008 group B Venn diagram

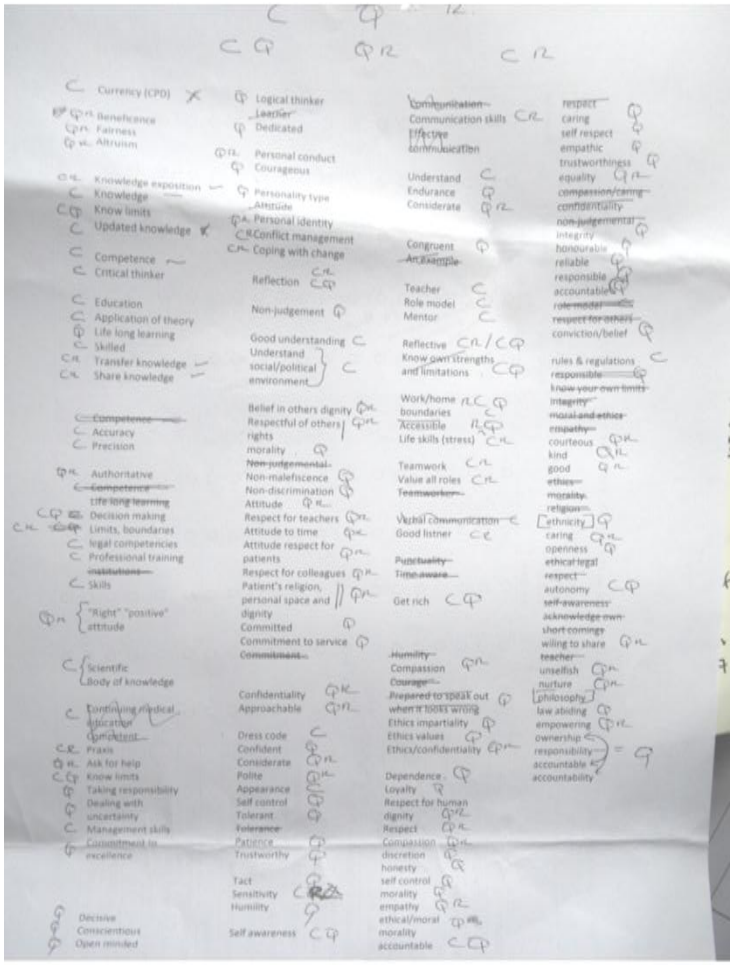

Figure 30 SAAHE 08 Detail from group B, showing cluster titles

Competence

Accuracy
Appearance
Application of theory
Body of knowledge
Competence
Continuing medical education
Critical thinker
Currency (CPD)
Dress code
Education
Good understanding
Knowledge
Management skills
Precision
Professional training
role model
rules & regulations
Scientific
Sensitivity
Skilled
Skills
Understand
Understand social/political environment
Updated knowledge

Competence and Personal Qualities

accountable
autonomy
Decision making
Get rich
Know limits
Know own strengths and lmitations
Self awareness

Competence and relationships

Communication skills
Conflict management
Coping with change
Knowledge exposition
Life skills (stress)
Limits, boundaries legal competencies
Praxis
Share knowledge
Teamwork
Transfer knowledge
Value all roles

All domains

Accessible
accountable
Good listener
Mentor
Reflective
Role model
Teacher
Verbal communication
Work/home boundaries

Figure 31 Elements of the Competence domain SAAHE2008

Personal Qualities

accountable/accountability
caring
Commitment to excellence
Commitment to service
Committed
Confident
Congruent
Conscientious
Courage
Courageous
Dealing with uncertainty
Decisive
Dedicated
Dependence
discretion
empathic
Endurance
ethical/moral
Ethics impartiality
Ethics values
honesty
honourable
Humility
integrity
law abiding
Life long learning
Logical thinker
Loyalty
morality
Non-discrimination
Non-judgement
Non-malefiscence
Open minded
openness
ownership responsibility
Patience
Personality type
Prepared to speak out when it looks wrong
reliable
respect for others conviction/belief
responsible
Self control
self control
self respect
Tact
Taking responsibility
Tolerant
trustworthiness
Trustworthy

Personal qualities and relationships

"Right" "positive" attitude
Altruism
Approachable
Ask for help
Attitude
Attitude respect for patients
Attitude to time
Authoritative
Belief in others dignity
Beneficence
caring
Compassion
Confidentiality
Considerate
courteous
empathy
empowering
equality
Ethics/confidentiality
Fairness
good
kind
nurture
Patient's religion, personal space and dignity
Personal conduct
Personal identity
Polite
Respect
Respect for colleagues
Respect for human dignity
Respect for teachers
Respectful of others rights
unselfish
wiling to share

Personal Qualities and Competence

accountable
autonomy
Decision making
Get rich
Know limits
Know own strengths and limitations
Self awareness

All domains

Accessible
accountable
Good listener
Mentor
Reflective
Role model
Teacher
Verbal communication
Work/home boundaries

Figure 32 Elements of the Personal Qualities Domain SAAHE 2008

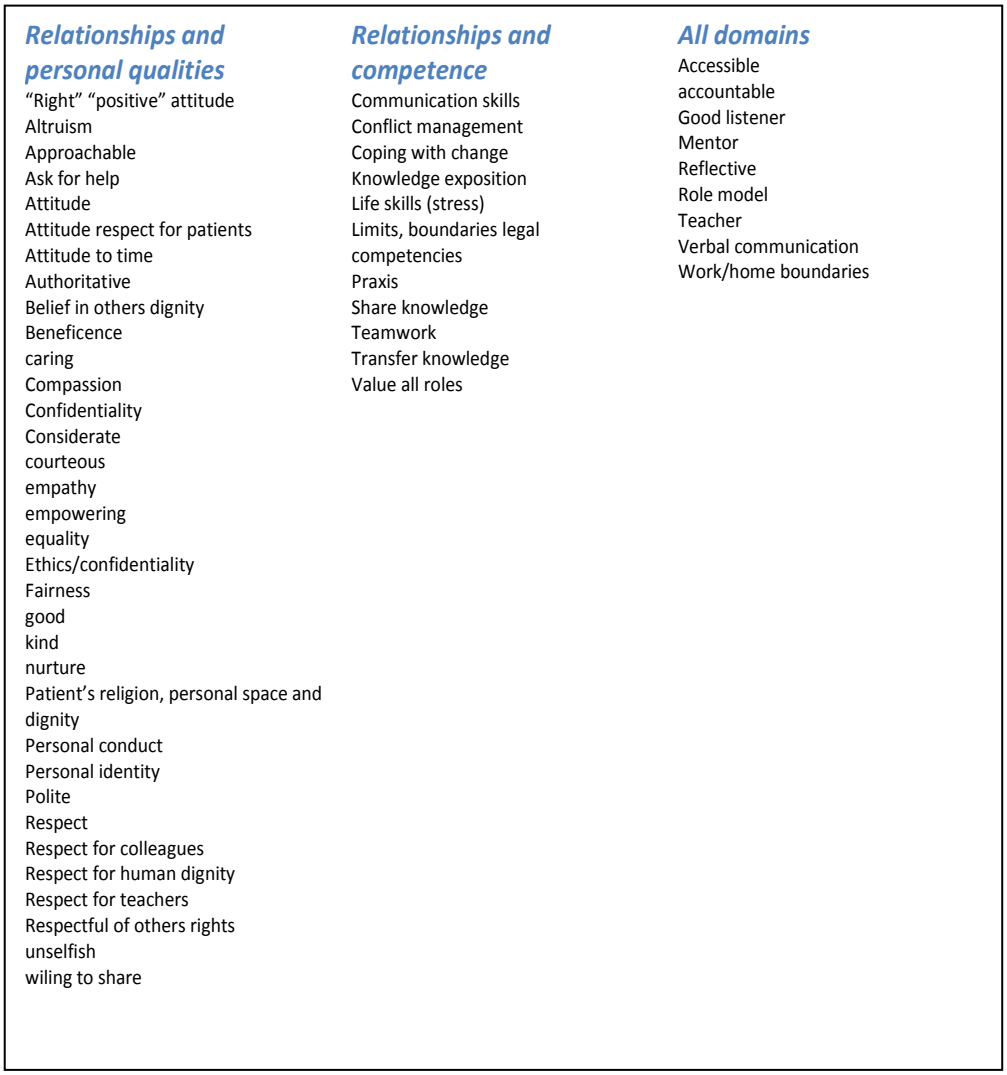

Figure 33 Elements of the Relationships domain SAAHE 2008

Conclusion

There are a number of issues of interest that come out of the nominal/consultative group study. These will be discussed in relation to the whole later in the dissertation. It is particularly noteworthy that "relationships" were only seen as important in relation to one or more of the other domains. Importantly for the subsequent discussion, aspects of professionalism that were seen as being all pervasive were:

- Accessible
- accountable
- Good listener
- Mentor
- Reflective

- Role model
- Teacher
- Verbal communication
- Work/home boundaries

Chapter 5: Methods and Results Focus Group Study

The early outcomes of this part of the study formed the basis of three presentations (Taylor, Royles et al. 2007; Taylor 2008; Taylor 2008).

The research question

There are three questions which are answered in this section, all of them arise out of the earlier elements of the study.

"How do students describe professionalism?"

"What do students mean by "competence"?"

"Do the factors/domains identified through the previous elements of the study possess face and construct validity?"

The methodology

A focus group is effectively a group interview, bolstered by the conversational and discursive nature of the interactions between members of the group (Morgan 1997). There are four phases to focus group research (Kirk and Miller 1986), each of which is critical

- Planning
- Observation
- Analysis
- Reporting

Planning

The first element of the planning phase was to determine the questions to be asked of the groups. These were obtained following analysis of the Q-sort data.

- What do you mean by professionalism?
- Can you give examples of things that are not "professional"?
- What do you mean by "competence"?
- Is that the same as "technical competence"?
- Is "professionalism" about good communication skills? (only?)
- Is professionalism about keeping the rules? (only)

- How important are “personal qualities” (honesty, integrity, compassion etc.,?

It had been planned to use a graduate student as the only focus group facilitator, but pragmatically it became necessary to enlist other help. The focus group facilitators were Jayne Gardner (postgraduate student, experienced in social sciences research (1 Y3 group, 2 Y5 groups), Professor David Brigden (PBL facilitator and educationalist (1 Y1 group) and the author (1 y1 group, 1 Y3 group). One would normally try to ensure that the participants were not facilitated by those perceived to have a vested interest (Watmough, Garden et al. 2006).The discussions facilitated by the author did not differ appreciably from those obtained from the other equivalent year groups. One reason for this might be that the student groups were pre-formed (pre-existing PBL groups), and they were very used to facilitated discussions.

A briefing note was prepared, which was given to each of those who were facilitating the focus groups.

Focus groups provide a way in which people can consider their own views in the context of others. They are basically a form of semi-structured interview and should be “chaired” with a light hand by someone who is not felt to have a vested interest.

The role of the chair is to pose the initial question and encourage response, but to have minimal input (PBL facilitators should make very good focus group leaders!). The chair should also make notes of the responses and be confident that the questions have been covered. Responses are anonymous – the recording will be erased once transcribed and checked – and all individual comments will be anonymised.

A focus group should not last longer than an hour, and may be much shorter.

Figure 34 Briefing note given to Focus group facilitators (together with the list of questions)

Participants

To match the samples used in the Q-sort study, the focus groups were drawn from years 1, 3 and 5 of the undergraduate medical programme. Each group from years 1 and 3 was a pre-existing PBL group. The two year five groups were opportunistic samples drawn from those waiting to hand in their final year portfolios.

The number of groups chosen was the one that would provide "saturation" (Glaser and Strauss 1967). Saturation is loosely defined as stopping "collecting data when the moderator can accurately anticipate what will be said next in the next group" (Morgan 1997) and is achieved sooner if the groups are homogenous (or as in this case, practiced), if the facilitators are experienced, if ground rules are understood and adhered to and if the process is more structured (for instance with clear prompts). Because it was possible to meet each of those criteria a small number of groups sufficed. The disadvantage of using a small number of groups is that some data and opinions might not be uncovered. This was not deemed a problem in this study because three different methods were employed to understand the questions at issue, and the role of the focus groups was to clarify concepts and check on validity.

Each group comprised 6 members, selected randomly from their year cohort. All were given information sheets and signed informed consent. They could withdraw from the process at any stage without consequence, and they were assured of their anonymity.

Observation

Discussions took place in a quiet space normally used for small group work. It was comfortable, quiet and well lit, and a very familiar environment for all of the participants. The discussions were recorded on a small digital recorder, which transferred data to the computer through the USB port. A secondary microphone was used to ensure good sound quality, although this did not function for the 5th year groups. Facilitators took notes, which were compared as the recorded interviews were transcribed. Transcriptions had three phases, the initial transcription, followed by correction whilst re-listening, and checking by a second independent researcher. They were then input into NVivo8 for subsequent analysis.

Analysis and reporting

The analytical indexing/coding method was used (Frankland and Bloor 1999; Barbour 2005). Following familiarisation with the texts, the comments were indexed and coded. Each time a further refinement of a code was noted previous examples of the code were reassessed, and if necessary re-coded. This systematic approach is helpful, particularly when the researcher is familiar with the data, and other sources of similar data. The NVivo8 software means that recoding is very time efficient, and provides a very helpful pictorial representation of how the focus group progressed. A decision was taken, early on, not to include the audio recordings in the dataset, since the data files become very large, and the working data was retained (as required by the University research governance rules) on the centrally secured and backed-up "M:drive". The voice recordings, from which student voices could be recognised, were stored on CD separately in the researcher's filing cabinet, until the transcriptions were checked, then they were destroyed.

Coding

The transcripts were imported into NVivo8 and the two first-year focus groups were free coded. Two weeks later, second copies of those transcripts were re-coded, where possible using the existing codes. After a first-coding of all transcripts there were 58 nodes. Close inspection showed that 5 of those were close paraphrases of other nodes, and they were re-coded using those other nodes (e.g "what a person wears" was recoded to "appearance").

The codes were checked and queried by an independent psychology researcher, and then re-checked by the investigator.

NVivo8 allows data to be inspected in several ways. Whilst coding and recoding, the most valuable is to observe the "most coded" bars alongside the transcript. This is shown in the screen shot overleaf. It is also possible to annotate the transcript, and "Memo", which is the term used for jotting down ideas for subsequent more detailed analysis.

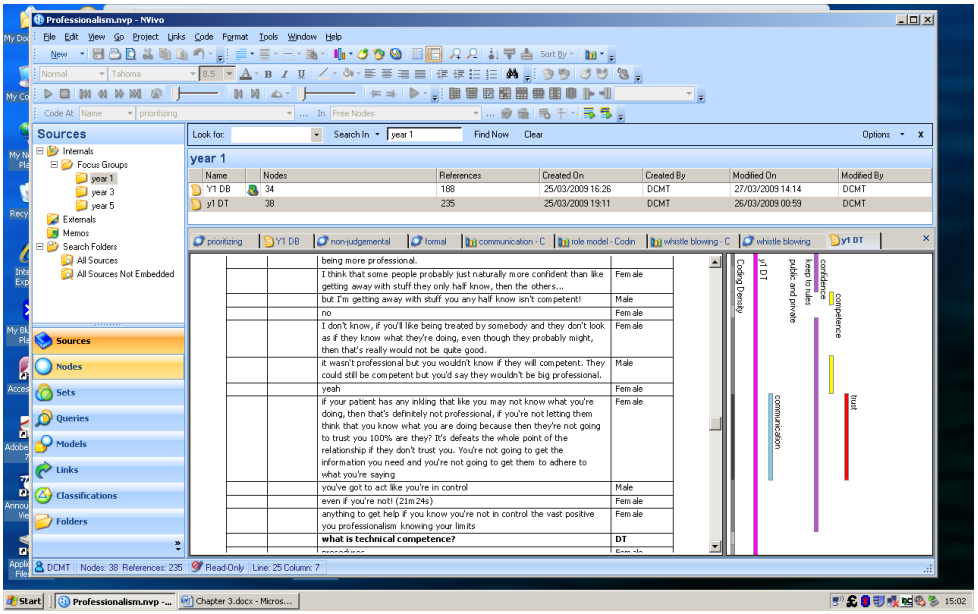

Figure 35 Screen shot of Nvivo8 showing a transcript and the coding bars for the "Nodes most coded"

What do students mean by "professional"

The full list of the final working 53 codes is shown below, in alphabetical order, this is a proxy measure for the first question in this section, namely, how do the students define professionalism. The value and interest, however, is in the details in the individual quotes, and often in the interaction between students and students and facilitator. Here, and in the foregoing, words in *italics* are direct, extracted, quotes. Indented sections are fragments of conversations between two or more people. Facilitator's comments are in ***bold.*** Some quotes are repeated in different contexts, to obviate flicking back and forth through the text.

abuse of power	formal	rapport
appearance	FTP	relationship with patient
approachable	GMC guidelines	reliability
ask for help	honesty	respect for colleagues
attitude	impression	respect for patients
behaviour	integrity	respect OF others
communication	Justification	respect other professions
compassion	keep to rules	responsibility
competence	know limits of comp	role model
confidence	knowledge	safe practice
confidentiality	life-long learning	skills
congruence	lifestyle	standing in the community
cost-benefit	non-judgemental	stereotyping
deal with criticism	practice	teamwork
disciplined	prioritizing	trust
DYB	public and private	uptodate
empathy	punctuality	values
ethics		whistle blowing

Figure 36 Final codes from focus groups

Some of the codes were predictable, and stemmed from the trigger questions/prompts from the facilitators, for instance “communication”.

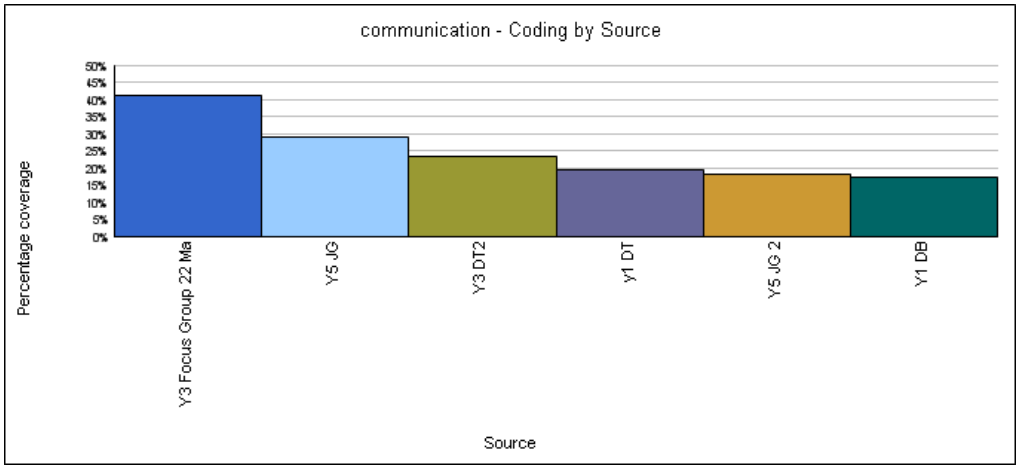

Figure 37 Percentage of each focus group accounted for by "communication" (Y1=year 1, Y3=year 3, Y5=year 5)

Other codes appeared less frequently, apparently because they related to issues uppermost in the mind of the students at the time. One such example was “role model”, which was not mentioned by the year 5 groups.

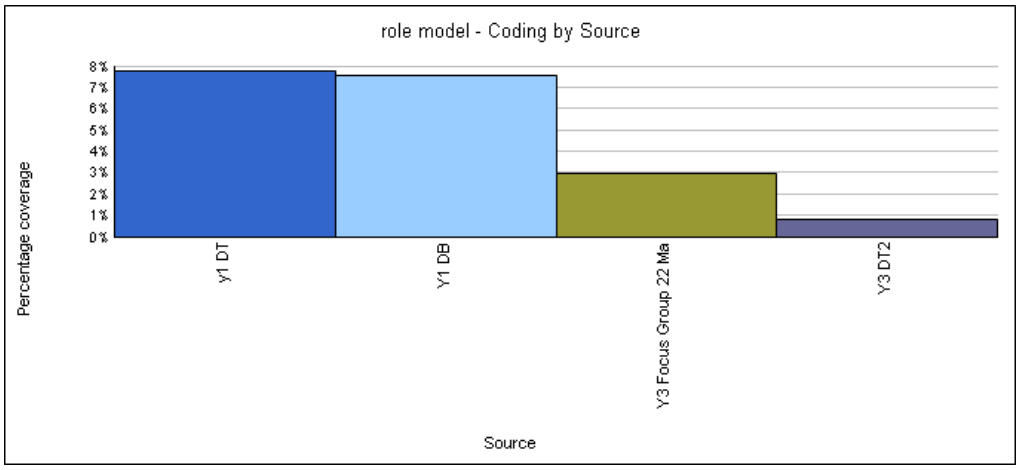

Figure 38 Percentage of each focus group accounted for by "role model" (Y1=year 1, Y3=year 3)

One first year group clearly had a current issue with “whistle blowing”, which accounted for almost 7% of their discussion time (being referred to 13 times), but which was unmentioned by any other group.

I think it would be important to like, maybe like approach them about it. (… Unclear…). approach another member of the team about it but I think it's not a good idea to keep something like that under wraps (overlap) (Female Y1DB)

it would be unprofessional not to do anything about it (overlap) (Male Y1DB)

I don't think I would cause a great scene about it but maybe if you just had a quiet chat with them so if things improve,…if things don't improve then maybe talk to other people and see if they feel the same way as you (overlap) (Female Y1DB)

What do students mean by "competence"?

The main reason for the focus groups was to determine what was meant by "competence", Nvivo8 renders it relatively simple to extract the student statements. Roughly 9% of the coverage of the focus groups in years 1 and 3 related to competence directly, and 14% in year 5. First years in particular found it different to disentangle professionalism and competence.

you can't have professionalism without competence. You can act professionally, but I don't think you can be professional if you are incompetent. (Male y1DT)

that's what I was thinking, if you include communication skills and stuff like that as part of competence. And if you include professionalism as part of competence which is the opposite of what we said earlier. Because you could say that if you weren't professional then you weren't competent. (Male y1 DT)

building on that, I suppose as you said, competence is the base for everything, and professionalism is having the ability to carry it off. (Male Y1 DT)

you could say that's professionalism is a subset of competence but actually the two go together and it's impossible to be one without the other.

I think no, you can be competent but not professional. (Male Y1 DT)

Year 3 students defined competence in terms of knowledge or skills

it happens a lot that is that when you're on the GP placement in the consultation and you don't know stuff, so if you don't have the knowledge in the consultation then you're not demonstrating professional competence (Male Y3DT)

Your ability to do that task. (Y3JG)

Or your ability to know when you can't do it, when you are able to say "That's beyond me" (Y3JG)

A conversation between three students went as follows:

> *Well, I think they are all the same thing aren't they? You'd be a competent doctor if you knew your limits and that encompasses everything technical, like you know you're competent, you know, it's everything, I think it's all one and the same. Competence is like a blanket term and it encompasses a lot of different things. (Y3JG)*
>
> *And it doesn't necessarily mean you are incompetent if there is something you can't do. The competence comes by recognising you can get someone to help you, or extra training or whatever. (Y3JG)*
>
> *Just knowing your own ability, that fact can make you competent. (Y3JG)*

This highlights a recognition that an important element in "competence" is in knowing one's own limits. The year 5 students wouldn't be drawn to define competence

> ***what to do you mean about competence, ... what does competence mean to you?*** *(facilitator JG)*
> *it's about being able to do a task right more times than wrong I suppose (silence.....) (Male Y5 JG)*

However, once the conversation drifted to communication a disagreement appeared:

> *if you decided you are going to withdraw treatment from somebody then communication skills are an important part of that. But on a day-to-day basis when you're not giving pieces of difficult information they are not that important (Male Y5 JG)*
>
> *you need to be able to communicate to be competent at a professional level (Male Y5 JG)*
>
> *I will be honest, I would rather the Dr. who was technically competent and couldn't speak to me than one who could communicate but didn't know what he was doing (Male Y5 JG)*

All groups recognised the importance of knowing the limits of their competence, spending between 5 and 10% of the conversation time on it – even though it wasn't specifically triggered.

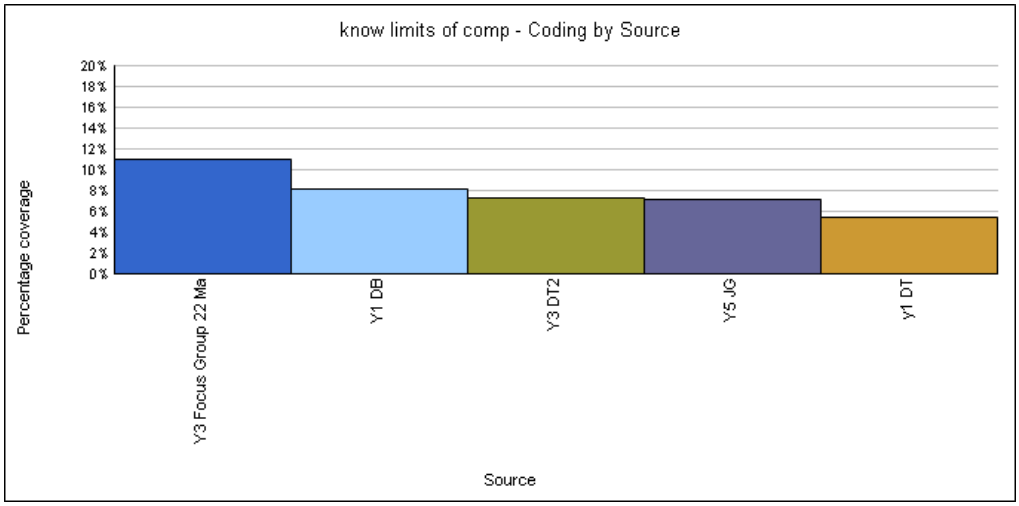

Figure 39 The proportion of time spent considering "knowing the limits of competence

yes you should be able to know the limits of professional competence so you know it's not an ego thing to pass it on you can jeopardize the life of your patient (Male Y1DB)

like appraisal you've got to like recognize your limitations and set targets to meet. (Female Y1DB)

This however leads to internal conflict

you just don't want to show that you actually don't know what you are doing if you try to do something that you clearly know can't then you are incompetent. (Female Y1DB)

That conflict starts to resolve as students become more experienced.

I think that's also part of competence being able to know what you don't know something and being able to ask and get extra help. pause. And they'll probably be times that you don't know something that you should know. (Female Y3DT)

it's such as knowledge nebulous subject, medicine and you always feel like there's going to be limits to how much you can know, obviously and there's lots of times you've got to ask people and get some advice (Male Y3DT)

there isn't really a line to distinguish this is how much you know that there is a minimum that you expected to know. The stuff above and beyond that is fine if you don't know but I feel there is a basic minimum that I should know if I'm a Dr. (Male Y3DT)

And it doesn't necessarily mean you are incompetent if there is something you can't do. The competence comes by recognising you can get someone to help you, or extra training or whatever. (Y5JG)

Just knowing your own ability, that fact can make you competent.(Male Y5 JG2)

A key element in professionalism was seen to be communication (see figure 31), often brought up in juxtaposition to something else

I think a part of competence is also you can be fantastic at giving injections or something but you might be really horrible to the patient. Competence is also communication and explaining the procedure. (Female Y1DB)

I guess if you knew what to do but didn't show empathy while you're doing (Female Y1DB)

if you said the right things but looked as though you didn't really care (Female Y1DB)

I'm not sure which way round it is though. Technically competent is when you can do it but without empathy and competence is all of it. (Female Y1DB)

if your communication skills are nonexistent then you're not going to be very professional (Female Y1DB)

it depends what you choose if you have someone who made you feel good about yourself but it may be didn't give you the best treatment but it wasn't bad treatment just was with someone else who's a poor communicator would give you excellent treatment (Female Y1DB)

some people think you can be professional by you know wearing a suit and carrying themselves well, but, in actual fact, where they actually communicate with people it might be a different story sometimes. (Female Y1DT)

all the things we were talking about professionalism comes into communication skills. If you're coming in late or not dressed correctly or something then they are not going to trust you, like we said earlier, all think of you as professional, so they went communicate with you. As you'd want them to.(Male Y1DT)

it comes back to the confidence again, verbal and nonverbal, if you walk into a room with a presence, an air of confidence without even talking, then people are going to have a little bit more trust in you. And when you do start talking you sort of, convey that confidence again, you're probably going to get more out of the patient than if you're looking of the floor or, say, mumbling. (Male Y1DT)

In later years of the programme, students were wrestling with different elements of communication.

I think, you could list professionalism as wearing the right stuff and not dressing inappropriately but I think if you don't have the communication skills then you can't do the same job, you're not going to be as good therefore you're not as professional.(Y3JG)

I think if you're bad at communicating you might also be bad at like understanding the patient, I've seen that quite a lot where they don't sort of, they're not on the same wave length with patients, and they just do the wrong thing for that patient. (Y3JG)

The year 5 students were rather more pragmatic

if you decided you are going to withdraw treatment from somebody then communication skills are an important part of that. But on a day-to-day basis when you're not giving pieces of difficult information they are not that important (Male Y5JG))

For all years, though, the importance of good communication was to build up rapport/trust with a patient

it's all the things again to instil confidence in the patient like even though they may not actually make that much difference to the care or treatment to the patient or these different things that you're doing which are professionalism, kind of have effect on the way the patient views you. I guess if patients (..unclear..) you with confidence then they are likely to give you a full detailed history, and are more likely to have a satisfied experience yeah (Male Y3DT)

yeah there is certain qualities that you need, you need to be able to relate to people and to get information out of people and I think it is something you can teach, it doesn't have to be there instilled think you already... overlap (Male Y3DT)

Yes, you can be friendly with a patient but come across completely unprofessional but the patient still trusts you, likes you and you have a good rapport and that's like primary concern I think. But…. (Y3JG)

Do the factors/domains identified through the previous elements of the study possess face validity?

Things possess face validity if they appear to fit with the thesis being developed. These results lend the factors and domains face validity, since the codes used to describe the text of the focus groups can be seen to fit the domains indicated by both the Q-sort study ("competence, caring and compassion") and the nominal/consultative group study (Competence Qualities and Relationships).

A useful concept in NVivo8 which can demonstrate this relationship is the Tree Node. Free nodes can be assigned independently to broader classifications ("Tree nodes"), which help in close analysis of related concepts. There is an argument that in "true" grounded research, the free nodes should arise naturally out of recurrent access to the data. In the event this would require the researcher to pretend not to

know the other data in the study. Instead the approach was taken to see if the nodes could be assigned comfortably to any of the domains. The resulting aggregation was checked by an independent psychology researcher, and discussed and on occasion modified by the researcher. In each disputed case, the issue related to "primary domain", in every case the code could be assigned to the area of overlap between two or more domains. Since the current work does not require that codes or terms should be uniquely assigned to a particular domain, the discussion follows on the basis of aggregation into the primary domains only.

Code	number of sources	number of references
ask for help	3	4
communication	6	105
competence	4	27
cost-benefit	1	1
Do your best	1	1
ethics	1	2
GMC guidelines	4	18
keep to rules	3	24
know limits of comp	5	39
knowledge	4	33
life-long learning	1	7
practice	2	8
prioritizing	2	3
safe practice	3	4
skills	4	16
uptodate	1	3
whistle blowing	1	13

Figure 40 Codes assigned to the "Competence Tree Node"

The majority of the 308 references to the 17 nodes coded under the "Competence Tree Node" concerned elements of "communication", "knowledge" and "knowing the limits of competence". Clearly, "ask for help", "know the limits of competence", could be combined. "GMC Guidelines " and "know the rules" are similarly related, and "competence", "knowledge" (and in this particular case "ethics"), "uptodate" "skills" and "life-long learner" could also be seen to fit in within a higher overarching theme. "Prioritizing", "Safe Practice", "Practice" related to gaining proficiency.

There was some difficulty in knowing where to assign “Do your best” and “Whistle blowing”, since they could equally relate to the competence domain, the personal qualities domain or the relationships domain.

The relationships between the statements themselves (rather than the codes) provide construct validity, as will be discussed later.

The “Qualities Tree Node” was the next most heavily populated, with 237 references to 20 Nodes.

Code	number of sources	number of references
appearance	3	22
attitude	4	19
behaviour	6	23
compassion	3	7
confidence	3	25
congruence	4	14
deal with criticism	1	1
disciplined	1	1
formal	1	1
Fitness to practise	3	7
honesty	5	23
integrity	2	10
Justification	1	3
lifestyle	1	3
public and private	2	26
punctuality	4	10
reliability	2	6
responsibility	1	5
role model	4	26
standing in the community	2	5

Figure 41 Codes assigned to the "Qualities Tree Node"

As with the “Competence Tree Node”, some further aggregation of codes would be possible, the interest comes, however, from the range of terms that students find helpful in describing personal qualities. Interesting issues in this tree node include the related issues of the doctor as a “role model”, their “standing in the

community", and a series of conversations about the balance between private behaviour and public responsibility. The term "formal", in this case could have been assigned to appearance, attitude or behaviour

> *Like does anyone watch Scrubs? They're not professional, they all get along with the patients but if you were like that then you wouldn't be professional.*
>
> *Professional is quite formal…*
>
> *Yes, formal, I think it is.*
>
> *I don't think it has to be formal, I think as long as you don't do anything too outlandish or you know, crude. But I can imagine (anonymised) can be quite relaxed with his patients it doesn't necessarily mean that you are unprofessional. (conversation in Y3JG)*

Code	number of sources	number of references
abuse of power	1	4
approachable	2	2
confidentiality	2	3
empathy	2	5
impression	4	5
non-judgemental	1	1
rapport	2	23
relationship with patient	4	30
respect for colleagues	4	12
respect for patients	4	12
respect OF others	5	14
respect other professions	4	7
stereotyping	4	6
teamwork	3	10
trust	3	22
values	2	2

Figure 42 Codes assigned to "Relationships Tree Node"

The "Relationships Tree Node" comprised 16 nodes referred to 158 times. The over-riding elements were those of "rapport" and "relationship with patients", these in turn leading to "trust". "Abuse of power" was seen as a negative attribute! "Respect" in various guises is seen as important, but

when it concerned “respect OF others” it was always in the context of gaining trust or compliance.

I think if you're not respected and the patient doesn't trust you then they're much less likely to comply with any ideas you tell them to do... all suggestions you might make about lifestyle. Seeing as you’re like dealing with people's lives, and is quite an important thing and you're making lots of important decisions. If the patient’s don’t respect or trust you then I don't see how they can put their lives in your hands. (Male Y1DT)

Do the factors/domains identified through the previous elements of the study possess construct validity?

This has been touched upon above. Construct validity is when the construct “hangs together” and therefore has some predictive value. In this study, a proxy for that would be how often terms within each of the domains are used in the same context, or to amplify the explanation. So, in the example above, “respect” and “trust” are linked.

Because of the degree of overlap between the different domains, there is a degree of overlap between the constructs. An example would be something originally coded under “attitude”, “appearance”, “communication”, “behaviour”, “public and private” and “impression”

I think professionalism is a bit related to the way people behave not only at work but also in their private life, when in the public arena, the way somebody dresses at work, their general appearance their manners, their attitude. Maybe how they speak to people, how they communicate generally, how they come across. (Female Y1DB)

“Competence”

The strongest relationship between items within the “Competence Tree Node” is between “competence” and “communication”.

they are the two most important bits, the competence on the communication skills but I think you need the competence more than the communication skills. Without the competence in the first place then the communication skills are useless. (Male Y1 DT)

you need to be able to communicate to be competent at a professional level (Male Y5 JG)

“Competence”, however is seen as encompassing much more, particularly as students progress through the programme.

Well, I think they are all the same thing aren't they? You'd be a competent doctor if you knew your limits and that encompasses everything technical, like you know you're competent, you know, it's everything, I think it's all one and the same. Competence is like a blanket term and it encompasses a lot of different things. (Y3 JG)

And it doesn't necessarily mean you are incompetent if there is something you can't do. The competence comes by recognising you can get someone to help you, or extra training or whatever. (Y3 JG)

The theme of personal development and life-long learning was also articulated explicitly.

So you're constantly learning new not just learning whilst at medical school and then that is just it, you continually learn throughout your career. (Female Y1DB)

and then each time try and practice a little bit and then build yourself up in experience and do more procedures (Male Y1DB)

The ability to manage time, and prioritize, was seen as important, although this was also seen as being to do with relationships with others.

> ***OK so, professionalism is about communication skills, but is there more to it than that? (facilitator DT)***
>
> *you need to have organization as well, and the degree of like, you got learn to use your time, is quite important in a professional relationship because you got loads of things to do you got to like know about prioritizing and (overlap) (Female)*
>
> *and teamwork skills, they're important as well in being professional, aren't they? (Male)*
>
> *and just in the sense of like chatting to a patient I think they're the things of importance as well obviously, there's a lot more to it than just good rapport with the patient. You've got to be able to manage a time, like if you're in the consultation, you've got to work with other professionals. Things like that (Male Y3DT)*

As mentioned at the start of the section, whistle blowing was seen as being an important concept – both in terms of monitoring one's own fitness to practise, and protecting the patients from others.

I think it would be unprofessional of you if you sat in front of other people , if you got a drink problem or if your attitude towards the patient was awful, you have to be professional in the way you deal with it (overlap) (Female)

if you didn't recognize it at all that would be unprofessional as well if you like ignore it (overlap) (Male)

if you suspect that you or somebody else is causing harm to a patient, if you think that behaviour is damaging the patient you've got to do something about it (overlap) (Female)

it's really hard to do though, to talk about it, if it's a colleague and if it's somebody you've been friends with for a long time (overlap) (Female)

if it's somebody senior (overlap) (Female)

yeah it would be quite a hard thing to do but you'd have to do it. (FemaleY1DB)

"Qualities"

Behaviour, attitude and appearance were seen as important personal qualities, but largely because of the way they could inspire trust.

Yes, the way you behave in front of patients. (Y3 JG)

I think its acting in a way in which the patient would expect a doctor to act, so that it would give them confidence in you. (Y3 JG)

Honesty and integrity were areas that the students found it difficult to address, as they touched on several different concepts.

Do you mean, like other doctors? But I think to be honest you can kind of be more honest and more yourself around them. Unless it's in a clinical situation in front of a patient. When it's just doctor to doctor I think you can be a bit less formal, unless it's like the consultant, in which case….(Y3JG)

you can't teach people to be honest and have integrity it's basically if you don't have it you don't have it I suppose you could make personal efforts to improve but if you don't have the basics (Female Y1 DB)

it just seems to be one of those things that underlies everything we've kind of discussed today, underneath everything if you don't know where the grey areas are and the blurry margins, if you can't approach everything with a sense of integrity... it underlies everything and is a good

foundation to build on (Male Y3DT)

Compassion was not considered at all by the year 5 students, but was raised by students in years 1 and 3, who saw it as something that came from one's life experiences.

you can still learn through life experience for instance if they weren't compassionate to people who smoked but then they had had like someone close them who died from lung cancer they could become compassionate then (Male Y1DB)

Like many of the other attributes, however, it was seen as a means to an end.

it comes into communication skills like compassion, if there's a patient in front of you whose upset you got to react to that and like make them feel more comfortable so they can help you with the things you've got to find out. (Male Y1 DT)

A telling comment was the following – from a student who thought that honesty and integrity were:

...(associated) with being a doctor rather than being professional.(Y3JG)

The difficulty with defining the whole domain was articulated by a year 1 student.

that's kind of comes through personality as well, say, you wouldn't change your personality, well, you can't change it but it's not for different situations but the baseline, all those values are intermingled with your personality.

The most contentious aspect of the "qualities tree node" is the consideration of "public/private" agenda the "role model".

> ***are you ever off duty? (facilitator, DT)***
>
> *to a certain extent, that you can't be like chatting on the bus about what you see (Male)*
>
> *you got to act when you're off-duty like it doesn't bring a bad name to the people you work with all yourself (Male)*
>
> *yeah so if you go out get smashed and you're like, I'm a Dr., that's not...(Male)*
>
> *in the public, to a certain extent, you're always on duty (Female)*
>
> *yeah if somebody sees you in a certain way in the public, and then they go to the doctor next day, and you're sitting there, and they've just seen you like without any trousers on...*

(Male)

laughs and groans. (Background)

that's often happens does it? (facilitator. DT)

it's a bit extreme! (Male Y1DT))

"Relationships"

The key themes in "relationships" are "respect" for other colleagues as well as patients and "relationships with patients"

certain standards are expected of you no matter what's happening. Even if you're tired or have a bad day. Then you've got to turn up on time, pull yourself together, even if someone is shouting at you.... you have to give a professional answer back to them….. you have to build a relationship with them (Female Y5JG2)

yeah with respect and being polite it encompasses so much it's like not only your patients but just everybody you meet you got to be polite to them not to offend people, and all the sort of thing so that's not just following the role of doing it with your patients that kind of applies to everything. (Male T1DT)

show respect for people you work with as well as your patients. I don't know. If you're looking at professionalism in a medical career it is to do with respect for each other and your patients. Also not just the of the doctors but also the nurses.(Female Y1DB).

and just in the sense of like chatting to a patient I think they're the things of importance as well obviously, there's a lot more to it than just good rapport with the patient. You've got to be able to manage your time, like if you're in the consultation, you've got to work with other professionals. Things like that (Male Y3DT2)

A good doctor treats their team well (Female Y5JG2)

Not all experiences were positive, however,

think, um , they teach "hierarchy in medicine", some people seem to think that they are in charge, and they don't respect the younger, lower grade members of the team "coz they know best"– and I think that is unprofessionalism, arrogance (Female Y5JG2)

The fundamental issue, , and the reason that the other factors mattered, was articulated as "trust"

if your patient has any inkling that like you may not know what you're doing, then that's definitely

not professional, if you're not letting them think that you know what you are doing because then they're not going to trust you 100% are they? It's defeats the whole point of the relationship if they don't trust you. You're not going to get the information you need and you're not going to get them to adhere to what you're saying (Female Y1DT)

Conclusion

In summary, then , the way that the students talk about the various elements of professionalism, and the terms they use to emphasise and explain the different concepts, lends construct validity to the factors identified through the Q-sort process, and the domains coined by the nominal/consultative groups.

The next stage

The next stage of the process is to develop an instrument that will allow us to observe the changes that occur in a student's understanding of professionalism as they progress through their career.

Chapter 6: Development of the instrument

Any instrument that is developed needs to be quick and easy to complete and should provide feedback to the student, in order to help them reflect upon their progression. It also needs to be something that can be completed by others (enabling peer assessment), and it needs to possess reliability and validity in and of itself.

Items

This study has shown that there are several domains to professionalism although they probably overlap. The key attributes of professionalism have been highlighted not only in the literature, but also through the Q-sort, the nominal/consultative group processes and the focus groups. Some elements, such as competence or communication skills are so broad or fundamental that there is little value in using them for self assessment, they are more properly testified to externally.

Since the Q-sort study showed that the relative importance of "personal qualities" increased, it has been determined that the best way forward is to construct the instrument from the outset, to ensure that the development of the themes can be observed.

Furthermore, whilst students recognise that some elements of professionalism are important (giving patients information they can understand, knowing the limits of professional competence, respect for others), there are others that we as faculty would wish to be assured of (whistle blowing, critical thinker, submitting to an ethical code).

Consequently the researcher has selected 20 items, which are

- Items from the Q-sort (or paraphrases thereof)
- Important to students
- Important to Faculty
- Understandable to students
- Trackable against
    - The student factors form the Q-sort
    - The nominative/consultative group domains

- van der Camp's domains

The items are:

- Critical thinking
- Technical competence
- Good clinical judgment
- Know the limits of professional competence
- Ask for help when necessary
- Give patients information they can understand
- Courage
- Altruism
- Submission to an ethical code
- Caring
- Compassionate
- Reflective
- Trustworthy
- Leadership
- Blow the whistle
- Respect for others in the team
- Respect patients rights of shared decision making
- Protect confidential information
- Professional conduct.

Their distribution across our domains, together with the scores allocated to them by different cohorts in the Q-sort, are shown below.

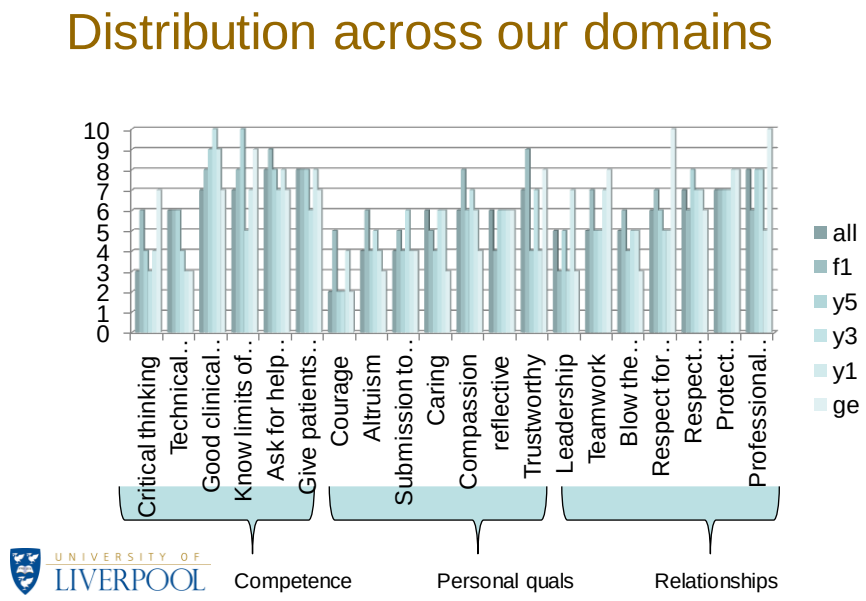

Figure 43 Distribution of the proposed elements across the domains (after Taylor 2008), the score on the X-axis is the modal score from the Q-sort study.

Although this would be sufficient as an instrument, it is also felt to be necessary and valuable to gain an impression of how important each of these elements is to the respondent at that stage in their career/development. It was decided, therefore to use a variation of a diagnostic instrument used with some success in the past (Taylor 1996; Taylor 1997)

The instrument

The instrument, shown overleaf, is a Likert style questionnaire with two components "this describes me/my colleague" and "At this stage in our career....". Each of the items chosen for the instrument is scored for each category, over a 5 point Likert scale. Descriptors have been used to anchor the responses at the ends of the scale and at the mid-point:

This describes me

Hardly ever	About half of the time	Always

At this stage in our career

This is not important	this is desirable	This is essential

In one instrument, therefore, we obtain two pieces of information: the extent to which the respondent meets the criterion, and the degree of importance they attach to it. Both of these are valuable, independently, but they have particular use when plotted against each other. It will also be noted that the instrument is designed to be used for peer- (This describes my colleague) as well as self-assessment (This describes me).

Professionalism profile for: **Date:** **year group**

Please complete both halves of the questionnaire. The items cover several domains, and no one would be expected to score highly in all domains

	This describes me/my colleague						At this stage in our career				
	hardly ever		About half of the time		always		This is not important		This is desirable		This is essential
Altruistic	O	O	O	O	O		O	O	O	O	O
Asks for help when necessary	O	O	O	O	O		O	O	O	O	O
Blows the whistle if necessary	O	O	O	O	O		O	O	O	O	O
Caring	O	O	O	O	O		O	O	O	O	O
Compassionate	O	O	O	O	O		O	O	O	O	O
Courageous	O	O	O	O	O		O	O	O	O	O
Critically thinking	O	O	O	O	O		O	O	O	O	O
Give patients information they can understand	O	O	O	O	O		O	O	O	O	O
Good clinical judgement	O	O	O	O	O		O	O	O	O	O
Know limits of professional competence	O	O	O	O	O		O	O	O	O	O
Leadership	O	O	O	O	O		O	O	O	O	O
Professional conduct	O	O	O	O	O		O	O	O	O	O
Protect confidential information	O	O	O	O	O		O	O	O	O	O
Teamwork	O	O	O	O	O		O	O	O	O	O
Respect for others in the team	O	O	O	O	O		O	O	O	O	O
Respect patients rights of shared decision making	O	O	O	O	O		O	O	O	O	O
Reflective	O	O	O	O	O		O	O	O	O	O
Submits to an ethical code	O	O	O	O	O		O	O	O	O	O
Technically competent	O	O	O	O	O		O	O	O	O	O
Trustworthy	O	O	O	O	O		O	O	O	O	O

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Figure 44 Layout of proposed instrument, a two component Likert-style questionnaire

The student could complete the instrument at several stages throughout their career, and track their progress, in the sense of seeing how they were performing in each of the elements or domains. They can also chart how they perceive the different elements as increasing or decreasing in importance.

For intervention purposes, however, plotting one half of the questionnaire against the other can indicate areas where intervention is needed.

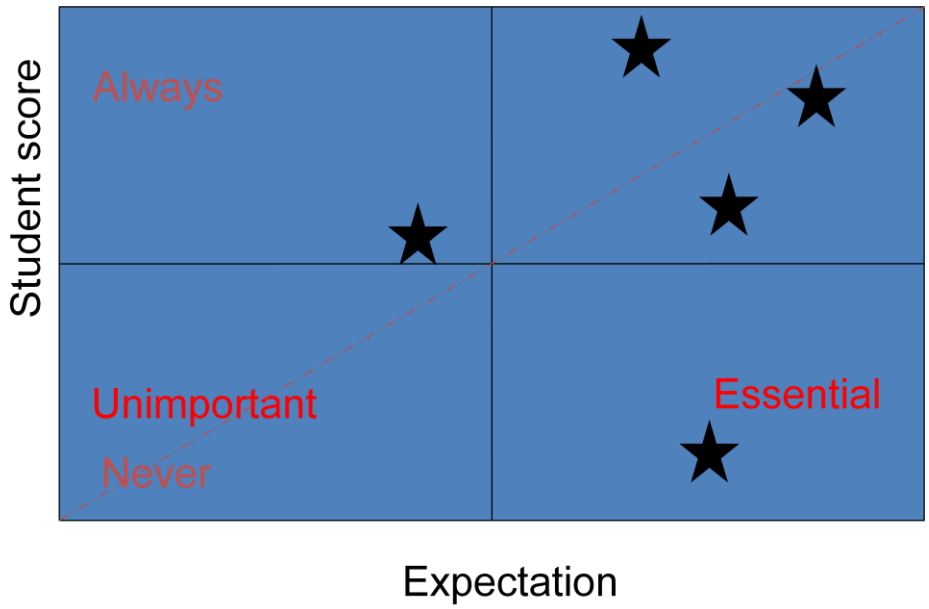

Figure 45 Graph showing the diagnostic value of the instrument (after Taylor 2008)

At any given stage of a student's career, some things are not regarded as important. It is therefore not necessary to worry about the student's performance in that area (left-hand side of the graph). Other elements are seen as essential, and provided the student is demonstrating them, then arguably there is no problem (upper right quadrant of the graph). However, if something is seen as essential, and the student is not demonstrating it, then there is reason for intervention (lower right hand quadrant of the graph). This approach has recently been adopted (together with the instrument) by the Actuarial Association of South Africa (Taylor 2008).

Validity and reliability

The instrument has a sound research base, and demonstrably covers elements that are important both to students and in medical practice. The domains possess both face and construct validity, as do the individual elements, as discussed above.

The next stage in the process is to establish reliability – "the purity and consistency of the measure" (Oppenheim 1992). That element of the study requires a reasonably large sample size (Bryman 2008), but an indication that the instrument may possess reliability can be obtained from a statistical review of a pilot study. Eighteen participants of the SAAHE 2008 workshop were asked, in the second half of the workshop to complete the questionnaire. Cronbach's alpha, taken as a measure of reliability, was 0.68 (0.74) for the "This describes me" section of the

questionnaire, and was 0.78 (0.77)for the "At this stage in our career" questionnaire. Given the heterogenous nature of the (relatively small) population these results are acceptable (a Cronbach's alpha of 0.6-0.8 is normally regarded as appropriate in social science research).

One of the potential strengths of this instrument is that it has been constructed from items which are known to contribute to different domains, and it must therefore be possible to assess the reliability of the questionnaire in describing each of those domains.

Competence	**Qualities**	**Relationships**
Critical thinking	Courage	Leadership
Technical competence	Altruism	Teamwork
Good clinical judgement	Submission to ethical code	Blow the whistle
Know limits of competence	Caring	Respect for others in the team
Ask for help when necessary	Compassion	Respect patients right of shared decision making
Give patients information they can understand	Reflective	Protect confidential information
	Trustworthy	Professional conduct
Reliability analysis *(Cronbach's alpha)* "describes me" upper row "at this stage in my career" lower row		
0.75	0.16	0.51
0.77	0.27	0.57

Figure 46 Reliability statistics using the domains assignments from the Liverpool and Q-sort study

Described Scale

Competence

With a Cronbach's alpha of 0.75, the scale possesses reliability; the highest contributor to the reliability is the communication element, the smallest contributor "critical thinking".

Qualities

Cronbach's alpha is very low (0.16), but this is because "caring", "Compassion" and "submits to ethical code" show negative average co-variance, suggesting a mathematical coding problem. It could be a consequence of the small heterogenous sample size.

Relationships

The scale just about achieves reliability at a Cronbach's alpha of 0.51, the largest detractor from the reliability is the "whistle blower" element.

Expected Scale

Competence

With a Cronbach's alpha of 0.77, the scale possesses reliability, the highest contributor to the reliability is good clinical judgement, the smallest contributor "critical thinking".

Qualities

Cronbach's alpha is very low (0.27), but this is because "caring", "Compassion" and "submits to ethical code" show negative average co-variance, suggesting a mathematical coding problem. It could be a consequence of the small heterogenous sample size.

Relationships

The scale just about achieves reliability at a Cronbach's alpha of 0.57, the largest detractor from the reliability is the "whistle blower" element.

This initial run, using the "Liverpool" domains, and the Q-sort factors, is useable, but disappointing. Cronbach's alpha of 0.8 indicates that with repeated measurements, the error component of the measurement is more than a third (100-(8x8)=36%). So for the above scales the estimate of error lies between 36 and 90%, which is clearly inappropriate.

Using the aggregations suggested from the SAAHE conferences the questionnaire was reanalysed, including the responses from 70 first year students who completed

the questionnaire as part of the pilot.

Competence	**Qualities**	**Relationships**
Ask for help when necessary	Altruism	Altruism
Critical thinking	Asks for help	Asks for help
Give patients information they can understand	Blows whistle	Blow the whistle
Good clinical judgement	Caring	Caring
Know limits of competence	Compassion	compassionate
reflective	Courage	Leadership
Technical competence	Gives patients information they can understand	Professional conduct
	Good clinical judgement	Protect confidential information
	Knows limits of competence	reflective
	Leadership	Respect for others in the team
	Professional conduct	Respect patients right of shared decision making
	Protect confidential information	Teamwork
	Reflective	
	Respect for colleagues	
	Respects patients rights of shared decision making	
	Submission to ethical code	
	Trustworthy	
Reliability analysis *(Cronbach's alpha)* "describes me" upper row "at this stage in my career" lower row		
0.69(staff)/0.61(students)	0.71(staff)/0.79(students)	0.60(staff)/0.71(students)
0.77(staff)/0.66(students)	0.78(staff)/0.76(students)	0.67(staff)/0.68(students)

Figure 47 Reliability statistics using the domains assignments from the SAAHE study

Cronbach's alpha for the "describes me" elements of the questionnaire is 0.82. Using the split-half measure of internal validity, the "describes me" elements of the questionnaire achieve reliability (Guttman Split half coefficient 0.76).

Chronbach's alpha for the ""at this stage" elements of the questionnaire is 0.79. Using the split-half measure of internal validity, the "at this stage" elements of the questionnaire does not achieve reliability (Guttman Split half coefficient 0.63).

Chapter 7: Discussion

Methodology

This study has employed a number of methods appropriate to the stage of the investigation; these included both quantitative techniques and qualitative techniques. The literature review indicated that there was a need for an instrument which would help students monitor their development of professionalism, and give guidance to their colleagues in completing peer evaluation. It became clear that there are many ways of describing professionalism, and that a profile is more important than an absolute score (Gauger, Gruppen et al. 2005). The aim of this study was to devise such an instrument, which ideally would be written in terms understood and valued by students. It should be informative, possess diagnostic value, and oblige the students to consider the meaning of professionalism. It needs to possess validity and reliability, and be transferrable to several cultures and contexts.

Study population

The main study population was undergraduate medical students, spanning years 1, 3 and 5. These cohorts were carefully chosen. All students entering a medical programme must, as a criterion for admission, have some knowledge and experience of the healthcare system, although few will have borne any clinical responsibility. In consequence, this population are likely to comply with Sean Hilton's criteria of being naive and idealistic (Hilton 2004; Hilton and Slotnick 2005). In Liverpool, as in most UK medical schools, there is limited clinical contact in the first year, but this increases markedly into the second year, and by the time the students are engaged in the third year they have already had some experience of medicine (in a hospital and community setting) and surgery, and spend the third year in a series of specialities. In Liverpool this is Obstetrics and Gynaecology, Paediatrics, "Disability" (observed in a community setting), neurology and psychiatry, and a rotation based principally around therapeutics. They therefore have a range of clinical experiences, and are starting to encounter challenging moral and ethical issues. The fifth year at Liverpool is a clinical apprenticeship. The

students sit their final written and clinical examinations at the end of fourth year, and are assessed in fifth year entirely by the discussions surrounding their portfolio. This is as close to their role as doctors as is possible without the associated responsibility which follows graduation.

Through good fortune, it became possible to include a small number of newly graduated doctors in the study population. They hold no legal responsibility for signing prescriptions, since they only hold provisional registration, but in a very real sense they bear the burden of determining when more senior staff should be involved in the care of patients.

The final group of participants were professional healthcare educators, from both the UK and South Africa, who were important in the nominal/consultative group processes. These had the important role of supplying a healthcare professional perspective, drawn from a wide range of cultural and professional backgrounds.

Q-sort study

The initial element of the study was a Q-sort technique, in which individual students ranked a series of statements in strict order of preference. The statements were drawn from a systematic review of the literature on professionalism(Van de Camp, Vernooij-Dassen et al. 2004). The search terms had been determined from the seven elements of professionalism identified by Cohen (Cohen 2001). The Q-sort was used because the meanings and importance of the terms used in the formal literature does not necessarily represent the meaning and importance of that concept in real life, and certainly not how it might be construed by a medical student.

In common with Cohen's hopes and expectations (Cohen 2001) we found that competence was uppermost in the student's minds. However, whilst competence (in several shades of meaning) was highly valued throughout the early years of a medical student/doctor's career, personal qualities achieved a dramatic importance for the newly qualified doctor.

The limitations of the Q-sort study are principally statistical. It is an enjoyable exercise, and it obliges the participants to reflect closely upon the subject in hand.

The game-like nature of the task helps to ensure engagement, and participants genuinely seem to care about the outcomes, all participants recommended taking part to their friends, and two actually brought their friends along afterwards to try it. The simplest level of interpretation is to observe the absolute popularity of the different items. In this study it proved convenient to use the modes of the scores attributed to each of the elements. Without question the most important factor was competence, (Figure 9) followed closely by issues surrounding communication ("Communication skills" and "Give patients information they can understand"), knowing the boundaries of one's competence (Ask for help when necessary" and "Know limits of professional competence") and personal qualities such as honesty. These all figured for the newly graduated doctors, but honesty was by far the most important element (Figure 15).

The contentious area around the Q-sort study is the factor analysis. Much of the mistrust of the methodology comes from the situations where is it used as a Q-analysis to identify different groups of people according to their responses. Quite rightly, in this situation, a very large sample size is needed to provide statistically reliable information. The earlier Q-sort studies(Block 1961; Brown 1980) used centroid analysis to provide the factors, and the detractors consider that centroid analysis is self-fulfilling, in that it is likely to give the answer that is sought (Norman and Streiner 1999). Three approaches were used to counter this difficulty.

1. The Q-sort technique was used as the basis for an R-analysis (to group the items rather than the participants)
2. Principal components analysis following varimax rotation was used to determine the factors.
3. The results were independently validated by two different qualitative methods.

Aggregating the data from all respondents, three factors were identified that accounted for 42% of the variance. The largest factor was connected with competence, in its widest sense, with two smaller factors associated with personal qualities and caring and judgement (Figure 17). The results were stronger for the newly graduated doctors with two factors (communication skills/judgement and accountability/honesty) accounting for 52% of the variance (Figure 18).

Nominal/consultative group study

The next stage of the study was to check the validity of the factors. Whereas Q-sorts are performed by individuals, this element of the study required discussion and negotiation from small groups of participants. The study was developed over two successive years and involved the participants of workshops at the annual conferences of South African Association of Healthcare Educators in 2007 and 2008. The participants were drawn from a wide range of professional backgrounds, communities and cultures, because it is hoped to be able to use this instrument internationally. All of the participants were healthcare educators, which included nurses, physiotherapists and dieticians as well as the expected and necessary doctors and dentists. They ranged in seniority, and although this was unimportant in the design of the first workshop, it meant that the groups had to be managed in the second workshop to ensure that everyone had a voice.

Rather than use the same list of items proposed by van de Camp(Van de Camp, Vernooij-Dassen et al. 2004), the first workshop was asked to provide a list of items (Figure 21). The list was very similar, with the notable addition of "conflict management" and "respect for others", the discussion, however was very different from that experienced in a similar expert reference group in Liverpool (Figure 22). This might be attributed to the involvement of many of the participants in the SAAHE conference in the country's development out of apartheid. Notwithstanding that, the similarities are striking.

The expert working group met only once, to identify items and put them into cognate clusters. They found it helpful to use eight domains

- How the person acts
- Society
- Attributes
- Working with others
- Meeting expectations
- Communication skills,
- Motivation
- Knowledge/behaviour/experience

The contents of the clusters were very similar to the output of the SAAHE 2007 conference, but after a year's reflection and discussion, the final clusters were much broader and defined as

- Competence (Figure 31)
- Personal Qualities (Figure 32)
- Relationships (Figure 33)

There was an insistence that there was a great deal of overlap, and relationships only "overlapped", in other words, there was no element of "relationships" that was not also associated with either "competence" or "personal qualities" or both.

This element of the study provides validity to the factors derived from the Q-sort. The similarity of the items lends face validity to the whole study and the content of the "competence" and "personal qualities" clusters lends construct validity to those domains. The third domain identified in the nominal/consultative group study, relationships, had no parallel in the Q-sort study, but that could be because it becomes "hidden" due to the interrelationships of the terms employed. For this reason it was felt necessary to use a third process to try and uncover the meaning of various terms used, and to determine how those terms were applied by students.

Focus Group study.

The participants of the focus group study were drawn from the same year groups as those in the Q-sort study, although because of the passage of time, they were not from the same cohorts. Two focus groups were held with students from each of years 1, 3 and 5. Although two groups from each cohort would normally be insufficient to give saturation of data, several factors led to the positive outcome.

- Students were experienced in problem-based learning
- Students were in groups with people with whom they were very familiar
- Facilitators were experienced in leading small groups/focus groups
- The prompts from the facilitators were clear and uniform
- The session was structured by the facilitators to address the pertinent issues

The focus group study proved a very rich source of data, and opened some themes that had not been expected.

In terms of the main question, "Competence" was seen to encompass technical clinical and communication skills, the knowledge base, and being aware of one's limitations. This is amply summarised by a fragment of a conversation from one of the year 3 groups:

> *Well, I think they are all the same thing aren't they? You'd be a competent doctor if you knew your limits and that encompasses everything technical, like you know you're competent, you know, it's everything, I think it's all one and the same. Competence is like a blanket term and it encompasses a lot of different things. (Y3JG)*
>
> *And it doesn't necessarily mean you are incompetent if there is something you can't do. The competence comes by recognising you can get someone to help you, or extra training or whatever. (Y3JG)*
>
> *Just knowing your own ability, that fact can make you competent. (Y3JG)*

In a rather tortuous and disjointed stream of logic, the following came from a series of unrelated statements in a year 1 focus group:

you can't have professionalism without competence. You can act professionally, but I don't think you can be professional if you are incompetent. (Male y1DT)

building on that, I suppose as you said, competence is the base for everything, and professionalism is having the ability to carry it off. (Male Y1 DT)

you could say that's professionalism is a subset of competence but actually the two go together and it's impossible to be one without the other. (Male Y1 DT)

Competence, therefore, is seen as an essential pre-requisite of professionalism in the early years of the medical programme. A rather more jaundiced view comes from the fifth years, who were much more focussed on the ability to perform technical skills, and had this conversation:

> *if you decided you are going to withdraw treatment from somebody then communication skills are an important part of that. But on a day-to-day basis when you're not giving pieces of difficult information they are not that important (Male Y5 JG)*
>
> *you need to be able to communicate to be competent at a professional level (Male Y5 JG)*

I will be honest, I would rather the Dr. who was technically competent and couldn't speak to me than one who could communicate but didn't know what he was doing (Male Y5 JG)

This degree of focus might be due to jaded students being the cynical phronetic end point of Hilton's proto-professional model (Hilton and Slotnick 2005). This has been observed for generations, as the redoubtable William Osler wrote

> *Many of you will need a strong leaven to raise you above the dough in which it will be your lot to labour. Uncongenial surroundings, an ever present dissonance between the aspirations within and the actualities without, the oppressive discords of human society, the bitter tragedies of life, [.....], beside the hidden springs of which we sit in sad despair – all these tend to foster in some natures a cynicism quite foreign to our vocation, and to which this inner education offers the best antidote.*

Osler (1849-1919) published posthumously in 1932 (Silverman, Murray et al. 2003)

An alternative and possibly preferable explanation is that it could simply reflect their personal worries as they near graduation, and are expected to be able to perform many complex tasks with very limited supervision.

The strongest vindication for the Royal Colleges' assertion that trust underlies all (Royal College of Physicians 2005) comes from this year 3 student

it's all the things again to instil confidence in the patient like even though they may not actually make that much difference to the care or treatment to the patient or these different things that you're doing which are professionalism, kind of have effect on the way the patient views you. I guess if patients (..unclear..) you with confidence then they are likely to give you a full detailed history, and are more likely to have a satisfied experience yeah (Male Y3DT)

Each of the themes within the focus groups were identified, and "coded". The individual codes were then aggregated into "Tree Nodes", the descriptions and contents of which corresponded to the three domains identified in the previous study (Figures 40-42). This provides the domains with face validity.

The way in which elements of each domain are clustered together in the student's conversations, as illustrated throughout the results section (pages 43-47, 52-57)

provide construct validity because students are using concepts that they feel are related to clarify their thoughts.

The instrument

The instrument was developed as outlined in chapter 6, and has been piloted with 70 year 1 students. They were given time to complete the instrument during a lecture on "whistle blowing", and participation was entirely voluntary and anonymous. It was explained that returning a completed questionnaire was taken as implied consent. The response rate was approximately 73%, of the 95 medical students present at the start of the lecture on "whistle blowing", plus 20 dental students who completed the questionnaire, but whose data was not included in the analysis.

The validity of the items in the instrument stems from the validity attributed to them through the nominal/consultative group process and the focus groups. The issue of statistical reliability is another matter. All of the tests for reliability rest on the presumption that the data is continuous rather than ordinal. There are serious arguments about this within the literature (Jamieson 2004; Jamieson 2005; Pell 2005), but such tests are still regarded as the gold-standard(Oppenheim 1992; Bryman 2008; Punch 2009). The view taken here is that statistical measures of reliability can be informative (since the data is drawn from relatively large samples and is normally distributed), but they should not be over emphasised. It is far more important that the data "hangs together" in an acceptable fashion and makes sense. Dependability is perhaps the better concept, where it is necessary to demonstrate (as has been possible here) that the findings show meaningful parallelism across data sources, contexts and times (Miles and Huberman 1994).

That caveat aside, the initial assignment of items to the "Liverpool" domains and the Q-sort factors yielded reliability coefficients that were reasonably good for the "competence" domain, but very poor for the "qualities "and "relationships" domains (Figure 46). This is due, at least in part, to the small number of items within each domain, and also to the data relying on a small sample size, and participants who were drawn from the participants of the 2008 SAAHE conference. Closer reflection on the data, including the nominal/consultative and focus groups however, leads to the inescapable conclusion that some of the elements of the questionnaire contribute to more than one domain.

Using the " SAAHE" domains the reliability statistics are much more appropriate (Figure 47) poorest reliability comes from the "competence domain" (but we have other ways of assessing competence), but there is very good reliability for the "qualities" and "relationships" domain.

The instrument can be used in several ways, in both peer- and self-assessment. Each of the scales can be used independently. So the instrument can give the assessor (whether that is the student themselves, or an appraiser) an idea of how often the student demonstrates a characteristic (or appears to demonstrate that characteristic to a peer-observer). The instrument can also give the assessor a measure of the importance attributed to each attitude.

The real strength of the instrument, however, is that it can allow the two concepts to be examined together. The figure below shows the pooled results for the 70 students who participated in the pilot.

Figure 48 A plot showing the relationship between the "describes me" scale and the "Expected of us" scale for 70 first year students

Most of the data lie comfortably within the top right-hand quadrant (refer back to Figure 44 for discussion of this). The two highlighted outliers show that, in the students perception, we do not require them to be courageous at this point in their career, and that they would be unlikely to "whistle blow". This observation has

already had the consequence that we have instituted a new, more supportive policy for reporting on adverse experiences.

The individual results also possess benefit, because it allows us to concentrate our support in particular areas with individual students. Student 27 in figure 49, for instance, realises that they are unlikely to give patients information in ways that they can understand it. This might be because they feel they have not been given the training so to do, or it might mean that they need more opportunity to demonstrate their skill – this could be clarified during an appraisal session, and the appropriate measures undertaken.

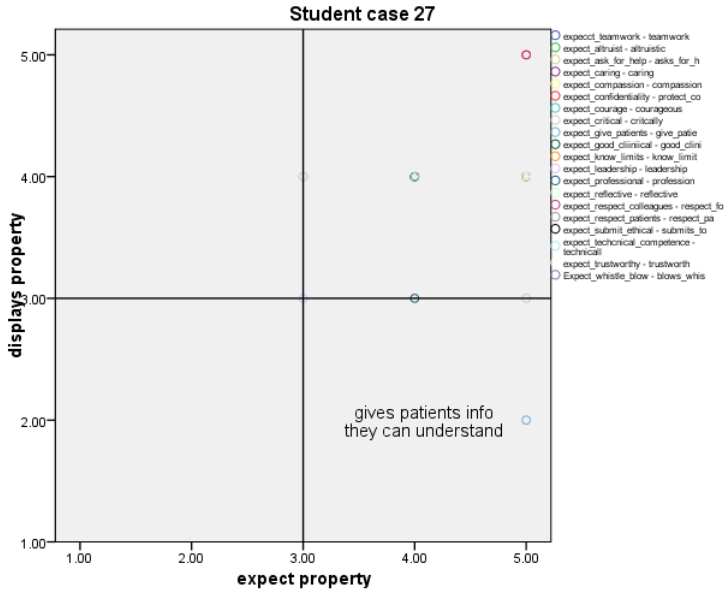

Figure 49 Plot showing the diagnostic value of the instrument – lack of experience or lack of ability?

Student 31, (figure 50) however considers that we do not expect students to report problems with staff or students ("whistle blow"), and recognises that they do not feel courageous. Again, this would be valuable information at appraisal, and give the student and appraiser the possibility to discuss the underlying problems or misconceptions.

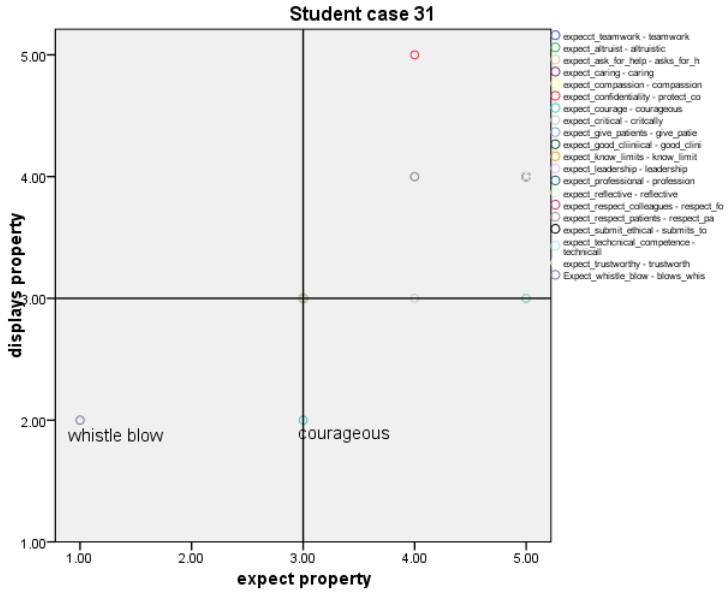

Figure 50 Plot showing the diagnostic value of the instrument – misconception and/or timid?

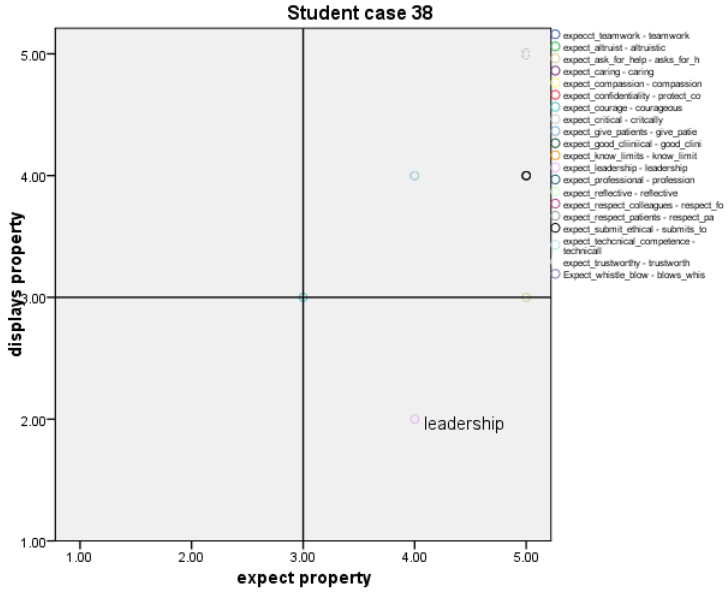

Figure 51 Plot showing the diagnostic value of the instrument - training or demonstration?

Similarly, student 38 (figure 51), clearly feels that they need to enhance their leadership skills, or alternatively, we need to find avenues to allow them to develop or demonstrate their leadership skills. This instrument has value in self assessment, but also provides a structure for peer assessment.

Used in conjunction with an appraisal process, this instrument will form a valuable addition to the information available to both parties, and although it has been developed for use with students, the pilot study with healthcare educators indicated

that it has a value for continuing professional development. It has already been adopted by the Actuarial Association of South Africa as a way of targeting professional development(Taylor 2008), and further work in this area is planned.

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