



Assessment of Professionalism in Dentistry

Sandra Zijlstra-Shaw

**A thesis submitted in partial satisfaction
of the requirements for the award of the degree of Doctor of Philosophy**

**School of Clinical Dentistry
January 2015**

**Supervisors: Professor Peter G. Robinson
Professor Trudie E. Roberts**

Acknowledgements

Firstly, I would like to thank my supervisors, Professor Peter Robinson and Professor Trudie Roberts. In the beginning Peter described the process of working towards a PhD as a journey. The original inspiration for this journey was Professor Oene Hokwerda, whose shining example of professionalism taught me so much.

Peter and Trudie, without your inspiration this journey would have remained a dream and would never have started. Moreover without your patience and perseverance it would never have been completed.

I would also like to thank Professor Paul Speight, Professor Andrew Rawlinson and Professor Chris Franklin who all played a part in providing time and a research fellowship, which allowed me to carry out this research.

Further, I would also like to thank all the staff of the School of Clinical Dentistry, University of Sheffield, for their unfailing encouragement. Knowing that I had only to walk along the corridor for help, advice or support has been a vital part of this journey.

I would especially like to thank the participants in the qualitative study, for giving me their time and allowing me to interview them. Without their honesty and integrity this work would not have been possible. I am also indebted to all the Outreach staff for their participation and the students who made the "Class of 2014" so special. Thank you all for agreeing to take part in the evaluation study.

Finally I would like to thank my husband, Tim, for his encouragement and understanding.

Abstract

Aims

Professionalism is an essential competence for dental professionals and must therefore be assessed in dental education. This research aimed to develop an instrument to assess professionalism within dentistry.

Materials and Methods

The work was conducted in three stages:

1. a qualitative in-depth interview study, using framework analysis
2. an assessment strategy was devised and panel tested using focus groups;
3. an assessment tool was evaluated in a test validation study conducted in dental outreach placements.

Results

Professionalism was conceptualised as the manner in which one reflects on and reconciles different aspects of professional practice and which demonstrates acceptance of professional responsibility. It is manifest in the manner in which work is carried out. It contains both tacit (self-awareness, awareness of others, trustworthiness, and ability to relate to context) and overt (vocational, altruistic, responsibility and accountability) aspects.

Panel testing supported the face and content validity of the system.

In a cohort of 81 dental students, staff and student ratings were correlated, all item total correlations exceeded 0.66 and all alphas exceeded 0.95. The intraclass correlations of all domains exceeded 0.96. All hypothesised relationships between domains were significant but domain scores were unrelated to student age or gender. Domain scores correlated with teachers' global ratings of students' professionalism.

Conclusions

The assessment system is valid and reliable and should be implemented in undergraduate dental education.

Assessment of Professionalism in Dentistry

1.	Introduction	6
2.	Literature Review	10
2.1	Introduction to Professionalism	11
2.1.1	Importance of professionalism in dentistry	11
2.1.2	General features of professionalism	14
2.1.3	Medical and Dental professionalism	24
2.1.3.1	Aspects of Medical Professionalism	24
2.1.3.2	Aspects of Dental Professionalism	32
2.1.3.3	Discussion of Medical and Dental professionalism	35
2.1.4	Operationalisation of professionalism	38
2.1.4.1	Professional-client relationships	38
2.1.4.2	Ethical decision making	41
2.1.4.3	Critical reflection	43
2.1.5	Discussion of the Operationalisation of professionalism	48
2.2	Assessment	51
2.2.1	Introduction	51
2.2.2	Functions of assessment	52
2.2.3	Characteristics of assessment	53
2.2.3.1	Objectivity	53
2.2.3.2	Reliability	54
2.2.3.3	Validity	55
2.2.3.4	Standard setting	59
2.2.3.5	Defensibility	61
2.2.3.6	Efficiency	62
2.2.3.7	Discussion of the Characteristics of assessment	62
2.2.4	Assessment of professionalism	63
2.2.4.1	Introduction to assessment of professionalism	63
2.2.4.2	Methods of assessment of professionalism	65
2.2.4.2a	Written	65
2.2.4.2.b	Competence based	67
2.2.4.2.c	Performance based	68
2.2.4.2.d	Portfolio	71
2.2.5	Summary	72
2.2.6	Conclusion	73
3.	Statement of Aims and objectives	74
3.1	Identify concepts of professionalism in dentistry and the domains within this construct	75
3.2	Develop indicators of those domains	76
3.3	Assemble and pilot an assessment method for professionalism in dental undergraduate education	77
4.	Qualitative study to identify domains within professionalism in dentistry	78
4.1	Method	79
4.1.1	Participants	79

4.1.2	Interview guide	82
4.1.3	Data collection	82
4.1.4	Transcription	83
4.1.5	Analysis	83
4.1.6	Reflexivity	84
4.2	Results	85
4.2.1	Professionalism as a second order competence	86
4.2.2	Professionalism as context dependent	88
4.2.3	The personal aspects of professionalism	91
4.2.4	Reflection and professionalism	98
4.3	Discussion	100
4.4	Conclusion	108
5.	Development and evaluation of an assessment system for dental professionalism within an undergraduate curriculum	109
5.1	Method	111
5.1.1	Development of the programme of assessment	111
5.1.2	Panel testing	113
5.1.3	Conduct	114
5.1.4	Analysis	115
5.1.5	Approvals and permissions	115
5.2	Results	115
5.2.1	Contrast with existing system	116
5.2.2	Professionalism and patterns of behaviour	122
5.2.3	Professionalism and the educational environment	122
5.2.4	Face and content validity	124
5.3	Discussion	126
5.4	Conclusion	129
6.	Evaluation of an assessment tool	130
6.1	Method	132
6.1.1	Setting	132
6.1.2	Participants	133
6.1.3	Assessment system	133
6.1.4	Permissions and liaison	134
6.1.5	Evaluation of Tool	135
6.1.5.1	Face and content validity	135
6.1.5.2	Response Process	135
6.1.5.3	Reliability	135
6.1.5.4	Validity	136
6.1.5.5	Qualitative evaluation	137
6.2	Results	137
6.2.1	Face and content validity	137
6.2.2	Descriptive analysis and response process	138
6.2.3	Reliability	140
6.2.4	Validity	142
6.2.5	Qualitative evaluation	147
6.3	Discussion	151
6.4	Conclusion	157

7.	Discussion	159
8.	Conclusion and recommendations	166
8.1	Conclusions for research	167
8.2	Conclusions for practice	168
8.3	Recommendations for research	169
8.4	Recommendations for practice	179
9.	References	170
10.	Appendix 1 Draft statement of methods of assessment of professionalism	187
11.	Appendix 1b Draft Strategy for the Assessment of Professionalism within the Outreach programme	235
12.	Appendix 2 Consent documentation	248
13.	Appendix 3 Interview Guides	260
14.	Appendix 4 Articles published in relation to thesis	266

Chapter 1

Introduction

1. Introduction

Assessment of Professionalism in Dentistry

Professionalism is an essential competence required by dentists. Dentists, like other professionals are expected to exhibit a high degree of clinical competence and trustworthiness, acquire the respect of their patients, colleagues and the general public and be able to account for their actions, particularly with respect to clinical work.

Over the last twenty five years there has been an increase in public expectations of the quality of patient care and service delivery, which can be seen in the movement towards patient-centred practice. This seems to be the result of increased media attention, especially to high profile cases, greater availability of information, especially via the internet, and the increasing complexity of healthcare itself. These changes combined to bring about governmental pressures which, in turn, brought changes within regulatory bodies and increased both the nature and profile of professionalism. In contemporary society, healthcare professionals can no longer expect passive acceptance by the public of the autonomy and authority. Professional standards are increasingly being questioned.

Within medicine this led to a number of working parties, reports and recommendations, which, whilst based on traditional values, ensured more transparency, more patient involvement, greater emphasis on reflection and an increased role for the teaching and assessment of professionalism within medical education

These recommendations also apply to dentistry where professionalism has also become an increasingly important aspect of practice, and thus an increasingly important part of the dental curriculum, so that it now forms one of the core competences in both undergraduate and postgraduate curricula. Professionalism is described by the General Dental Council (GDC) as being at the heart of the undergraduate curriculum. The Association for Dental Education in Europe describes professionalism as one of its domains of competence required to practice dentistry.

Assessment is vital in education to assess progress and direct future learning. It is also an essential part of good professional regulation, which depends upon high quality assessment to maintain credibility. Therefore, dental educators must both teach and assess professional attitudes in the curriculum, as an essential component of professional life. Moreover, the current emphasis on professionalism requires dental educators to understand precisely what is meant by “professionalism” in relation to dentistry in order to both teach and assess it.

The aim of this study therefore, is to define and operationalise professionalism in dentistry and to produce and evaluate a system for assessing professionalism for dental students.

To meet this aim this thesis reviews the current literature in chapter 2. The purpose of this review is to explain the importance of professionalism, explore its features and its assessment as described in the literature. The review concludes that a validated definition of this construct is essential in order to carry out the assessment of professionalism within dental education.

Chapter 3 explains the aims and objectives of the work which is to develop an instrument to assess professionalism within dentistry. This was achieved through the following objectives: firstly, defining professionalism in dentistry, identifying the concepts and domains within this construct; secondly, developing indicators of those domains and finally, assembling, piloting and evaluating an assessment method for professionalism in dental undergraduate education.

Chapter 4 details a qualitative in-depth interview study using framework analysis to define professionalism in dentistry and identify concepts and domains within it. Professionalism emerges from the data as the manner in which one reflects on and reconciles different aspects of professional practice and which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects will vary with and be appropriate to the context, whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves.

Chapter 5 applies the model and definition to an existing undergraduate dental curriculum. This includes the development and panel testing of an assessment strategy and the development of a tool for use within it. Both of these are described in detail as the Draft Statement on Assessment of Professionalism (Appendix 1) and the Assessment of Dental Student's Professionalism Programme (Appendix 1b).

Chapter 6 describes the evaluation of the assessment tool by means of a test validation study amongst a cohort of senior dental students in primary care placements. The results demonstrated that the tool has good internal reliability and validity and suggests that basing an assessment system around the model developed in chapter 4 is a valuable approach to the assessment of professionalism within dental education.

Chapter 7 then discusses the whole study, bringing the findings of the constituent parts together in the context of the most recent literature. It concludes that the study met all the original aims and objectives, and in doing so it added to the body of knowledge in the area of both professionalism in dentistry and dental education by providing a definition and a theoretical model for professionalism in dentistry.

Chapter 8 details the publications and presentations which have come out of the thesis (see also Appendix 4).

Finally, chapter 9 lists the conclusions which include the definition from chapter 4 and that the model and assessment system are valid, feasible and acceptable ways to assess professionalism. This chapter then makes recommendations for implementation and further research and developments.

Chapter 2

Literature Review

2. Literature Review

2.1 Introduction to professionalism

The purpose of this review is to explain the importance of professionalism, explore its features and its assessment as described in the literature. The review concludes that a validated definition of this construct is essential in order to carry out the assessment of professionalism within dental education.

2.1.1 Importance of professionalism to dentistry

Professionalism is consistently agreed to be an integral part of the competencies required to practice dentistry. Brown, Manogue and Rohlin (2002) point out that professional attitudes are an important feature of professional life, ensuring that dental students and dentists are safe professionals who satisfy society's demands for accountability and control. The Association for Dental Education in Europe (Cowpe et al 2009) describes professionalism as one of its domains of competence required to practice dentistry and thus implies that it should be an essential component of the dental school curriculum. Likewise, the Committee of Postgraduate Dental Deans and Directors (COPDEND) describe professionalism as one of their four key domains within the dental foundation programme syllabus (COPDEND 2006) and thus ensure that this is central to Foundation training for UK graduates entering clinical practice.

In regulation terms, the General Dental Council has a statutory duty in the UK to promote high standards of personal and professional conduct within the dental profession. It describes professionalism as being at the heart of the undergraduate curriculum and requires that assessment of professionalism throughout the programme (GDC 2008). Council's draft learning outcomes (GCD 2011) state that on registration a dentist should be able to "*Describe and demonstrate the attributes of professional attitudes and behaviour at all times, in all environments and media*". Thus professionalism is a broad competency needed by dentists to act legitimately

Professionalism is also a sociological phenomenon, since professional status is granted by society (Irvine 1997). Professionals have, therefore, an obligation to meet the requirements of the society in which they practice and as these requirements change so do the obligations.

Such professional changes in response to societal changes are clearly evident. Over the last twenty five years emphasis on professionalism has made it an increasingly important aspect of medical and dental practice. This is thought to be the result of broad societal changes that include media attention to health care, especially in respect to high profile cases, the increased availability of information via the internet, changes in the philosophy of patient care, especially with respect to teamwork, and changes to regulatory bodies brought about by governmental pressures (Irvine 1997, Royal College of Physicians of London 2005, van Mook et al 2009a).

For example, patient clinician relationships have moved from authoritarian to a more democratic patient-centred approach. Medical professionals can no longer expect passive acceptance by the public of their autonomy and authority. The report of the working party set up by the Royal College of Physicians (2005) states that:

“Information about health and disease, which was once almost exclusively the preserve of doctors, is now available to every member of the public who has access to a computer”

This has a profound effect on the relationship between healthcare professionals and patients (Pfadenhauer 2006, Allsop 2006, Irvine and Hafferty 2011). Professional standards are increasingly questioned (Galman 1994), especially with the increase in public expectations of the quality of patient care and service delivery, often led by health consumer groups (Allsop 2006).

The type of care provided is itself changing with the greater complexity of care needed, especially in an aging population, and rapid expansion of medical knowledge and skills (Royal College of Physicians 2005).

There are changes too in the philosophy of patient care with a movement away from an individual doctor/patient relationship to multidisciplinary teamwork and shared care (Rosen and Dewar 2004). There is also a movement towards a patient-centred approach (Askham and Chisholm 2006). Moreover healthcare providers themselves are changing, more women are entering the professions and part time practice is more common, along with questions about work/life balance (Levenson et al 2008), leading to the questioning of the values of self sacrifice seen within the more traditional concepts of professionalism.

These changes have led to calls for revised regulation and challenges to professional self-regulation (Irvine 1997, Rosen and Dewar 2004). Internal and external criticism of regulatory bodies has focussed on lack of transparency and accountability; the emergence of a stronger sense of consumerism in health care; and media coverage of a number of high-profile cases of substandard care and abuse (King's Fund 2007). All of this has been accompanied by greater central control within, for example, the National Health Service, with performance targets for consultants, more emphasis on clinical governance and audit and the compilation of national treatment guidelines, such as those provided by NICE (Rosen and Dewar 2004).

Within medicine a number of working parties, reports and recommendations, whilst based on traditional values, called for more transparency, more patient involvement, an increased emphasis on reflection and an increased role for the teaching and assessment of professionalism within medical education (American Board of Internal Medicine 1995, Royal College of Physicians of London.2005, Levenson et al 2008). These changes resulted in the publication of "Good Medical Practice" (2006b) and "Tomorrow's Doctors" (2009) by the General Medical Council.

"Questions of how regulation is best accomplished and how the public can be protected apply to all professions and not just medicine." (Allsop 2006). Thus these recommendations also apply to dentistry, and the results can be seen in the GDC's "Standards for dental Professionals" (2005) and "Student Fitness to Practice" (2010).

Consequently, the increased attention given to professional standards, not only by the professions themselves, but also as a response to government and general public pressure, has given rise to the current emphasis on professionalism, which in turn requires dental educators to understand precisely what is meant by "professionalism" in relation to dentistry in order to both teach and assess it.

2.1.2 General features of professionalism

Professionalism as a term dates back to 1856, and is defined as the body of qualities or features characteristic of a profession (O.E.D. 1993). This circular definition therefore requires definitions for professions and the qualities which make them a distinctive form of occupation.

Professions as a social form have their roots in the mediaeval guilds, (Abbott 1988) who acquired the responsibility for the registration and training of specific, highly valued occupations. Attempts to study the professions systematically however, did not occur until the twentieth century. This occurred at a time of increased interest in the social sciences and follows the development of the professions in the nineteenth century into a form that can be recognised today (Abbott 1988).

Professions are distinctive, not only because their members are highly skilled, but also because the profession itself controls and develops its knowledge base, the training of its future members and the minimum levels of skill and knowledge required to join it. High degrees of skill can be seen in other occupations, therefore what seems to differentiate the professions is that they not only carry out the work, but also prescribe the work which they then carry out. This autonomous control is invested in the profession by society, which in turn requires professionals to exhibit a high degree of competence and trustworthiness. (Abbott 1988, Cruess and Cruess 1997, Freidson 2001, Greenwood 1957, Kultgen 1988, Macdonald 1995, Millerson 1964, Parsons 1951)

Sociologists, studying the characteristics of professions, have used a number of different vantage points. Andrew Abbott (1988) suggests these include the “locus of analysis” (individual or society) and the “consequences of professionalism” (internal or external). He divided his study into four different approaches:

- Functionalist - (Carr-Saunders and Wilson 1933, Parsons 1951)
- Structuralist - (Millerson 1964)
- Monopoly - (Johnson 1972, Larson 1977)
- Cultural - (Arney 1982, Bledstein 1976, Haskell 1984)

(as quoted in Abbott 1988)

2.1.2. a Functionalist studies

The functionalist orientation postulates that social systems are stable and progressive because their institutions fulfil important functions in relation to human needs (Kultgen 1988). Sociologists worked on the assumption that professions were necessary social structures and analysed data, often provided by the professions themselves, to produce lists of characteristics of the “ideal” profession (Carr-Saunders and Wilson 1933, Parsons 1951).

Having defined an “ideal”, researchers could compare occupational groups against this standard to see if they merited being called a profession. The first notable study using this method was that of Carr-Saunders and Wilson (1933) who collected a series of documents from occupational organisations usually seen as being professional and analysed them for common traits. They concluded that:

“the application of an intellectual technique to the ordinary business of life, acquired as the result of prolonged and specialised training, is the chief distinguishing characteristic of the professions” (Carr-Saunders and Wilson, 1933).

This suggests that professionalism includes features which, once obtained through specialist training, could be applied in many varied situations.

Another method of drawing up these typologies used observations of occupational groups. One of the first sociologists to use this method was Talcott Parsons (1951), who analysed the “latent structure” of professional relationships. These social structures, or patterns, were seen to operate throughout what was said and done in practice, so that the structure and action are closely related. Parsons described these in the form of “pattern variables”. His work, based on a study of the medical profession in the U.S.A. , described the following structures;

- Affective neutrality - i.e. the physician is not emotionally engaged with the patient
- Universalism- every patient is treated alike regardless of social position
- Collectivity - professionals are service orientated and work for the common good
- Functional specificity - the physician concentrates on the disease of the patient not other aspects

- Achieved competence - the professional has been able to demonstrate abilities (i.e. is qualified/certified and not an ascribed status)

Parson's work illuminated the professional-client relationship, with its essential imbalance of power, which had the potential to be exploited by the professional, but one in which the professional should work for the common good.

Another classic work using this method described the essential attributes of a profession as having;

- A systematic body of knowledge
- Professional authority and credibility
- Regulation and control of members
- A professional code of ethics
- A culture of values, norms, and symbols. (Greenwood 1957).

The systematic body of knowledge was important since professions were highly skilled occupations. It also enabled them to control the education and training of new members and to define and expand the area which was covered by their specialism. Furthermore, this knowledge extended the professions' distance from their clients, lead to their authority and gave them a basis for their credibility. This, as stated earlier, produced an asymmetrical relationship between the practitioner and the client because the client was dependent on the practitioner for his/her expertise, whilst at the same time not being able to assess whether or not this expertise was well founded, and so having to take the professional's advice on trust. To ensure that the profession remained credible under these circumstances, a system of regulation and control was put in place, whereby fellow members, who were able to assess competence, could ensure that the advice given was of a prescribed standard. This standard was coupled to a code of ethics, so enabling the profession to evidence its trustworthiness. The culture of values, norms and symbols enabled the profession to exhibit uniformity and once again lead to both a confirmation of the special nature of professional work i.e. increased the asymmetry, and helped to reinforce the trust within the practitioner/client relationship. This view is emphasised by Downie (1990):

"If a profession is to have credibility in the eyes of the general public, it must be widely recognised as independent, disciplined by its professional association, actively expanding its knowledge base and concerned with the education of its members. If it is widely recognised as satisfying these conditions, then it will possess moral as well as legal legitimacy, and its pronouncements will be listened to with respect."

Thus, a profession and, by extension its members, only acquired legitimate authority if it demonstrated not only expertise and autonomy, but also that it had a trustworthy and active method of self-discipline. In this way the functionalist point of view sees professions as a means of controlling the asymmetric expert-client relationship (Abbott 1988).

Over the years the functionalist approach was increasingly criticised, in part due to methodological bias; i.e. the professions themselves provided the material for study.

2.1.2.b. Structuralist

The structuralist viewpoint centred around the structure of the profession, internally and externally; that is, its relationship with individual members and with society in general. Millerson (1964) for example, produced a number of characteristics of professionals which included;

- high loyalty to their colleagues
- regular contributions to professional development
- prestige based on guaranteed service
- use individual judgement in applying principles to concrete problems
- non-manual work
- Profits do not depend on capital
- Professional status is widely recognised.

The model resulting from this approach was one in which the profession had, over time, gained control over its area of expertise, achieved responsibility for providing a licence to practice and developed a self-regulating body which strengthened its occupational boundaries and enhanced the professions status and remuneration. The major criticism of this approach was that the content of the work and the expert-client relationship were less important (Abbott 1988).

2.1.2.c. Monopoly

The monopoly viewpoint, in contrast to the structuralist one felt that these structures arose, not as “natural growth”, but by the deliberate desire for dominance or authority over their area of work. This school attributes the pattern of professionalisation to larger external social processes (Abbott 1988). Larson (1977), whom Abbott describes as one of the main exponents of this school, looked at how occupations became professions. She described this “professional project” as an attempt to translate one order of scarce resources – special knowledge and skills – into another – social and economic rewards, using collective social mobility. Whilst interesting, her work is mainly based on the actions or interactions of the occupational group and has little bearing on the qualities of each individual within the group. However, what she does add to the features of a profession is the explicit expectation that the profession will expend endless effort to defend, maintain and improve its position within society as a whole (Macdonald 1995).

2.1.2.d. Cultural

This final school emphasises the cultural authority of professions. Here professionals achieve legitimate control by attaching their expertise to values with general cultural legitimacy (Abbott 1988). In other words, this form of professionalism is centred around individuals and the decisions they make. Whilst it describes the expert-client relationship, it sets that of the practitioner within a relationship to the professional association or body which has the authority to protect and extend the authority of each practitioner. Thus the central aspect of this vantage point is the culture of the professional association and its interaction with its members.

Abbott (1988) dismisses all the conclusions of the above schools in his “The System of Professions” and concludes that

“Professionalism has been the main way of institutionalising expertise in industrialised countries”.

He suggests that this comes about because society places expertise in people rather than in things or rules. Abbott, unusually, avoids any attempt to come up with a firm definition of professionalism, insisting that this is both unnecessary and dangerous. Unnecessary because the definition only need be strong enough to cover the areas to

be discussed and dangerous because professionalism covers many different concepts; forms of organisation, levels of social deference, associations with knowledge and ways of organising personal careers; which are often best thought of simultaneously. Professions, according to Abbott, attain jurisdiction over specific areas of work because of the expertise embedded in and exhibited by the members of that profession. Thus Abbott places the emphasis on the individual and their expertise, rather than on an organisation.

One of Abbott's problems was the work of Eliot Freidson, which does not fit neatly into any of the above categories. Freidson, whilst aiming his analysis at the social level like Millerson or Larson, was interested in the effect on health; whereas Millerson and Larson looked at the status of the profession within society, with sickness having little bearing on their work. Freidson's work on the other hand is unlike Parsons, as he did not look at the relationship between the individual expert and individual patient but looked instead at the consequences of medical professionalism on health in general. This led increasingly to a new interactionist approach (Macdonald 1995).

2.1.2.e. Interactionist

The interactionist approach uses the actions and interactions of individuals or groups as its subject matter, studying how they constitute their social worlds as participants and how they construct their careers (Macdonald 1995).

Freidson's "Profession of medicine – A study of the sociology of applied knowledge" (1970) states minimum conditions required for an occupation to be seen as a profession. These are;

- The occupation has gained command of the exclusive competence to determine the proper content and effective method of performing some task.
- The occupational group must be the prime source of the criteria that qualify a man to work in an acceptable fashion.
- General public belief in the consulting profession's competence, in the value of its professed knowledge and skill.

He further states that the most strategic distinction of a profession lies in legitimate organised autonomy.

The interactionist approach emphasised the negative aspects of professional power and undermined trust in professions by accentuating the discrepancies between the “ideal”, described by the functionalists, and reality as they observed it (Kultgen 1988).

During the 1970's and 1980's the professions came under increasing criticism. The interactionist approach, unlike the functionalist approach, having tended to emphasise the power of the professions, coupled with perceived abuses of their economic power lead to calls to reduce this power (Illich et al.1977).

From the 1970s onwards Freidson continued to study professions in the U.S.A. His original work described aspects of the medical profession that did not function as described by the profession itself. For example, theoretical regulation and control of members was observably ineffective (1970). However, by 2001 he moved on in more optimistic vein and continued to describe professionalism as the occupational control of work. He noted that professions were still a functional method of controlling work and described professional work as being neither consumer nor managerially controlled. He now emphasised the fact that a professional makes choices about which work to do when, because the professional him or herself thinks that this is important. This change in emphasis may well be due to the emphasis seen in another definition of profession as a vocation or calling, especially one requiring advanced education or training (O.E.D. 1993).

The observation that professionals often do work altruistically and in the public interest, as well as in the interest of their clients (Millerson 1964), adds weight to this point of view. Friedson (2001) concluded by providing the following criteria for a profession;

- Demonstrates a body of knowledge and skill which is officially recognised and contains abstract concepts which require discretion in their use
- Is occupationally controlled
- Occupationally controlled credentials are required in order to carry out the work
- Occupationally controlled training including higher educational training is necessary to be able to carry out work
- Ideological values and assertion of “common good” are essential component requirements for accreditation to the occupation.

Thus, whilst the functionalist school believe that professions are essential to society and fulfil human need, the interactionists see the professions as a means of exploitation, using their expertise and monopoly position to the professions' own economic advantage. However, this negative perception of professions has had the effect of encouraging them to change and to improve the way they meet the needs of society (Kultgen 1988). The survival of professions in the face of this criticism may well be seen to support this view.

What both the functionalist and interactionist paradigms agree upon is that professionals are highly educated; far above the level of the general public. They must be able to demonstrate a level of expertise and thus provide some form of certification and membership of a professional body. The professional body needs to demand ideological, altruistic characteristics of its members to ensure credibility. Once these criteria are fulfilled, the professional then has legitimised autonomy over his/her own work. Abbott (1998) then emphasises the dimension of the individual within this concept.

Thus, the body of qualities characteristic of a profession, seen from these sociological view points includes both individual characteristics and behaviours alongside political, economic and social dimensions. Thus, both individual i.e. internal and external factors need to be taken into account when finding a basis on which to build further understanding of the nature and function of professionalism.

2.1.2.2 Changes in features of professionalism and the professional

There is a link between professionalism and personal identity. Freidson (1970) described professionalism as

“including such attitudes as commitment to one’s work as a career so that one’s work becomes part of one’s identity and an emphasis on public service rather than private profit.”

This view is expanded by Evetts (2003) who states that professionalism covers both normative values and ideological control of work. She explains that the normative value results from the professional identity associated with common experiences, understandings and expertise. These in turn are a result of common educational backgrounds, professional training and membership of professional associations which

produce and then maintain a shared work culture. She further states that the normative values include the importance of trust and discretion in client/practitioner relations, risk analysis and expert judgement, quality of service and professional performance in the best interests of the client, where a proper balance needs to be seen between self- interest and collectivity interest i.e. the interests of the common good.

This collectivity interest is emphasised when she further asserts that

“Accountability and performance indicators have become a fundamental aspect of professionalism” (Evetts 2003)

thus echoing Friedson’s assertion that legitimised autonomy needs to be balanced by self-regulation (1970).

Svensson (2006) contends that whilst audit and accounting have frequently replaced trust with respect to professions; the control of professional work still lies within the profession, citing peer review rather than lay assessment as the most prevalent model of auditing, to confirm his assertion. He suggests that these changes do not remove trust but only change the basis for trust, thus actually increasing the grounds for self-regulation. He further examines the role of competence in relation to professionalism, emphasising the fact that professional work involves the application of knowledge and implying the qualities of risk analysis and expert judgement mentioned by Evetts (2003).

This relationship between knowledge and its application to professional work is a common theme in the literature (Abbott 1988, Evans 2008, Evetts 2003, Freidson 1970, Freidson 2001, Greenwood 1957, Kultgen 1988, Macdonald 1995, Millerson 1964, Parsons 1951, Schön 1983, Svensson 2006), with links often being made between the work and the individual performing that work. However, this link and thus the definitions which stem from it are not static, but, as Evetts (2003) states:

“The meaning of professionalism is not fixed... and sociological analysis of the concept has demonstrated changes over time both in its interpretation and function.”

a statement with which both Svensson (2006) and Evans (2008) concur.

2.1.2.3 Summary of General features of professionalism

In summary, features of professionalism are variable, individual based and include both normative and ideological aspects. These in turn include responsibility, accountability, trust and discretion (especially in client/practitioner relations) and risk analysis and expert judgement (often seen as part of professional competence). All of these factors are assimilated by training and socialisation via a professional culture into the identity of the professional practitioner and then used for both public benefit and that of the individual client.

Professionalism can, therefore, be seen to be the aspects of an occupation which are demonstrated not especially by what is done or produced, but more by how decisions are made and work prescribed. These aspects cover the areas of responsibility, accountability and justification. Thus, professionalism can be seen as the ability of the individual member of a profession to demonstrate their acceptance of their professional responsibility and accountability by being able to justify their actions to the patient (or client), their profession, the society in which they work and themselves. In short professionalism is the organised autonomy to carry out work which requires specific expertise, and which is justified by accountability.

Unfortunately, although this increases the understanding of professionalism in general, this does not provide a clear definition that can be operationalised in clinical education to act as clear expectations of students. Furthermore, without clarification and operationalisation it is difficult to develop the assessment systems, necessary in education. Therefore it is important to look at the specific aspects of professionalism in healthcare professionals.

2.1.3 Medical and Dental professionalism

2.1.3.1 Aspects of Medical Professionalism

Interest in medical professionalism, and in particular in the autonomy and authority of the medical profession, increased in the 1980's (Gabe et al. 2004) when the assumptions held until the 1970's, of the medical profession as the most legitimate authority in the health care sector, began to be questioned.

This development can be seen when the traditional concept of the medical profession, often ascribed to Parsons (1951), is compared with contemporary ideas. Parsons described a culture in which the roles of both doctor and patient were morally assigned. The patient was expected to acknowledge their illness and co-operate with the doctor, whereas the doctor occupied a position of authority in relation to the patient and their illness. This paternalistic approach began to be criticised in the 1960's and 1970's when it became apparent that professional monopolies were being exploited and that the professions could not control the quality of their members' work (Freidson 1970, Illich 1976). The growth of patient self-help groups, the influence of government policy, research resulting in the need to recognise the autonomy of the patient rather than the need for "compliance" and alterations in the way doctors were trained lead to the development of a more mutualistic relationship. This is characterised by the active involvement of patients as more equal partners (Scambler 1997).

2.1.3.1 a Changing Concepts of medical professionalism

These changes in society affected the medical profession worldwide. In the 1980's the American Board of Internal Medicine realised that "Humanistic qualities" were important for the accreditation of physicians. They set up "Project professionalism" in 1990 with the aims of defining professionalism, raising awareness of the importance of professionalism, providing a concept of professionalism for training curricula and for assessment. Their report (1995) stated that the elements of professionalism comprised;

*“A commitment to the highest standards of excellence in the practice of medicine and in the generation and dissemination of knowledge.
A commitment to sustain the interests and welfare of patients.
A commitment to be responsive to the health needs of society”.*

The Royal College of Physicians and Surgeons in Canada also began work on CanMeds “*innovative framework for medical education of essential physician competencies*”, which included the domain of “Professional”, and which was then revised in 2005. Much of the work defining the role of professionals was carried out by Sylvia and Robert Cruess who were amongst the pioneers of explicit education in professionalism for undergraduate medical students, publishing amongst many other articles, “Professionalism must be taught” in the BMJ in December 1997. CanMeds describes the role of a Professional as follows:

“Physicians have a unique societal role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills, as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, the embracing of appropriate attitudes and behaviors, integrity, altruism, personal well-being, and to the promotion of the public good within their domain. These commitments form the basis of a social contract between a physician and society. Society, in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.”

Thus CanMeds places the emphasis on the commitment to society.

In the meantime, the U.K. Chief Medical Officer, Sir Kenneth Calman (1994), had called for reconsideration of the role of professionalism by the medical profession to reflect the values of society in the 21st century. This in turn led to responses from the British Medical Association (1995) and the General Medical Council (Duties of a Doctor 2006a, and Good Medical Practice 2006b). These responses, however, concentrated on a more individual approach, describing what the individual doctor should do, rather than the qualities they should possess. Moreover, in their descriptions the benefits of professionalism are not seen to be conferred on society in general, but on individual patients.

Another result of this increased interest in professionalism was the setting up of a working party by the Royal College of Physicians, (2005) who stated that;

“Social and political factors, together with the achievement and promise of medical science, have reshaped attitudes and expectations of both the public and of doctors”

They went on to explain that these changes required a new definition of medical professionalism:

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

In an attempt to conceptualise medical professionalism for general practitioners, van de Camp and colleagues (2004) carried out a qualitative study of the then available literature, they concluded that

“the term professionalism is used to describe so many elements we are at risk to compromise the utility of the concept.”

Fortunately, they also concluded that *“professionalism is a multidimensional concept which is context dependent”* and suggested that it varied not only with different medical specialities, but also with different phases of a medical career (novice versus expert). By 2006 van de Camp had modified the concept to produce an instrument to assess professional behaviour in Dutch general medical practitioners. This model of professionalism in general Practice encompassed 4 themes:

- (a) professionalism towards the patient;
- (b) professionalism towards other professionals;
- (c) professionalism towards the public;
- and (d) professionalism towards oneself.

These 4 themes covered 26 elements of professionalism, with brief descriptions of expected behaviours. This paper, as would be expected following the Dutch report Consilium Abeundi (2002), emphasised behaviour, rather than attitudes. It also emphasised the notion that professionalism is both inward and outward looking. Moreover, the themes echo those first suggested by the American Board of Internal Medicine (1995) and the multidimensional and context dependent nature of professionalism is once again apparent in their analysis.

These societal changes were further reflected within medical education. The Institute for International Medical Education had included Professionalism in its “Minimum

Essential Requirements and Standards in Medical Education” (Wojtczak and Schwarz 2000). They stated that:

“Professionalism and ethical behaviour are essential to the practice of medicine. Professionalism includes not only medical knowledge and skills but also the commitment to a set of shared values, the autonomy to set and enforce these values, and responsibilities to uphold them.”

Here, once again, the commitment to shared values is explicit, along with an inference that professionalism has to be seen in context.

By 2002 there was so much interest in professionalism within medical education that Louise Arnold published her highly respected literature review on Assessment of Professional Behaviour in Academic Medicine. Despite all this activity she states that *“The well-circumscribed concept of professionalismdoes require clarification”*. Her analysis demonstrated that professional behaviour had been described in one of three main ways; as a part of clinical performance as, an entity in and of itself, or split into various elements including humanism, altruism, empathy and compassion, honesty, integrity, ethical behaviour and communication skills. Furthermore she used the terms professional behaviour and professionalism interchangeably, rather than seeing professional behaviour as only one aspect of professionalism.

In the Association of American Medical Colleges’ special report “Flag in the wind” (2003) Inui comments on the increased interest in professionalism in medical education, which he believed represented:

“both a flight from commercialism, on the one hand, and a corresponding need to reaffirm our deeper values and reclaim our authenticity as trusted healers, on the other.”

Inui therefore echoed the need for the elements required by the American Board of Internal Medicine (1995), and their commitment to patients, profession and society in general. He also hinted at the contextual and second order, nature of professionalism that can be expressed only during the performance of some other task.

Inui went on to list six alternative views on medical professionalism and concluded that what these had in common is that they listed the qualities one would want in any virtuous person and were thus not specific to either professionalism or medicine.

These core values are also referred to by Stern (2006) who defined medical professionalism for assessment purposes as:

“Professionalism is demonstrated through a foundation of clinical competence, communication skills, and ethical and legal understanding, upon which is built the aspiration to and wise application of the principles of professionalism: excellence, humanism, accountability and altruism.”

The increasing complexity of professionalism is further illustrated by Jha and colleagues (2006) who also used qualitative methods to describe professionalism. They conclude that

“The findings indicate that conceptualising medical professionalism fully requires a more complex operationalisation than has been addressed previously in the medical education literature”

This complexity is also described by Thistlethwaite & Spencer (2008) who avoided writing their own definition and concentrated on describing and expanding on the various themes available within the literature.

Thus professionalism in medicine and medical education is seen as a complex construct which changes over time. The concepts within it are intangible, theory based, frequently encompassing a variety of skills, knowledge and other attributes and have complex relationships to observed behaviours. An understanding of the various dimensions of professionalism is essential in education for both learning and assessment as it is this understanding which guides the selection of the educational material and provides the criteria for any assessment system (Messink 1994).

2.1.3.1 b Domains within medical professionalism

A preliminary literature search identified common themes describing the different domains within the construct of medical professionalism (Table 1, page 29-30). Many of these themes are shared with professions in general, especially those which are idealistic, for example altruism and excellence. Trust is a central theme and the effects of the behaviour of both individual professionals and professional bodies on patients was frequently seen to have, usually an adverse, effect on patient confidence.

Themes were also summarised by Hilton (2004) and Hilton and Slotnik (2005) who identified six attributes of professionals. They group these into personal attributes, which included ethical practice, reflection and self-awareness, and

responsibility/accountability for actions and co-operative attributes which included respect for patients, working with others and social responsibility.

Table 1 Themes within Medical professionalism

Theme	References
Altruism	American Board of Internal Medicine (1995), Inui (2003), Royal College of Physicians of London (2005), Stern (2006), Thistlethwaite & Spencer (2008), van de Camp et al (2004)
Accountability	American Board of Internal Medicine (1995), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a), Verkerk et al (2007)
Autonomy	Abbott (1998), American Board of Internal Medicine (1995), Calman (1994), Cruess & Cruess (1997), Evetts (2003), Freidson (2001), Greenwood (1957), Kultgen (1998), Irvine (1997), Macdonald (1995), Millerson (1964), Parsons (1951), Royal College of Physicians of London (2005), Van Mook et al (2009a)
Compassion	Greenwood (1957), Inui (2003), Jha et al (2006), Kultgen (1998) Thistlethwaite & Spencer (2008), van de Camp et al (2004)
Excellence	Abbott (1998), American Board of Internal Medicine (1995), Arnold (2002), Calman (1994), Cruess & Cruess (1997), Evetts (2003), Freidson (2001), Greenwood (1957), Jha et al (2006) Inui (2003), Kultgen (1998), Macdonald (1995), Millerson (1964), Parsons (1951), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a)
Honesty and integrity	Abbott (1998), American Board of Internal Medicine (1995), Arnold (2002), Cruess & Cruess (1997), Freidson (2001), Greenwood (1957), Inui (2003), Irvine (1997), Jha et al (2006), Kultgen (1998), Macdonald (1995), Millerson (1964), Parsons (1951), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a)
Knowledge of ethical standards	Abbott (1998), American Board of Internal Medicine (1995), Arnold (2002), Bury (1997), Cruess & Cruess (1997), Freidson (2001), Greenwood (1957), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Jha et al (2007), Kultgen (1998), Lynch et al (2004), Macdonald (1995), Millerson (1964), Parsons (1951), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern (2006), Van de Camp et al (2004), Van Mook et al (2009a), Veloski et al (2005)
Moral Reasoning	Arnold(2002), Hilton & Slotnick (2005), Jha et al (2006), Lynch et al (2004), Stern (2006), Van de Camp et al (2004), Veloski et al (2005)
Reflection	Aukes (2008), Boenink (2006), Hilton & Slotnick (2005), Schön (1983), Verkerk et al (2007)
Respect	American Board of Internal Medicine (1995), Bury (1997), Epstein & Hundert (2002), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Jha et al (2007), Lynch et al (2004), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern (2006), Van de Camp et al (2004), Van Mook et al (2009a), Veloski et al (2005)

Self-awareness	Aukes (2008), Boenink (2006), Royal College of Physicians of London (2005), Hilton & Slotnick (2005), Inui (2003), Van de Camp et al (2004), Verkerk et al (2007)
Self-motivation, particularly with respect to lifelong learning	American Board of Internal Medicine (1995), Arnold (2002), Boenink (2006), Epstein & Hundert (2002), Freidson (2001), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Jha et al (2007), Lynch et al (2004), Macdonald (1995), Macdonald (1995), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern (2006), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a), Veloski et al (2005)
Social responsibility	Abbott (1998), American Board of Internal Medicine (1995), Cruess & Cruess (1997), Epstein & Hundert (2002), Freidson (2001), Greenwood (1957), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Kultgen (1998), Macdonald (1995), Millerson (1964), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern (2006), Van de Camp et al (2004)
Trustworthiness	Abbott (1998), American Board of Internal Medicine (1995), Arnold (2002), Calman (1994), Cruess & Cruess (1997), Epstein & Hundert (2002), Freidson (2001), Greenwood (1957), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Jha et al (2007), Kultgen (1998), Lynch et al (2004), Macdonald (1995), Millerson (1964), Parsons (1951), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern et al (2005), Stern (2006), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a), Verkerk et al (2007), Veloski et al (2005)
Working with others	American Board of Internal Medicine (1995), Arnold (2002), Bury (1997), Epstein & Hundert (2002), Hilton & Slotnick (2005), Inui (2003), Jha et al (2006), Jha et al (2007), Lynch et al (2004), Royal College of Physicians and Surgeons of Canada (2006), Royal College of Physicians of London (2005), Stern (2006), Thistlethwaite & Spencer (2008), Van de Camp et al (2004), Van Mook et al (2009a), Veloski et al (2005)

2.1.3.1 c The inter-related nature of domains of professionalism

Reflection is described as the means through which professionals decide the manner in which they carry out other competences such as communication and technical procedures (Schön 1983). The presence of reflection amongst the qualities inherent to professionalism therefore implies that professionalism is a second order skill, one which is demonstrated by the way tasks are carried out and is thus one which can only be demonstrated when, as Evans (2008) has stated, doing something.

This second order or meta-skill aspect of professionalism is a very explicit theme in the work of Verkerk and colleagues (2007) who felt that

“Professionalism must be conceived as a second-order competence— a reflective and evaluative competence which, can be expressed only via the performance of other competences”

This description would also explain why it is very difficult to produce a well circumscribed description of professionalism and why it is seen to be so context variable.

The performance of medical practice involving the discretionary use of expertise in situations where the outcome is uncertain often places the practitioner in a dilemma. These professional dilemmas have been described by Dowrick (1999) as the *“uncomfortable juxtaposition of uncertainty and responsibility”*. He suggests that rather than being an unwanted burden the conflict between uncertainty and responsibility may be an important and necessary motivating force. Thus, perhaps this is the key to medical professionalism that it is the ability to be motivated by the everyday challenge presented by having to balance uncertainty with responsibility when making decisions about the right thing, in the right way, at the right time for the right patient, and then being able to account for the actions taken.

This is also expressed by Verkerk and colleagues (2007) when they write that:

“A professional is someone who can explain why in this case, for this patient, the professional’s behaviour or decision was appropriate. Professionalism here does not mean clinging to absolute norms or values, but implies that one is prepared to be accountable in the light of public, professional and personal norms and values.”

This accountability would tie in with the fact that professionalism is a second order competence, which varies with context and as such it would be very complex to operationalise. This might be more easily achieved if the suggestion in Verkerk and colleagues’ work (2005, 2007), that it is the ability to reflect and evaluate and then account for one’s actions is used.

Thus the study of medical professionalism provides a context in which professionalism can be elicited. The act of diagnosis, prescribing and then carrying out treatment can all be done in both a professional or unprofessional manner. It is the “do” which Evans (2008) states is necessary for professionalism. The fact that medical expertise is not in or of itself professional, but requires to be carried out in order to demonstrate professionalism confirms professionalism as a second order competence. Moreover

the expression of this competence depends on the autonomy given by society to professionals, who in turn must demonstrate accountability in order to maintain public trust (G.M.C. 2006b, Royal College of Physicians and Surgeons of Canada 2006). In other words accountability lies at the heart of professionalism.

Professionalism, when seen in the context of the literature relating to medical profession is variable, context and individual based and includes both normative and ideological aspects. Trust and discretion, autonomy, responsibility and accountability play vital roles in the characterisation of medical professionalism. The complex inter-relations between these domains is further complicated because they may be used for both public benefit and that of the individual client. What the study of medical professionalism adds to this, is the idea that professionalism is a second order competence, which can only be demonstrated during performance.

2.1.3.2 Aspects of Dental Professionalism.

Just as professionalism is a key competence for the practice of medicine, it is also an integral part of the competencies required to practice dentistry (Brown et al 2002, COPDEND 2006, Cowpe et al 2009, GDC 2002, GDC 2005, GDC 2008, GDC 2011).

Many of the descriptions of professionalism within dentistry are of North American origin. Within this literature the conflict between dentistry as a profession and dentistry as a commercial operation is a central theme (Dharamsi et al 2007, Masella 2007, Nash 2007, Welie 2004a, 2004b, 2004c;). However, Downie (1990) describes the discussions on the conflict of professional and commercial values as being based on 'several confusions', something echoed within Nash's article (2007) comparing dentistry as a profession or a business.

Ozar and Sokol (2002), whilst describing both a commercial and a normative model of professionalism, then go on to explain that dentists have professional obligations which arise due to the obligations of the profession as a whole to the community at large. This obligation to the community is also seen in Welie's definition (2004a);

"a profession is a collective of expert service providers who have jointly and publicly committed to always give priority to the existential needs and interests

of the public they serve above their own interests, and in turn are trusted by the public to do so.”

which echoes the work of Cruess and Cruess(1997) and appears to have its roots in the work of the American sociologists who produced extensive studies on professionalism (Abbott 1988, Freidson 2001, Greenwood 1957, Millerson 1964, Parsons 1951).

This conflict between dentistry as a profession and dentistry as a commercial operation is seen less in European literature. The Association for Dental Education in Europe (ADEE) describe professionalism as a competence. Their “Profile and Competences of a Dentist”, first produced in 2004, and then updated (Cowpe et al 2009), describes the domains of professionalism as follows;

“On graduation, a dentist must be competent in a wide range of skills, including research, investigative, analytical, problem solving, planning, communication, presentation, team building and leadership skills and has to demonstrate a contemporary knowledge and understanding of the broader issues of dental practice.”

Other definitions include the succinct “*meeting the standards of the profession*” (Shaw 2009), which then raises the questions of what exactly these standards are.

The General Dental Council which has a statutory duty to promote high standards of personal and professional conduct within the dental profession states in its guidance to dentists on professional and personal conduct (Maintaining Standards 2001),

“A dentist must adhere to appropriate personal as well as professional conduct. Any behaviour or activity by a dentist which is liable to bring the profession into disrepute or to undermine public confidence in the profession may lead to a charge of serious professional misconduct. Behaviour which reflects adversely on the profession, such as dishonesty, indecency or violence, may also lead to a charge of serious professional misconduct even if such behaviour is not directly connected with the dentist’s professional practice.”

The clear inference here is that professional allegiance is to the profession and not to the patient. Or to use van de Camp’s classification (2004), professionalism towards the profession is more important than that towards the patient.

Changes over time are also seen in professionalism within dentistry. By 2005 the G.D.C. updated its advice and provided guidelines as to what is expected from all dental

professionals and changed this again in 2013. What seem to remain stable are the themes, which echo those seen in medical professionalism (Table 2)

Within dental education professionalism includes professional behaviour along with ethics and jurisprudence (Cowpe et al 2009). Professional behaviour, in their view, includes appropriate behaviour towards patients, appropriate behaviour towards all the members of the dental team, knowledge of the social and psychological issues relevant to the care of patients, ability to manage and maintain a safe working environment and knowledge and awareness of the impact of the dentist's own health on the ability to practice dentistry, alongside the need for continued professional development and education.

Table 2 Themes within Dental professionalism

Theme	References
Altruism	General Dental Council (2005), General Dental Council (2010), Trathen & Gallagher (2009)
Accountability	General Dental Council (2005)
Autonomy	Trathen & Gallagher (2009)
Compassion	Cowpe et al (2009), Trathen & Gallagher (2009)
Excellence	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), Trathen & Gallagher (2009)
Honesty and integrity	COPDEND (2006), General Dental Council (2005), General Dental Council (2010), Trathen & Gallagher (2009), Welie (2004a)
Knowledge of ethical standards	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), Nath (2006), Trathen & Gallagher (2009), Welie (2004a)
Moral Reasoning	Bebeau et al (1985)
Reflection	Trathen & Gallagher (2009)
Respect	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), Trathen & Gallagher (2009)
Self-awareness	COPDEND (2006)
Self-motivation, particularly with respect to lifelong learning	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), Trathen & Gallagher (2009)
Social responsibility	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), General Dental Council (2010), Ozar & Sokol (2002), Trathen & Gallagher (2009), Welie (2004a), Welie (2004b)
Trustworthiness	General Dental Council (2005), General Dental Council (2010), Nash (2007), Ozar & Sokol (2002), Trathen & Gallagher (2009), Welie (2004a)
Working with others	COPDEND (2006), Cowpe et al (2009), General Dental Council (2005), General Dental Council (2010), Trathen & Gallagher (2009)

COPDEND (2006) echoes the same themes subdividing them into themes relating to ethics, and themes relating to the relationship to patients, self and peers and the dental team.

The GDC (2011) included professionalism as one of its four domains of competence and states that it puts professionalism at the heart of their agenda for dental education. It applies professionalism to patients and the public, teamwork and self-development and describes aspects relating to ethics and law which the GDC include in "Student Fitness to Practice" (GDC 2010). Whilst this does not of itself describe professionalism in dentistry it certainly provides a context in which professionalism, as a second order competence, can be expressed.

Thus professionalism is a key competence for the practice of dentistry and there are many parallels seen within the medical and dental literature which may explain why attempts to use the dental literature to define professionalism relating to dentistry have often resorted to medical sources to reach any conclusion (Nath et al 2006, Trathen and Gallagher 2009). However, having determined that professionalism is context dependent, it is likely that two slightly different professions (medicine and dentistry) provide slightly different contexts requiring slightly different contextualisations of professionalism. For example there are rarely any adverse implications when dentist seeks dental treatment from a colleague, but this context is changed where a doctor seeks medical treatment, especially if the doctor concerned requires treatment for a mental illness. The more business orientated definitions on the U.S.A. are further examples of this context dependence.

2.1.3.3. Discussion

The medical literature describes professionalism as being both variable and context dependent (Arnold 2002, Jha et al 2006, van de Camp et al 2004). For example it varies over time (van Mook et al 2009a), and depends on the perspectives of the individuals involved and observing. It is individual based and includes both normative and ideological aspects (van Mook et al 2009a, 2009c, Arnold 2002, Jha et al 2006, van de Camp et al 2004). The normative aspects are described in the codes of ethics produced by governing bodies. The ideological aspects, which have been described as the attributes of a virtuous person (Inui 2003), are based on society's perceived

requirements for membership of a profession and are a recurring theme in definitions of medical professionalism (Royal College of Physicians 2005, van Mook et al 2009a, 2009b, 2009c, Inui 2003, Royal College of Physicians and Surgeons of Canada 2006). Trust and discretion, autonomy, responsibility and accountability all play vital roles in the characterisation of medical professionalism, and these factors are used for both public benefit and that of the individual client (Inui 2003, Royal College of Physicians 2005, Royal College of Physicians and Surgeons of Canada 2006). There are many parallels seen within the medical and dental literature which is not unexpected as explained by the GDC when they stated that it is “*universally accepted that dentists subscribe fully to the core values of the doctor*” (2002). However the two professions provide different contexts in which professionalism occurs.

Both medicine and dentistry require professionalism as an essential competence (Cowpe et al 2009, Royal College of Physicians 2005, COPDEND 2006, Royal College of Physicians and Surgeons of Canada 2006). However, as Shaw (2009) points out, dentists may also be unprofessional in any of the areas of competence. For instance, it is possible to communicate both professionally and unprofessionally. Thus professionalism has been described as a meta-skill, that is a skill which is demonstrated by the way tasks are carried out (Verkerk et al 2007, Evans 2008).

Traditional Professionalism	Contemporary professionalism
Accountable to oneself	Accountable to others
Solo, individual	Partnership model, teamwork
Decision made by doctor	Shared decision making
Experience-based practice	Evidence-based practice
Attention to professional development lacking	Continuous professional development mandatory
Internal quality control	External quality control
Very gradual increase in knowledge and information	Knowledge and information overload
Cure	Care

Figure 1 Comparison of traditional and contemporary professionalism (W.N.K.A. van Mook 2010)

An overview of the literature on professionalism in both medicine and dentistry leads to the conclusion that there is no single clear discrete definition of this essential competence. However, many themes recur consistently within the descriptions of professionalism found throughout the literature. These can be divided into those seen in the traditional view of professionalism and those that appear in more contemporary views of professionalism (see Figure 1, page 36).

Historically, the qualities characteristic of a profession can be summarised as the organised autonomy to carry out work, which requires specific expertise, in the interests of the common good (Abbott 1988, Freidson 2001, Greenwood 1957, Millerson 1964, Parsons 1951). More recently there has been an emphasis on individual accountability and transparency (Calman 1994, Evertts 2003, Irvine 1997, Royal College of Physicians 2005, van Mook et al 2009a, 2009b).

This emphasis on accountability is important when devising methods of assessment because professionalism cannot be judged by behaviour alone; knowledge of the reasoning behind the action is also required (Ginsberg 2004). Seen in this way professionalism is a reflective or evaluative second order competence, in other words whilst knowledge about professionalism can be tested in written examinations, professionalism can only be demonstrated when doing something (Evans 2008, Verkerk et al 2005, 2007).

Therefore, whilst based on norms and core values, professionalism requires accountability for decisions taken and actions performed rather than adhering to rigid protocols. This description also explains why it is very difficult to produce a well circumscribed description of professionalism and why it is so context dependent (Arnold 2002, Jha 2006, van de Camp 2004) as it incorporates the reasoning and motivations behind students' actions (Ginsberg 2004). This facet of professionalism is also echoed by Hilton and Slotnik (2005) who state that professionalism is learnt as a meta-skill. The fact that expertise is not in or of itself professional, but requires to be carried out in order to demonstrate professionalism further confirms professionalism as a second order competence.

Professionalism can be seen therefore, as the ability of the individual member of a profession to demonstrate their acceptance of their professional responsibility and accountability by being able to justify their actions to the patient (or client), their

profession, the society in which they work and themselves. In short professionalism is the organised autonomy to carry out work which requires specific expertise, and which is justified by accountability. Professionalism is thus both a complex construct and a second order competence.

2.1.4 Operationalisation of professionalism

In order to operationalise this complex construct a model that maps the domains within it is necessary.

The literature contains a number of models relating to professionalism. These models can be characterised by the presence or absence of three features which are professional-client relationships, ethical decision making and critical reflection.

2.1.4.1 Professional-client relationships

As a second order competence, professionalism is demonstrated when healthcare professionals go about their work or “do something” (Evans 2008). Professionalism therefore needs a context and, as many of the domains elicited from the literature relate directly to patients it seems appropriate to look at the patient-physician relationship.

Bury (1997) described three models of the doctor-patient relationship, the consensus, conflict and negotiation models. The consensus model has its roots in the work of Parsons (1951), characterised by the asymmetry which arises because of the consensus of both parties as to what constitutes proper conduct. The patient needs the expertise provided by the doctor who acquires legitimate authority and commands respect from the patient, in return the doctor acts in the best interests of the patient.

According to Parsons (1951) the patient accepts a “sick role” which in turn allows the acceptance of the complimentary “doctor role”. He described the relationship in terms of sickness being a dysfunction and suggested that this allowed a temporary removal of the normal requirements for social interaction. In Parsons’ description the role of the sick person is to

- Seek expert medical attention
- To strive to get well
- To comply with medical advice

whilst the role of the Doctor is to

- Act only in the patient's best interest
- Apply the highest standard of scientific knowledge and technical competence
- Be granted exclusivity of trust (e.g. access to patient's body for examination)

This is similar to the activity-passivity relationship (Szasz and Hollander 1956) with its similarities to the parent-infant relationship.

Bury's (1997) conflict model has its roots in the work of Freidson (1970) who argued that doctors and patients live in different social worlds and have different social agendas. Doctors operate within a biomedical agenda focusing on treating disease, whilst patients are more concerned about the effect the illness has on their daily activities and relationships. Doctors tend to handle the case as part of a conventional disease whereas patients often wonder if their case is typical and wish to be treated on an individual basis. Further conflict is seen in the inappropriateness of self referral, with patients being criticized for both presenting too often with trivial complaints and presenting too late with serious conditions.

In contrast, a second type of relationship described by Szasz and Hollander (1956) is one of guidance-co-operation, which is likened to that of parent-adolescent relationship. The patient takes a slightly more active role and makes their own decisions, but is still ultimately dependent on the doctor. An example of this is a patient with an acute illness, for instance a broken leg. The patient is able to take an active role in the relationship by cooperating with the treatment regimen, using his crutches as necessary and doing his physical therapy. The patient's cooperation is automatically expected.

Finally, the negotiation model emphasises both doctor and patient as active and the consultation as shared. Consensus and conflict may be present but neither is likely to prevail. Patients come to the consultation prepared to discuss their treatment and doctors are aware of the need to share responsibility for treatment, especially when

health outcomes depend on individual self care i.e. the patient could exhibit “countervailing power” outside of the consultation. This again has echoes of Szasz and Hollander’s (1956) third mode, mutual participation, seen more as adult-adult interaction, the doctor helps the patient help himself which is more often encountered when treating people with chronic disease.

Health care provision and social change have affected doctor-patient relationships and by 2004 a contractual model was added (Gabe, Bury and Elston 2004). This model sees both doctors and patients behaving more openly and is particularly seen in chronic illnesses. Doctors are subject to the deprofessionalisation seen in society generally, whilst patients now have more information available to them, enabling them to take more active or consumerist roles in deciding what treatment to have. This is demonstrated by the moves away from notions of patient compliance to those where patients manage treatment regimens to fit in with their own agendas.

Thus, these models describe doctor-patient relationships as processes that are dynamic rather than static entities, each being influenced by technical procedures, the nature of the intervention and the social setting in which it occurs.

The doctor-patient relationship has also been described on the basis of communication style. Stewart and Roter (1989) describe four patterns of doctor-patient relationship: Paternalistic; consumeristic; default; and mutuality.

The paternalistic approach is doctor-centred. It relies on closed questions designed to elicit yes or no answers. The doctor will tend to use a disease centred model and be focused on reaching a diagnosis, rather than the patient’s unique experience of illness. This style resonates with Parson’s (1951) original work and thus Bury’s (1997) consensus model.

In the consumerist approach the patient knows exactly what they want and forces the doctor into a patient centred approach, thus sharing some aspects of Bury’s (1997) conflict model.

A default style occurs when the patient-centred style fails. The doctor is trying to relinquish control but the patient is unwilling to accept it. The result is an impasse.

Finally, mutuality occurs when the doctor uses open questions to encourage the patient to talk about his or her complaint. This approach relies on taking time to listen and trying to understand the patient's point of view. This style of communication is likely to be used in both Bury's (1997) contractual model and Gabe, Bury and Elston's (2004) negotiation models.

Once again the models regard the doctor-patient relationship as dynamic and context dependent, also dependent on the attitudes of the doctor and expectations of the patients. This echoes the requirement for both internal and external factors to be taken into consideration when exercising professionalism. The multiple methods and classifications are also reminiscent of the varying descriptions of professionalism.

2.1.4.2 Ethical decision making

Both ADEE (Cowpe 2009) and COPDEND (2006) include ethics within their descriptions of professionalism; moreover knowledge of ethical standards is one of the main recurring themes relating to professionalism.

Many models of ethical decision making are based on Rest's analysis of the literature of morality (1984, 1986). His model consists of four stages of individual ethical decision making and behaviour, whereby a moral agent must (a) recognize the moral issue, (b) make a moral judgment, (c) resolve to place moral concerns ahead of other concerns (establish moral intent), and (d) act on the moral concerns. He argues that observed behaviour results from a combination of these four aspects and that a failure to act morally can result from a deficiency at any stage of the model.

Others have built implicitly on this model. These include Trevino (1986), Hunt and Vitell (1986), Ferrell, Gresham and Fraedrich (1989), Jones (1991) and Harrington (1997). The models by these authors, in a similar way to Rest's description, are triggered by the individual's recognition of an ethical decision, and echo the interaction between internal and external factors seen in professionalism. Hunt and Vitell (1986) describe modification of the ethical decision making process by personal experience or behaviour, along with the consequences of that behaviour, and this may well be important in an educational setting where student experiences vary. On the other hand Ferrell and Gresham (1985) suggest that ethical issues or dilemmas emerge from the

social or cultural environment, which again has implications within a learning environment. Furthermore Chen and colleagues (2008) suggest that the environment plays a vital role in professionalism within medicine.

Jones (1991) suggested that the main shortcomings of most models rested on treating every decision equally, without taking into account the perceived importance of the circumstances (context). They therefore exclude what he describes as “moral intensity” based on social consensus and consequences of the decision.

A model based not so much on the process involved in ethical decision making but on the factors involved was produced by Bommer and colleagues (1987). The main advantage of this model is that it incorporates a comprehensive list of such factors.

Finally, Flanagan and Clarke (2007) suggested a “*questioning approach*” to professional decision making. Using a similar approach to that of decision making during clinical reasoning, they proposed that ethical decisions should only be made once systematic enquiry had elicited enough knowledge of all the factors which a reasonable fellow professional would deem relevant. This echoes the role of critical reflection within professionalism.

What all the models of ethical decision making described in the literature have in common is the need to recognise that there is a moral issue. This recognition may be aided by codes of ethics produced by professional or regulatory bodies. There are many different codes of ethics available relating to dentistry (American Dental Association, ADA 2011 Canadian Dental Association, CDA 1997, Council of European Dentists 2007 the Federation Dentaire International, F.D.I 1997).

The use of a model to clarify and circumscribe complex concepts is essential (Baker and Gibson 2014). Most models seen in the literature relating to ethical decision-making only confirm that both internal and external factors should be taken into consideration. Few of the models are empirically tested and most cover just this one aspect of professionalism, rather than professionalism as a whole. Important aspects, such as integrity and autonomy are assumed, whilst compassion, excellence and trustworthiness are omitted.

As Shaw (2009) states;

“Ethics is another matter. It is unethical to be unprofessional, and unprofessional to be unethical, but there are many differences between the two concepts”.

Codes of ethics may therefore contribute towards the context in which professionalism can be expressed, but they are not the same thing.

2.1.4.3 Critical reflection

Donald Schön's seminal work *The Reflective Practitioner* (1983) described professional work and decision making in terms of “reflection-in-action”. His observations of practitioners in a number of fields, alongside his university teaching experience led him to research the differences between novices and experts. He concluded that professionals made decisions by;

- Problem framing
- Continuous hypothesis making and testing
- Balancing rigour and relevance

He described two contrasting forms of professionalism, a traditional and a reflective model which each have aspects of belief and an implicit contract (Figure 2, page 44).

Traditional	Reflective
<i>The expert believes...</i>	<i>A reflective practitioner believes</i>
I am presumed to know and must claim to do so, regardless of my uncertainty	I am not the only one in the situation with relevant and important knowledge
I keep my distance from the client and hold onto the expert role	I seek out the client's thoughts and feelings. Respect for my knowledge will emerge if I am helpful
I look for deference and status in the client's response to my professional demeanour	I look for a sense of freedom and connection with the client
<i>Traditional contract</i>	<i>Reflective contract</i>
The client is placed in the professional's hands and gains a sense of security based on faith	The client joins with the professional to gain a sense of involvement and action
The client need only comply with advice and all will be well	The client exercises some control over the situation--both are inter-dependent
The client is pleased to be served by the best person available	The client can test judgements against the competence of the professional. The client makes discoveries about knowledge and practice

Figure 2 Comparison of traditional and reflective practitioners (Schön 1983)

The reflective form creates a practitioner who is more directly accountable to the client. The practitioner recognises that his expertise is embedded in a context of meaning and that he must explore this context together with his client. The form also leaves room for peer evaluation and review by acknowledging the role of others in the process. Thus, the reflective contract described by Schön appears to be more compatible with contemporary values of a patient-centred approach to health care.

These two forms can also be seen to equate to the traditional and more contemporary descriptions of professionalism provided by van Mook (2010), (Figure 1, page 36).

Since the publication of Schön's (1983) work reflection has become an integral part of professionalism and more especially, when combined with the work of educationalists such as Kolb (1994), Korthagen and colleagues (2001), Boud and colleagues (1985) and

Eraut (1994). Reflection is now regarded as an essential element in professional development.

This not surprisingly has led to a number of models of reflection being used within medical education (Boenink 2006, Aukes 2008).

Boenink based her model on the initiation of reflection described by Schön (1983) and Dewey (1933) combined with the input/output model of Moon (1999) and the process described by Atkins and Murphy (1993) (Figure 3, page 46). Boenink chose to concentrate on problems encountered in medical practice rather than on the development of medical expertise or scientific reasoning and chose confusing or “messy” situations as her starting point. Her definition of the output explicitly emphasised the need for balance and considering a variety of viewpoints. Thus, she defined reflection on medical professionalism as

“a subtle/balanced approach, considering all relevant perspectives, weighing different interests, having a keen eye for dilemmas and uncertainties, paying attention to the patient’s viewpoint and evaluating one’s own position and latitude.”

This echoes Verkerk et al. (2005, 2007) and Ginsberg and colleagues (2004) who state that basing an assessment of professionalism on observable behaviour alone is inadvisable because the internal process of consideration, weighing up and evaluating are invisible. They suggest that the core competence associated with professionalism is “accountability”. This trend is also seen in much of the literature on professionalism (e.g. Everttts 2003, Svensson 2006, Friedson 2001, Cruess and Cruess 1997).

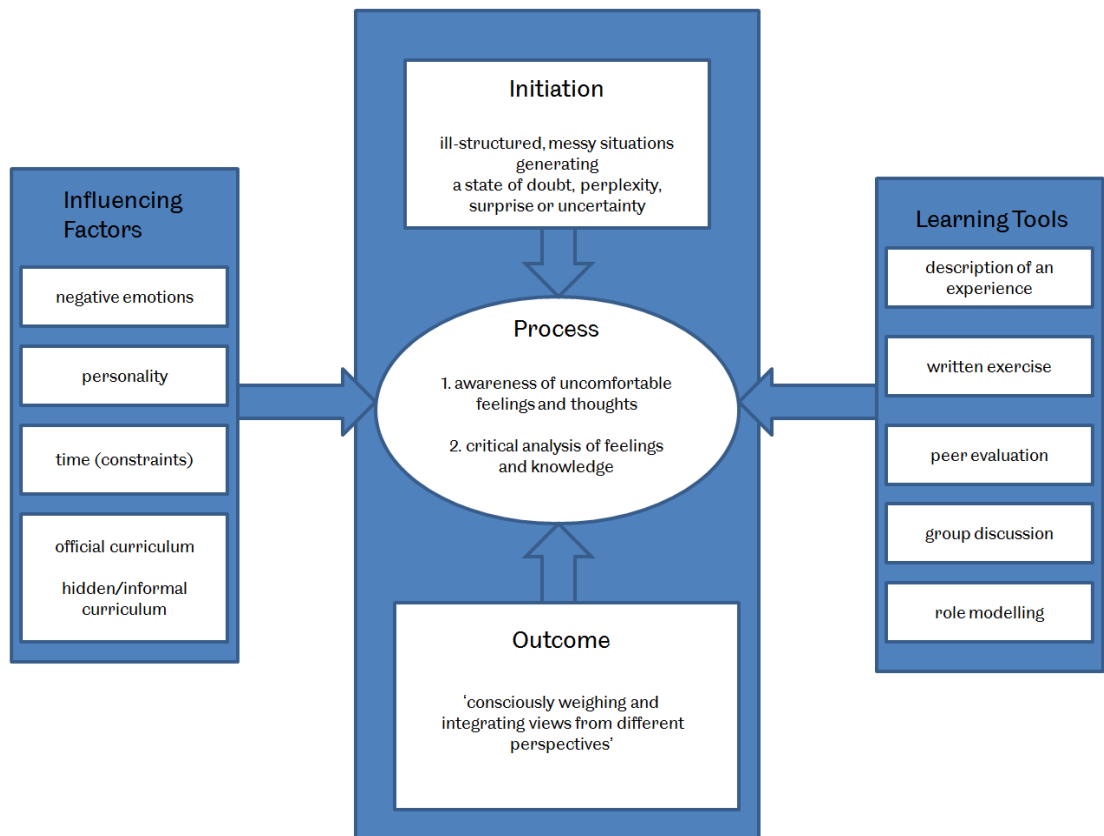


Figure 3. Model for teaching reflection on Medical Professionalism Boenink (2006 p.54)

Aukes (2008) provides yet another model for teaching reflection in medical education (Figure 4, page 47). His model also includes personal, internal and external factors involved in this process. Moreover, it clearly illustrates the unseen reflection behind the observable behaviour and thus links to Ginsberg's (2004) warnings against using observable behaviour alone as a means of assessing professionalism.

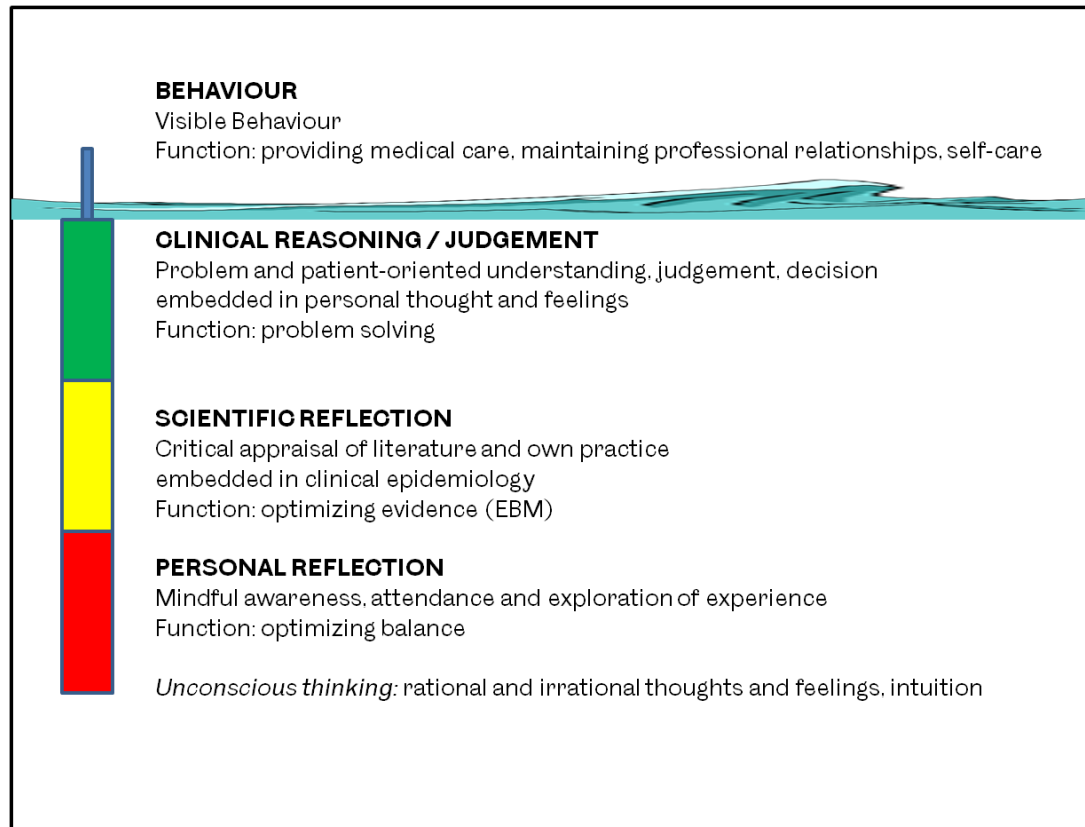


Figure 4. Float model of the reflective medical professional Aukes 2008 (p.18)

What these models have in common is that professionalism as an outcome is dependent on a balance between the many factors involved, some of which are internal i.e. connected to the person and personality of the professional and some of which are external i.e. connected to the context, social or cultural environment, perceived wishes of the patient and interpretation of the evidence or scientific base. This outcome cannot be judged by behaviour alone. Knowledge of the reasoning behind the action is also required, or as Verkerk and colleagues (2007) state;

“In short, in order to judge professionalism it is important to know how a professional arrives at a specific act. A professional is someone who can explain why in this case, for this patient, the professional’s behaviour or decision was appropriate.”

This is also the central theme of the work of Shiphra Ginsburg and colleagues who regarded accountability as a better indicator of professionalism than observed behaviours in trainee doctors (2000, 2004, 2009).

Thus contemporary models of professionalism present a consistent and cogent case for incorporating internal factors, such as knowledge of the ethical decision making process and reflection, as well as external factors connecting to context.

Whilst attempts have been made to model professionalism, it is a complex construct. Thus far the literature does not provide an adequate model, particularly one that is based on empirical data, to act as a foundation for an assessment method for use within dental education. This is despite the recommendations of Jha and colleagues (2007) who suggest that:

“Future research should operationalise generic definitions of professionalism and look for interrelationships between different attributes of professionalism.”

Furthermore, Jha and colleagues (2006) had already concluded that:

“The findings indicate that conceptualising medical professionalism fully requires a more complex operationalisation than has been addressed previously”

“Much of the literature defines professionalism in vague terms without further operationalisation. There is also no a priori evidence documenting individuals’ beliefs about professionalism in medicine”

2.1.5 Discussion

Professionalism can be defined as the body of qualities or features characteristic of a profession (Oxford English Dictionaries 1993). Most authorities agree that these qualities include a high degree of skill and knowledge applied to the practice of work (Abbott 1998). Whilst this high degree of skill can be seen in other occupations, what seems to differentiate professions is that they not only carry out the work, but also prescribe the work which they then carry out. Such autonomous control is invested in the profession by society which in turn requires professionals to exhibit a high degree of competence and trustworthiness (Abbott 1998, Cruess and Cruess 1997, Freidson 2001, Greenwood 1957, Kultgen 1998, Macdonald 1995, Millerson 1964, Parsons 1951).

The preceding review of the literature on professionalism in medicine and dentistry provides no single clear discrete definition of this essential competence. However there are many themes that recur consistently within it (Table 1, page 29-30).

The medical literature describes professionalism as being both variable and context dependent (Arnold 2002, Jha 2006, van de Camp 2004, van Mook 2009a). It also depends on the perspectives of the individuals involved and those observing and is therefore individually based, including both normative and ideological aspects (Arnold 2002, Jha 2006, van de Camp 2004, van Mook 2009a, 2009b). The normative aspects are described in codes of ethics produced by governing bodies. The ideological aspects, which have been described as the attributes of a virtuous person (Inui 2003), are based on society's perceived requirements for membership of a profession and are a recurring theme in definitions of medical professionalism (Inui 2003, Royal College of Physicians and Surgeons of Canada 2006, Royal College of Physicians of London 2005, van Mook 2009a). Trust and discretion, autonomy, responsibility and accountability are all prominent in characterisations of medical professionalism, and these factors are used for both public benefit and that of the individual client (Inui 2003, Royal College of Physicians and Surgeons of Canada 2006, Royal College of Physicians of London 2005, van Mook 2009a). The many parallels seen within the medical and dental literature may also explain why attempts to use the dental literature to define professionalism relating to dentistry have often resorted to medical sources to reach any conclusion (Nath 2006, Trathern and Gallagher 2009).

Historically, the qualities characterising of a profession can be summarised as the organised autonomy to carry out work, which requires specific expertise, in the interests of the common good (Abbott 1998, Freidson 2001, Greenwood 1957, Kultgen 1998, Macdonald 1995, Millerson 1964, Parsons 1951). More recently there has been an emphasis on individual accountability and transparency (American Board of Internal Medicine 1995, Calman 1994, Evetts 2003, Irvine 1997, Royal College of Physicians of London.2005, van Mook 2009a). Professionalism can be seen, therefore, as the ability of the individual member of a profession to demonstrate their acceptance of their professional responsibility and accountability by being able to justify their actions to the patient (or client), their profession, the society in which they work and themselves.

Professionalism is both a complex construct and a second order competence. An understanding of this, along with an understanding of the many traits elicited from the literature, are essential attributes for dental educators, charged with developing a system to assess this vital competence. Therefore, whilst based on norms and core values, professionalism is more about being able to account for decisions taken and actions performed whilst carrying out professional work than it is about adhering to rigid protocols. This description also explains why it is very difficult to produce a well

circumscribed description of professionalism and why it is so context variable (Arnold 2002, Jha 2006, van de Camp 2004).

A recent systematic review of definitions of professionalism within medical education by Birden and colleagues (2014) concludes that

“whilst there have been many attempts at definition, none is standardised or has universal agreement”

Moreover, comparing the extensive literature available on medical professionalism with the more limited availability of literature specifically referring to dental professionalism, leads to the conclusion that, if further clarification is needed within medical education (Arnold 2002, Jha et al 2006), then it is most certainly needed within dentistry.

2.2 Assessment

2.2.1. Introduction

As this thesis will develop an assessment system it is necessary to review the nature of assessment. Assessment is necessary in education to determine progress and direct future learning (Gronlund 1976, Mislevy 1996, Brown et al. 1997). It is also an essential part of good professional regulation, which depends upon high quality assessment to maintain credibility (Norman et al eds 2002, Lowry 1993, Crossley, Humphris and Jolly 2002). These multiple purposes mean that assessment is part of a process rather than a momentary snapshot. In addition each of these purposes has different objectives, which must be pre-defined.

	Definition
Standards of Educational and Psychological Measurement (1999)	<i>“any systematic method of obtaining information from tests and other sources used to draw inferences about characteristics of people objects or programmes”</i>
Quality Assurance Agency for Higher Education (2012)	<i>“‘assessment’ describes any processes that appraise an individual’s knowledge, understanding, abilities or skills”.</i>
Schuwirth and van der Vleuten (2006)	<i>“any purported and formal action to obtain information about the competence and performance of a candidate.”</i>

Figure 5 Definitions of assessment

Assessment has a number of definitions (Figure 5) but is in essence taking a sample of what is done, drawing inferences from this and then making an estimate of the worth of the actions (adapted from Brown et al 1997).

The data in educational assessment are candidates' specific actions or products in specific circumstances. However, the same observation can be direct evidence for some conjectures, indirect evidence for others, and wholly irrelevant to still others. Mislevy (1996) states that

“There is no single “best” method for gathering data, only methods more or less effective at evoking evidence for the inferences to be made”.

Therefore a conception of candidate competence and a purpose for assessment determine the kind of information that is needed for assessment.

In Schuwirth and van der Vleuten's definition (Figure 5, page 51) assessment is seen to be formal, and this usually requires it to be documented, investigative and relate to the competence of the candidate. Competence is generally regarded to be a combination of knowledge, skills, attitudes and beliefs.

Educational assessment can thus be described as the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs.

2.2.2 The Functions of Assessment

Assessment has many roles and functions within education. These include (after Wood 2007);

- Measuring learning
- Grading candidates
- Summarising achievement
- Indicating readiness to progress
- Providing feedback
- Motivating learning
- Focussing and directing learning
- Increasing effectivity in learning
- Informing the teaching programme
- Promoting staff development
- Contributing to educational quality assurance

An assessment system should, therefore, meet the function or functions for which it is required, avoiding using the results of one method of assessment to make inferences for a completely different purpose (Brown et al 1997).

Assessment may be formative or summative. Summative assessment is carried out in order to make decisions about the candidate or for certification purposes. It usually results in some form of pass/fail or grading of candidates and summarises achievements to date, hopefully indicating the readiness of the candidate to progress.

Formative assessment is designed to provide good feedback and to enable effective and focussed learning. These two types of assessment are not necessarily mutually exclusive, but the purposes of the assessments are clearly different and thus the forms and qualities may need to differ.

2.2.3 Characteristics of Assessment

Any ideal assessment system will combine the following properties;

- Objective
- Reproducible and reliable
- Valid
- Defensible
- Efficient
- Acceptable
- Amenable to analysis and interpretation
- Precise

2.2.3.1 Objectivity

Objectivity refers to the quality of an assessment that requires no subjective interpretation to award a score and is often seen as a means of increasing an assessment's reliability. However, objectivity is not always reliable, nor is subjectivity always unreliable (Van der Vleuten and Schuwirth 2006).

Thus objectivity requires discrete mutually exclusive categories that are not open to interpretation and whilst desirable, objectivity may often be unachievable in practice.

An assessment method seen to be objective will have more credibility than one which appears to be subjective and standardized, norm-referenced tests are the "gold standard" of objective assessment. Sampling needs to be representative of not only the candidate's abilities, but also of the aspect being assessed, for example objective questions are said to be good for testing recall, however they usually test recognition, which is not the same (Johnstone 2004).

Moreover what appears to be objectivity may well be made subjective by the test design, the items included in the test, the method of administration of the test, and the way in which the results are used (Romagnano 2001). Thus objectivity related to assessment often has a tenuous nature.

2.2.3.2 Reliability

Reliability refers to "*independent replication of the entire measurement process*" (Standards of Educational and Psychological Measurement 1999). The time difference between replications is vital since replication too close to the original testing may cause problems of validation whilst replication at too distant a time brings other confounding factors e.g. the examinees may not have the qualities they originally had Brennan (2001).

Whilst reliability refers to consistency of measurement (Gronlund 1976), there is often confusion between reliability and reproducibility (Brennan 2001). Reliability is primarily statistical in nature and refers to a particular type of consistency which is time related and related to the aspect being evaluated e.g. different samples or different examiners (Gronlund 1976). This consistency can be affected by various factors including sampling variation, inter- and intra-examiner variation. A high reliability coefficient indicates that a different sample of tasks of the same kind would order the examinees similarly (Mislevy 1996). Generalizability theory was developed to provide a statistical framework for conceptualizing reliability due to the high number of factors involved. However using the intraclass correlation is also perfectly acceptable (Downing 2004).

A large source of unreliability can be attributed to deficiencies in sampling (Schuwirth and van der Vleuten 2006). This can be reduced by increasing the number of test items within an assessment or the number of assessments. Combining the results from different tests, rather than assessing them individually, has been recommended to increase reliability (Knight 2000, Norcini & Guille 2002, Wass et al. 2001). This does however, have the disadvantage that the tests may be different and therefore measure different aspects. For this reason, assessments of reproducibility should be supplemented with tests of internal reliability to ensure that all the different parts of an assessment are testing the same concept. Furthermore multiple testing often results in a regression towards the mean and this results in an assessment system that no longer

has the characteristic of being able to discriminate between the more able and less able candidate.

In low stakes examinations where there is open dialogue between candidate and assessor, limited reliability may not be a problem, this is particularly true of formative assessment (Knight 2000).

Examiner variation can be reduced by increasing the number of examiners and by increasing objectivity with structured marking schedules, explicit criteria and examiner training (Knight 2000, Yorke et al. 2000, Petrusa 2002, Schuwirth and van der Vleuten 2006). Unfortunately, too much emphasis on structure may undermine validity (van der Vleuten 1996, Regehr et al. 1998, Crossley et al 2002). However completely unstandardised and global assessment methods are extremely unreliable (van der Vleuten 1996). Thus, a compromise is often needed. This should once again relate to the function of the assessment to ensure that the compromise is acceptable.

Therefore, to be meaningful, an assessment method must provide a sufficient sample of performance with at least a minimum standardisation and structure (van der Vleuten 1996).

2.2.3.3 Validity

Validity refers to measuring what is intended to be measured. Moreover, it is the results or rather the interpretation of the results, which is valid, not just the assessment instrument itself (Gronlund 1976, Brown et al. 1997, Downing 2003). Validity is a matter of degree rather than a binary construct and is always specific for some particular use (Brown et al. 1997, Downing 2002, 2003, Standards of Educational and Psychological Measurement 1999).

There are several forms of validity;

- Face validity
- Content validity
- Construct validity
- Correlative validity
- Predictive validity

- Educational validity
- Consequential validity

Face validity refers to the appearance of measuring what is intended to be measured. Whilst derided by some educational professionals, as “*appearance is not scientific evidence*” (Downing and Haladyna 2004) face validity goes some way to making the assessment authentic and thus acceptable (Nevo 1985). A procedure which looks as if it is real may well be more acceptable to examiners, candidates and certification bodies than one which does not. This emphasizes a different aspect of assessment, which is frequently very important to the value of an assessment system, that is, its acceptability (Schuwirth and van der Vleuten 2006). Face validity based on the judgement of experts is quick and easy to assess and is therefore useful for elimination of irrelevant items and reducing dissatisfaction among users (Nevo 1985).

Content validity is the extent to which the whole domain being assessed is indeed tested. Blueprinting the contents of the assessment to ensure that all aspects of the course are represented is one method of ensuring content validity. Content validity also refers to assessing the different levels of the domains, such as beginner to expert.

Construct validity refers to the relationship between assessment scores and the understanding of the underlying concept being assessed. Constructs are “*intangible collections of abstract concepts and principles which are inferred from behavior and explained by educational or psychological theory*” (Downing 2003). Examples of constructs include intelligence, competence, educational ability, critical thinking and educational achievement.

A construct centred approach begins by defining the knowledge, skills and attributes required by candidates and what behaviours or performance would reveal them (Messink 1994). Thus the inferences and judgements being made can be based on the same criteria as those within the construct. Therefore explicit criteria that match those of the construct are needed (Brown et al 1997, Messink 1994, Kane 2001).

Construct validity requires an empirically supported theoretical framework to support inferences based on test scores (Schuwirth and van der Vleuten 2006). As constructs generally cannot be readily observed (Streiner and Norman 2008), it is important to demonstrate evidence of any adverse effects of construct-irrelevant variance and

construct under-representation on validity (Downing and Haladyna 2004). Furthermore, construct validity not only links the interpretation of assessment data and the assessment instrument to function, but also infers that the construct itself should be linked to that function by evidence supporting the link (Messink 1994, Kane 2001). Construct validity, therefore, measures concordance with some underlying theory or construct and thus requires an explicit construct.

Correlative validity (also known as criterion and concurrent validity) is the degree to which the results of one form of assessment agree with those of another in the same candidates. Examples of this include the comparison of the results of an examination with course work done by the same group. Correlative validity therefore also requires a clear construct otherwise the results compared may or may not measure the same constructs. Thus error and confounding factors can interfere with the correlation.

Predictive validity is the ability of the interpretation of the results to predict future performance. This may be important in assessment such as entrance assessment, when information about the candidates' future commitment to, and performance on, a course is required, or high stakes examinations when the results are used to certify that the candidate is safe to practice. However, predictive ability is not always required. It is often the case that the assessment is designed to assess what the candidate already knows i.e. to summarising achievement, to measure how much the candidate has learnt in a specific period or course, or to simply grade candidates. This emphasises the need to ensure that the assessment is designed to meet the function for which it is required.

Educational validity poses questions about the relationship of the assessment to its educational function. This is frequently associated with consequential validity and the function of the assessment. Formative assessments, for example, have little validity if they neither identify areas of strength and weakness in candidates nor produce information for feedback. The educational impact of an assessment is commonly thought to strongly influence student learning. As van der Vleuten and Schuwirth (2005) point out, some of the crucial issues in this respect include;

- how to achieve congruence between educational objectives and assessment;
- how to provide and increase feedback from assessment;
- how to sustain formative feedback;
- how to combine and balance formative and summative assessment;

- how much assessment is enough;
- how to spread assessment over time.

They therefore suggest that the educational impact of assessment be considered separately from validity. This approach has the advantage of encouraging the incorporation of assessment into curricular design, but the disadvantage of removing the educational impact from validity.

Consequential validity refers to the consequences of an assessment and from the interpretation of the results. This involves the impact of the assessment load on teaching and learning and on administration and research (Brown et al. 1997). Assessment can have consequences for candidates, examiners, patients and society (Downing 2003). These consequences can be positive or negative and might be intended, but may equally be unintentional (Messick 1981, Kane 2001, Downing 2003). For example misuse of the test data to make inferences for which they were not designed and is inappropriate. Similarly assessments may focus learning in one direction whilst the intention was for students to be focussed in another. Examples of this include learning checklists when the educational objectives aim toward overall integration of performance.

Motivation may be affected if, from the perspective of the candidates, assessments produce invalid results. Kane (2001) proposes, therefore, that validity should compose the answers to two questions, firstly

“Is the test any good as a measure of the characteristic it is interpreted to assess?”

and secondly

“Should the test be used for the proposed purpose?”

The first is a technical question, but the second is an equally important ethical question. Thus consequential validity has strong links to both educational impact and acceptability.

Some types of assessment demand a stronger emphasis on one or more sources of evidence as opposed to other sources and not all sources of data or evidence are required for all assessments. Once again the function of the assessment has a bearing

on the interpretation of the data produced by the assessment instrument. The varying approaches to validity may therefore each add something to the weight of evidence required to ensure that an assessment accurately measures what it intends to measure.

Whilst classically numerous types of validity are described, modern educational measurement considers construct validity as the only true type of validity and suggests the following process of collecting a body of evidence to support the credibility of the intended score interpretations (Kane 2006). He suggests that this be done using the following four steps; (1) scoring, (2) generalization, (3) extrapolation and (4) interpretation. This does however rely on having a strong theoretically based construct.

2. 2.3.4 Standard setting

A standard is a level of performance which separates important categories of performance. According to Norcini (2003) standards are based on educational judgements and are therefore always arbitrary. Standards can be relative, that is they are based on comparisons of those examined, or absolute when the standard is set with regard to a, usually predetermined, cut-off point.

Different processes of standard setting may be required for different types of testing (van der Vleuten 1996, Schuwirth and van der Vleuten 2006). Hambleton and Powell (1983) described five context-setting variables which needed to be addressed when setting standards;

- Importance of the decision. Decisions about certification or licensing are obviously more important than results that allow a student to progress, where incorrect decisions can be relatively easily corrected
- Availability of resources. Where resources, in terms of time, money, materials or the availability of expertise are fixed this will obviously serve as a constraint on the process.
- Test formats, contents and length. Some methods are more suited to long tests, others to shorter ones, some methods are more suited to written tests, others to more practice based forms of assessment
- Laws. Laws may already be in existence which define “minimal competence”, for example.

- History. Implementation of a new or pilot assessment scheme may require different standard setting process to an established scheme.

Commonly used methods of standard setting include;

- Judgements of item characteristics (which included Angoff, Edels, Nedelsky and Jaeger method)
- Methods based on examinee performance (which included borderline groups method and contrasting groups method)
- Holistic impressions of the examination (which involves a panel of experts basing their decision on test content)
- Empirical statistical methods of adjusting standards (which involves using decision theory or utility theory to minimise incorrect classification and thus adjust cutting scores)
- Compromise methods (for example Hofstee's method) (Cusimano 1996).

Different standard-setting methods, even for the same assessments, often result in different standards, particularly if different judges are used for each method (Halpin, et al 1983, Cusimano 1996). However, regardless of the method used, standards always need to be credible (Cusimano 1996, Norcini and Guille2002, Norcini 2003) and in order to be credible standard setting methods should meet the following criteria;

- Produce standards consistent with the purpose of the test
- Rely on informed expert judgement
- Demonstrate due diligence
- Be supported by a body of research
- Be easy to explain and implement

These characteristics are also seen in descriptions of the defensibility of assessments.

2.2.3.5 Defensibility

Test results must be defensible to all stakeholders, which may include not only candidates and examiners, but also educational establishments, professional bodies and society in general (Downing 2002). In addition to the credibility required when setting standards, validity evidence and reproducible results are essential.

Within medical education Murray and colleagues (2000) point out that

“Medical educators, have a responsibility to the community they serve, producing graduates with the characteristics society requires” (Murray et al. 2000)

Accountability will increase as competition for resources requires medical educators to demonstrate sound stewardship of educational expenditure, society requires greater professional accountability across the whole of medicine and the culture of evidence-based medicine requires medical educators to demonstrate that education has the desired effects on health care.

All these aspects need to be approached with due diligence with evidence of the legitimacy and accuracy of the test scores and their inferences (Downing 2002, Schuwirth and van der Vleuten 2006)

2.2.3.6 Efficiency

Efficiency refers to the cost and ease of development, cost and ease of administration, cost and ease of scoring, time requirements, availability of any equipment needed and the ease of interpretation and of the results of an assessment. Moreover cost was incorporated alongside, reliability, validity, educational impact and acceptability in van der Vleuten's model of the utility of a test (1996).

These factors frequently compensate one another depending on the numbers of candidates being assessed. For example essay questions are usually less costly to develop than the equivalent number of multiple choice questions that can be answered in a given time. Marking the essay questions, however, takes much longer and is therefore more costly for large numbers of candidates. This is especially so when computer assisted marking is available for multiple choice questions (Clouser and Schuwirth 2002).

Objective standardised clinical examinations (OSCE's) are both expensive to develop and administer (Schuwirth and van der Vleuten 2006). However, they are reliable and carry apparent authenticity, with the potential to have high validity and sufficiently flexible to provide good formative and summative information (Schuwirth and van der Vleuten 2006, Boursicot et al, 2007). Thus, a clear statement of the goals of assessment

is required to evaluate efficiency (Schuwirth and van der Vleuten (2006). Unfortunately efficiency is often hampered by tradition, poor infrastructure and lack of collaboration.

2.2.3.7 Discussion

Assessment should help students focus their learning, identify individual strengths and weaknesses, provide an opportunity for improvement, highlight deficiencies in the content or delivery of the course, and in the case of health sciences education, protect the public against incompetent graduates. To do all this, an assessment system must contain a large and properly managed formative element and the summative assessment must be criterion referenced (Lowry 1993).

Furthermore, the system needs to be feasible. Issues such as availability of resources, cost-effectiveness and efficiency all play an important role.

Another crucial element is the extent to which an assessment procedure is accepted by the people involved in the assessment (van der Vleuten 1996). Unless the stakeholders are willing to subscribe to it an assessment system will be compromised, and any assessment instrument is only valid when it is used correctly. By seeing assessment as an educational aid rather than a measurement problem, assessment becomes an integral part of the curriculum and thus has an effect on the educational environment (Schuwirth and van der Vleuten 2004, 2011a). This has particular relevance for the assessment of professionalism, as it includes the social and educational culture in which the assessment takes place.

This can be seen in the movement from assessment *of* learning to assessment *for* learning. This movement suggests a more holistic approach using more recent developments in constructivist education as the basis for a change in the culture of assessment setting. Thus assessment should aim to be a source of insight and help students progress, rather than be a source of reward or punishment (Shepard 2000).

Traditional assessment *of* learning has an emphasis on objectivity which may not be appropriate for the assessment of professionalism. Assessment *for* learning often involves more human judgements, as these information rich subjective assessments by experts are essential for good feedback and student learning (Schuwirth and van der

Vleuten 2011a). Moreover these judgements move assessment from a purely psychometric approach based on quantitative methods, to a more meaningful qualitative approach (Govaerts et al 2011), whilst at the same time, this increase in subjectivity, rather than decreasing validity and reliability, often increases it (Schuwirth and van der Vleuten 2006, 2011a)

The old maxim of ‘assessment driving learning’ is particularly important when assessing professionalism. Assessment is vital in education to assess progress and direct future learning. It is also an essential part of good professional regulation, which depends upon high quality assessment to maintain credibility. In addition assessment needs to be fit for the purpose for which it is used and must be defensible to all stakeholders, which may include not only candidates and examiners, but also educational establishments, professional bodies and society in general. Therefore assessments for health care professionals must be reliable, valid, acceptable, cost-effective and must demonstrate educational impact

2.2.4 Assessment of professionalism

2.2.4.1 Introduction

Up until the early 1970’s little, if any consideration was given to the assessment of professionalism in medical education (Arnold 2002). Changes began in the early 1980’s and have increased dramatically subsequently leading to a number of important literature reviews in the early 2000’s. These included one by Arnold (2002) in which she identified three different types of focus used to assess professionalism

*“professionalism as a part of clinical performance,
as an entity in and of itself,
and as a combination of values which can be evaluated separately”.*

The following year Veloski and colleagues (2003) were able to identify 134 published studies of the methods which had been used to measure medical professionalism. However, many of these had been research studies rather than methods which could be used to assess professionalism in practical terms. Many of them addressed just one aspect of professionalism. A subsequent review retained 88 assessment methods, but

once again many of these were research based and only addressed single aspects of professionalism (Lynch et al 2004).

In 2007 a further systematic review by Jha and colleagues retained 97 articles and again stated that most measures looked at aspects of professionalism such as cultural or ethical issues or the doctor-patient relationship. All these reviews encountered a lack of validity and reliability. For example, less than half the articles retained by Jha and colleagues (2007) demonstrated any measure of reliability or validity.

Thus, despite this interest, no single method of assessment has emerged which demonstrates reliability or validity of those used to measure knowledge and skills (Stern et al 2005, Jha et al. 2007). This is not, however, surprising because professionalism, being a complex construct, is unlikely to be adequately measured by a single assessment. Furthermore, professionalism is context dependent. Cumulatively these observations suggest that a variety of assessment methods may be required

Additionally students' development of professionalism over time suggests that assessment of professionalism should be repeated throughout the programme (Hawkins et al 2009).

The domains of professionalism assessed include, ethics, humanism, multiculturalism, personal values, doctor-patient relationship, teamwork, patient satisfaction, confidentiality, empathy, trust and honesty. Some authorities include communication within their definition of professionalism (e.g. Thistlethwaite and Spencer 2008) whereas others place it in another domain of competence (Royal College of Physicians and Surgeons of Canada 2006 in CanMeds, ADEE in Cowpe et al 2009). One frequently used aspect for assessment is an assessment of moral reasoning.

Professionalism emerges from the medical literature as a substantive and sustained theme (Hodges et al 2011) within which are common elements (Hawkins et al 2009, Hodges et al 2011, O'Sullivan et al 2012, Birden et al 2014, Warren et al 2014). Most publications recommend systematic assessment of professionalism, the use of many different assessors, longitudinal assessment and in different settings. Most importantly, they recommend an agreed precise, concrete definition of professionalism.

2.2.4.2 Methods of assessment of professionalism

A variety of methods have been used to assess professionalism including questionnaires, vignettes or clinical scenarios, critical incidents, direct observation in the form of a mini c-ex (a structured assessment of an observed clinical encounter or Clinical Evaluation Exercise), standard patient encounters, both independently and within O.S.C.E's and portfolios. Both quantitative (Roche et al. 2003) and qualitative (Ginsburg et al. 2005, Goldie et al. 2007) methods (and occasionally a combination of both) have been used to process the data. Sources of data included self-assessment, peer assessment (Arnold et al 2007), assessment by faculty, nursing or other members of staff and by patients or by standardised patients. These have also been combined in the form of 360° feedback (Rees and Shepherd 2005b, Stark et al. 2008).

Finally, professionalism has been assessed as both a competence in its own right and as part of clinical competence (Arnold 2002, Jha 2007).

The types of assessment fall into four main categories: written, competency based, performance based and portfolios. Methods may also be combined, for example vignettes with questionnaires (Boenink 2005 and 2006).

2.2.4.2.a Written assessment

Written assessment methods can be divided into selected response and constructed response formats (Downing 2002). Selected response formats include multiple choice questions or questionnaires, whilst constructed response formats include essays, short answer questions and simulation formats. As well as being written, they may be computer administered (Downing 2002). Written assessments are used to measure knowledge and may be ideal to assess, knowledge of the judicial, legislative and administrative processes and ethical principles (Cowpe et al 2009, Downing 2002).

Questionnaires are often based on vignettes or clinical scenarios (Price et al 1998, Robins et al 2002, Campbell et al 2008, Boenink et al 2005), and may involve the description of critical incidents (Ginsberg et al 2002). Vignettes can assess the

attitudes of dental students towards socially acceptable and unacceptable group working practices (Sisson and Newton 2007).

Written assessment has also been used to assess the reflective ability of medical students and junior doctors. Questionnaires based on vignettes of critical incidents show validity and reliability, in assessing this important aspect of professionalism (Boenink et al 2005). The use of written journals to assess reflection has also been described (Boon and Turner 2004).

One component of professionalism frequently assessed using written methods is moral reasoning (Lynch et al 2004). The methods used include the Defining Issues Test (DIT) (Rest 1979) and the questionnaire version of the Moral Judgement Interview (MJ) (Kohlberg 1984). The main advantages of using these instruments are that they are readily available and often easy to administer. However, they may need some modification, for example Gibbs and Widaman (1982) modified the original MJ to make it more convenient to administer and Bebeau and colleagues modified them for dental students (1985).

These written assessment instruments were also used in studies which noted "ethical erosion" as students progressed through their course. This led Eckles and colleagues (2005) to wonder about their validity to assess moral reasoning in medical education. She points out that they were not designed to address issues of medical ethics, but more generic moral dilemmas, and wonders if they would have produced the same results if they had addressed medical dilemmas. Furthermore methodological problems arise from repeated assessment.

One written assessment instrument that was designed to address this is the Problem Identification Test developed by Hébert and colleagues in 1992. This test was specifically developed to measure "ethical sensitivity" in medical education. The test is based on clinical vignettes and demonstrates their usefulness in assessing awareness of ethical issues. However, whilst it may measure awareness of ethical issues, it does not assess how this influences clinical practice if used alone.

Unfortunately, the major problem with written assessment instruments which assess moral reasoning is that they only address one aspect of professionalism and not professionalism as a whole. Furthermore they do not assess the relationship between

moral reasoning and clinical performance. Therefore, they may be a useful component of a system to assess professionalism but are unlikely to be useful as the only method.

Both written and computer administered questionnaires may have a role to play in selection of students (Chamberlain et al 2005). For example UK Clinical Aptitude Test (UKCAT) have a section entitled non-cognitive analysis that hopes to identify the attributes and characteristics of robustness and integrity that may contribute to successful health professional practice, however this is not yet validated (UKCAT Consortium 2011).

In conclusion, written assessments of professionalism should not be overlooked and may be useful as part of a programme of assessment. They are particularly useful for assessing knowledge and may have a role in the selection of students. They are, however, too restricted to be useful as the only method of assessment of this complex construct and may encourage students to memorise the 'correct' answer, which does not influence their actual behaviour.

2.2.4.2.b. Competency based assessment

Competency based assessments are those that take place in controlled representations of professional practice (Boursicot et al 2007) such as standard patient encounters (van Zanten et al 2005) and objective structured, clinical examinations (OSCE's) (Mazor et al 2007). These have the advantage over written assessment in that they can be used to assess the "Shows how" level of Miller's pyramid (1990). OSCEs are also seen to be fair, as each student carries out a standardised procedure during the assessment, and have high degrees of reliability because each student is assessed by many different examiners and several cases (Boursicot et al 2007).

Unfortunately OSCE's are complex to organise. More importantly, when used to assess professionalism there are problems with the interpretation of student behaviours by differing assessors, even when calibrated and well trained (Mazor et al 2007).

Standardised patients can be trained to assess aspects of professionalism related mainly to interpersonal skills and patient satisfaction with valid and reliable results.

They are less successful when assessing professionalism as an independent competence (van Zanten et al. 2005). Other studies have produced more variable results and further analysis has demonstrated the variable way in which assessors interpret observable behaviour (Mazor et al. 2007, 2008). Moreover, as van Zanten (2005) points out, the necessity for complete standardisation in OSCE's creates an artificial environment that may not reflect day to day clinical performance.

Consequently competency-based assessment may be a useful component of a system to assess professionalism, especially in the early curriculum, but is unlikely to be useful as the single method for assessing it.

2.2.4.2.c. Performance based assessment

Performance based assessments are those that take place within the natural clinical setting and include work based systems with direct observation of the student (Boursicot et al 2007). Various data sources have been used, such as self-assessment, peer assessment, assessment by faculty, nursing or other members of staff and by patients (Arnold 2002, 2007). Different data may be combined in the form of 360° feedback (Lynch et al 2004, Rees and Shepherd 2005, Stark et al 2008). Assessment of medical students has taken place in both the clinical setting and within problem-based learning group sessions (Cruess et al 2006, Norcini 2006, van Mook et al 2007). Dental students have been observed by staff within a skills lab, and the observations combined with self-assessment to provide the students with concrete feedback (Zijlstra-Shaw et al 2005).

Observations by supervising staff are the most frequent type of assessment (van Luik et al 2000, Zijlstra-Shaw et al. 2005, Norcini 2006, Cruess et al. 2006, Reed 2008). However, the type and number of instruments is very variable. Most use some form of Likert scale, with scales varying from 4 to 9 points. The number of items also varies from three (with optional sub-scales) to more than 30. Reproducibility studies of these assessments suggest that 20-50 separate observations are required to produce reliable results (Ginsburg et al. 2000).

Patients and nursing staff may report on observed behaviour. Patient reports are similarly reproducible to medical staff; nurses' observations are more reproducible, but 10 to 20 assessments are needed to provide reliable results (Ginsburg et al. 2000).

Peer assessment has also been used as peers may have unique insights into each other's performance. They spend more time together, which increases the opportunities to observe clinical behaviour. Furthermore, because of their extended and close relationships, peers may be especially capable of evaluating values and attitudes (Ginsburg et al. 2000, Arnold and Stern 2006, Arnold et al. 2007).

Peer assessment varies in acceptability and reliability (Arnold et al. 2007, Cottrell et al. 2007, Dannefer et al. 2005, Rennie and Crosby 2002, Thomas et al. 1999, van Rosendaal and Jennett 1992). However, the closeness of the relationships that exist among students is a very important aspect of their educational and psychosocial experience, and the need to defend this may be an important impediment to the use of peer assessment, even where it is anonymous (van Rosendaal and Jennett 1992).

Nevertheless, peer assessment shows promise in certain conditions (Arnold et al 2007), These include a conducive environment (including clear criteria and instruction in peer-assessment as well as providing clear action when unprofessional behaviour is disclosed) and meeting students' needs (including anonymity and immediate feedback).

Self assessment has also been suggested as a method to assess the aspects of professionalism and as a general concept. However, self assessment is generally found to be inaccurate, especially when applied to professional behaviour (Ginsburg 2000, Arnold 2002). This is unsurprising as reflection is part of professionalism. Thus a poorly reflective student may not appreciate his or her limitations. Never the less, self assessment forms part of reflective practice and must be a critical component of professionalism if self regulation is to be maintained.

Fortunately self-assessment can be accurate under certain conditions, such as, when learners are expect to gather and interpret data on their own performances in order to discuss this with that of their educator/mentors. Furthermore this process is not only acceptable to medical students and their assessors (Rees and Shepherd 2005a) but has been found to be successful amongst both trainee general practitioners (van de

Camp et al. 2006) and dental students (Zijlstra-Shaw et al. 2005). Its use in summative assessments is not appropriate, however.

In an effort to combat the shortcomings in observational assessment by single groups of assessors and, hopefully combine the advantages of each group, combined observational assessment has been used in the form of 360°, or multi-source, feedback. This procedure uses peers, patients, nursing and other paramedical staff to assess key performance behaviours. There appears to be comparatively little research published on multi-source feedback, but what there is suggests that it has many possibilities. Stark and colleagues (2008) note that when accompanied by the right guidance, it can help all parties to become more comfortable with feedback. Rees and Shepherd (2005b) suggest that, within the right context, its acceptability is high and Lockyer (2003) states that it is one of the better assessment tools for use with interpersonal skills, communication, professionalism, or team work, especially when used for formative feedback.

Observational assessments therefore require trained assessors to ensure reliability (Norcini 2006), but staff may still be reluctant to document unprofessional behaviour (Boenink et al 2005, van Mook et al 2007). The reasons given for this include role conflict between that of educator/mentor and assessor, the recognition that students are learners and are therefore expected to lapse from time to time and difficulties in assessing context due to a lack of continual observation. What may be considered unprofessional behaviour in one context could be considered professional in another. For example, respecting patient autonomy in a non-emergency situation and allowing time for the patient to reflect would be perfectly professional, whereas being more directive to someone acutely unwell may also be appropriate. Similarly misinforming patients about test results was considered both unprofessional (student was untruthful) and professional (student was following the instructions of the consultant not to tell the patient) by staff assessing students in clinical scenarios (Ginsberg et al 2009).

Thus, direct observation, especially during clinical performance, has many advantages. It measures the upper end, i.e. the “show’s how” or even “does”, of Miller’s pyramid (1990). It goes some way to providing authenticity and the context to enable professionalism to be assessed as a second order competence. Unfortunately it is time consuming and requires well trained observers and accurate criteria to work well

(Norcini 2006). Moreover, multiple assessments over time and in varying circumstances are needed (van Luik 2000, 2002). Despite these difficulties the importance of direct observation should not be underestimated, especially when observation from multiple sources is combined with expert feedback to improve the ability to self-assess (Zijlstra-Shaw et al. 2005, van Mook et al. 2007).

2.2.4.2.d. Portfolio

Portfolios are “*a purposeful collection of evidence gathered by individuals in their roles as learners, recording and reflecting on a learner’s progress and achievement in selected domains*” (Fryer-Edwards et al. 2006).

The necessity to incorporate some form of reflection in a portfolio has been debated (Cole 2005, Rees 2005), with Rees regarding it as an essential component which differentiates a portfolio from a logbook. Cole suggests this varies with the purpose for which the portfolio is used.

Portfolios have been used for personal development, assessment and for learning. Each aspect may be present alone or in combination. They have been used at all stages of medical education from first year undergraduate to postgraduate specialist training and continuing professional education of fully qualified practitioners since the 1990s (Fryer-Edwards et al. 2006, Driessen et al. 2007). Portfolios are effective and efficient in primary care (Mathers et al. 1999), but their implementation has mixed success (Dornan et al. 2002, Gordon 2003).

The portfolios may be digital or paper-based and their content may be prescribed or left to the students’ discretion (Driessen et al. 2007). Driessen and colleagues further describe a lack of an adequate description of content, context and implementation in the studies they reviewed. However, they did find that, when viewed as an assessment instrument, portfolios are reported to be reliable, especially when a small group of trained assessors is used, discussion occurs between the assessors before the assessment and after assessing part of the portfolio and global criteria are used. Furthermore, they are often acceptable to stakeholders where they are integral to the educational programme and where good mentoring and support is available. Recent

work has also suggested that qualitative assessments of portfolios may well resolve issues of validity (Driessen et al. 2005)

Portfolios have the major disadvantage that they can be time consuming to compile and assess (Mathers et al. 1999, Dornan et al. 2002). Furthermore, most portfolio research has investigated either reflection or general professional competence, as opposed to specific aspects of professionalism or professionalism as a construct. There are issues for standard setting for collections of such diverse evidence. However, what all portfolios have in common is the great advantage of being able to record authentic material from multiple sources over time, which incorporates all four levels of Millers pyramid (1990). Students can also reflect on and account for the material presented, which are two important aspects of professionalism. This would suggest that portfolios have potential for use within a system to assess professionalism. The evidence on portfolio as a means of assessment continues to expand and may improve methods of evaluation, particularly as more qualitative methods are researched (Driessen et al 2005, McCready 2007).

2.2.5 Summary

As this section has outlined, assessment should help students focus their learning, identify individual strengths and weaknesses, provide an opportunity for improvement, highlight deficiencies in the content or delivery of the course and, in the case of health sciences education, protect the public against incompetent graduates. However, literature reviews covering both professionalism and its assessment generally conclude that more research is needed, particularly with regard to a concrete definition of the concept.

This lack of clarity has resulted in numerous instruments being used in numerous ways. Despite an increasing interest in professionalism, no single method of assessment has emerged that is reliable and valid and few instruments found in the literature meet the criteria for an ideal test.

Many of the problems of reliability arise because the assessment tools have been developed for different purposes and in different circumstances, perhaps reflecting the varying contexts of professionalism.

The complex nature of professionalism means that it is unlikely to be adequately measured by a single assessment. Thus, a combination of tools is generally recommended. Triangulation of multiple assessments by multiple assessors over time is thought to be most useful. Instruments to measure professionalism that show promise include portfolios containing multiple observations from multiple observers in multiple contexts, direct observation from multiple, preferably well trained, sources combined with expert feedback and the use of clinical vignettes or standardised patients along with, in all cases, reflections on these assessments.

Assessments must be clear about their purpose (formative or summative) and consequences. This would be more easily achieved if a validated, operationalised definition of professionalism in dentistry were available. Dental educators should regard professionalism as both a complex construct and a second order competence.

Thus, once a definition is agreed, dental educators will be able to set educational aims and objectives with respect to professionalism and develop assessment systems. These aims and objectives should be embedded throughout the curriculum (van Mook 2009e). There are also implications for staff training, not only to provide consistency and clarity of expectation, but also because consistent oral and written feedback is essential to optimise any benefits from the assessment of professionalism (van Mook 2009c, Christie et al 2007).

2.2.6 Conclusion

Despite the extensive and growing literature within medical and dental education, and the acknowledged need to assess professionalism, no single instrument has been found to measure it. The main reasons for this include the lack of definitions and difficulties operationalising the ideas. Professionalism varies with context and is a second order competence, thus making it more difficult to model or define.

In order to enhance dental education via the assessment of students' professionalism, the first step is to define professionalism in dentistry and develop an operational construct. Then, educational programmes can be developed which teach professionalism and students can be assessed within that construct.

The work presented in this chapter has already been published in the peer-reviewed literature as:

Zijlstra-Shaw S, Roberts TE and Robinson PG (2012) Assessing Professionalism within Dental Education; the need for a definition *European Journal of Dental Education* 16(1):e128-36

Chapter 3

Statement of Aims and Objectives

Chapter 3

Statement of Aims and objectives

This research aimed to develop an instrument to assess professionalism within dentistry.

This was achieved through the following objectives;

1. Define professionalism in dentistry, identifying the concepts and domains within this construct
2. Develop indicators of those domains
3. Assemble, pilot and evaluate an assessment method for professionalism in dental undergraduate education

Strategic decisions

3.1 Identify concepts of professionalism in dentistry and the domains within this construct

As a complex construct concepts of professionalism must be inferred from various types of evidence. Construct domains are interrelated attributes (behaviours, attitudes, values) within a construct (A.E.R.A. et al 1999). The first objective was therefore to define professionalism within dentistry and identify, to categorise, the domains within it and consider how they may be linked. Qualitative research methods are most suitable in this case, as they consist of a set of interpretive material practices that make the world visible (Denzin and Lincoln 2000). Using this approach, theory and categorisation, rather than numbers, arise from the data (Bryman 2008). In this way qualitative methods provide descriptive information, aid conceptualisation and emphasise understanding of phenomena (Murphy et al 1998). Thus a qualitative study was carried out to meet this first objective.

Qualitative studies begin with the collection of data that may be “naturally occurring” i.e. it already exists in the form of documentation, or is observed or otherwise recorded e.g. ethnography or conversational analysis, or specifically generated e.g. in-depth interviews or group discussions. Semi-structured, open-ended interviews are useful in this case as the intention is to identify “ideal” domains. Thus the data need to be relevant to the construct, but the method should have the flexibility to allow

participants to provide their own insight into it. Semi-structured interviews helped ensure that all specific issues relevant to professionalism were identified.

Framework Analysis was developed by researchers at the UK National Centre for Social Research, specifically for applied or policy relevant qualitative research and is now used widely in applied social policy research. Unlike other qualitative methods, Grounded Theory for example, Framework Analysis starts deductively with a preliminary data framework and the objectives of the investigation are typically set in advance. Despite this, the analysis still reflects the original accounts and observations of the people studied (Ritchie and Lewis 2003). The hierarchical thematic framework is used to classify and organise data according to key themes, concepts and emergent categories. Furthermore the analysis is explicit and designed so that it can be assessed by others (Pope et al 2000). This aspect was especially important, as once identified the domains of professionalism would need to be accepted by a variety of different stakeholders.

Framework Analysis is particularly useful in cases where the topic has already been partly conceptualised, which was the case here as, following a review of the literature, professionalism was conceptualised as “the organised autonomy to carry out work which requires specific expertise, and which is justified by accountability”.

Framework Analysis will also help with the operationalisation of the construct as the framework ultimately identifies a series of main themes subdivided by a succession of related subtopics. As the purpose of this part of the research was the identification of the domains within the construct of professionalism in order to develop measures that tap into those domains, the thematic framework and subtopics may, in addition to this identification, suggested areas which could be measured.

3.2 Develop indicators of those domains

Because the construct of professionalism covers both abilities and personal qualities, a programme of assessment *for* education must promote personal and professional development. The programme was developed using the following stages;

- a. Develop Assessment Strategy

Firstly, an educational framework which incorporated appropriate models of learning was developed, followed by the development of an assessment strategy based on that framework.

b. Develop/adapt assessment tools

Secondly, a programme of assessment that related to an existing undergraduate curriculum was developed or adapted to provide a clear framework within which staff members could assess students' growing professionalism. Preliminary evaluation of the framework and tools was panel tested within stakeholder focus groups, to assess acceptability, feasibility, and face and content validity.

3.3 Assemble, pilot and evaluate an assessment tool for professionalism in dental undergraduate education

The evaluation of the assessment tool within the overall assessment programme covered both the processes and outcomes. This encompassed feasibility and acceptability in addition to validity and reliability.

The evaluation had the following objectives;

- The system was administered as a pilot to a cohort of students
- Process and outcomes were evaluated quantitatively and qualitatively

The quantitative aspects took the form of a test validation study where participants' test scores were described, their internal relationships considered and compared with an external referent. As no gold standard assessment of professionalism exists, the global judgements of participant's tutors were used as the referent.

Chapter 4

Qualitative study to
identify domains within
professionalism in
dentistry

Chapter 4

Qualitative study to identify domains within professionalism in dentistry

The literature review concluded that both a definition and a conceptual model were needed to aid operationalisation of professionalism. The aim of the research described in this chapter is to define professionalism in dentistry and identify concepts and domains within it upon which assessments could be based.

Previous studies that attempt to conceptualise professionalism within medicine have been qualitative (Green et al. 2009, Jha et al 2006, Monrouxe et al 2011, van de Camp 2004, Wagner et al. 2006). Most have used existing data or have been carried out in a specific teaching hospital environment. The literature however revealed no studies relating specifically to dentistry.

4.1 Method

Overview:

Qualitative in-depth interview study, using Framework Analysis.

4.1.1 Participants

The target population was dental professionals or dental students and patients who had an interest in professionalism. The participants, therefore, were purposively sampled from groups who had demonstrated an interest in professionalism by their participation in the current system of G.D.C and N.H.S. regulations or in education of dental students. These included the following groups;

- Dentally qualified members of the G.D.C. fitness to practice committee, with experience of the boundaries of professionalism/unprofessionalism from the professional's point of view.
- Patient representatives including, lay members of the G.D.C. fitness to practice committee, with experience of the boundaries of professionalism/unprofessionalism from the patient's point of view.
- General dental practice advisors, as they have wide knowledge of N.H.S. regulations and how they are interpreted by numerous general dental practitioners.

- Dental Reference Officers, as they also have wide knowledge of N.H.S. regulations and how they are interpreted by numerous general dental practitioners in their practices.
- Dental public health experts who might hold broader views of the profession and its services.
- Experienced dental educators who have experience of dental student's development from "interested lay person" to qualified professional.
- Dental students with current experience of learning to develop professionalism
- Newly qualified dentists whose perspective may be less embedded in tradition
- Other members of the dental team, i.e. not qualified dentists, who have experience of dental practice as neither a patient nor a dentist.

These groups were placed in a matrix drawn up to mirror the Royal College of Physicians working party on professionalism in medicine (2005, see Table 3, page 81). This ensured that participants represented a range of demographic factors and the perspectives of all stakeholders (Ritchie and Lewis 2003).

Persons who declined to be interviewed were excluded from the study, as was anyone who met the University of Sheffield description of vulnerable participants, i.e. infants and children under 18 years of age, people with physiological and/or psychological impairments and/or learning difficulties, people dependent on the protection or under the control/influence of others (e.g. children, pupils, people in care, young offenders, prisoners), relatives of sick people (e.g. parents of sick children), people with basic or elementary knowledge of English.

Permission was sought from the University of Sheffield Ethics Committee before participants were approached or enrolled (Appendix 2). Recruitment began by e-mail contact from the researcher, introducing the project and was followed up by home/office visits to explain the study and invite participation.

Table 3 Sampling matrix used to identify participants

Characteristic	Aged 20-34		Aged 35-44		Aged 45-55		Aged 55+	
	M	F	M	F	M	F	M	F
Dentally qualified members of the G.D.C. fitness to practice committee, who has experience of the boundaries of professionalism/unprofessionalism from the professional's point of view.								
Patient representatives including, lay members of the G.D.C. fitness to practice committee, who have experience of the boundaries of professionalism/unprofessionalism from the patient's point of view.								
General dental practice advisors, as they have wide knowledge of N.H.S. regulations and how they are interpreted by numerous general dental practitioners in their practices.								
Dental Reference Officers, as they also have wide knowledge of N.H.S. regulations and how they are interpreted by numerous general dental practitioners in their practices.								
Dental public health experts who has a different and broader view of the profession and the services the profession provides.								
Experienced dental educators who have experience of dental student's development from "interested lay person" to qualified professional.								
Dental students with current experience of learning to develop professionalism								
Newly qualified dentists whose perspective may be less embedded in tradition								
Other members of the dental team, i.e. not qualified dentists, who have experience of dental practice as neither a patient nor a dentist.								

Of the eventual fifteen participants, nine were male. Age groups ranged from 20-25 years to 60-65 years. Participants, included both lay (1) and dentally qualified (1) members of the GDC, experienced (4) and newly qualified general dental practitioners (2), dentally qualified consultants in a number of differing specialities (4), registered dental care professionals (2) and students (2). Participants were from differing ethnic backgrounds which included white British, African Asian and European, and worked in all four nations within the United Kingdom. Nine were dentally qualified, of whom seven had considerable experience in general dental practice. There were two patient representatives. Eleven participants were involved in dental education at either undergraduate or postgraduate level. These numbers total more than fifteen because several participants fell into more than one category.

4.1.2 Interview guide

A preliminary semi-structured interview guide included questions or topics to be covered, which was used to steer the interview, rather than a set of standardised questions which may well have limited the information obtained. The interview guide was designed to ensure relevant issues were covered systematically whilst allowing flexibility to ensure participants views were adequately reflected in the data (Ritchie and Lewis 2003). The interview guide was evaluated following pilot interviews, and modified as appropriate, using constant comparative analysis to follow new leads when appropriate. (Appendix 3)

4.1.3 Data collection

Interviews were carried out at a time and place most convenient to the participant. Consent to participation in the research and to the interview being recorded was obtained using a standardised consent form, before any data were collected (Appendix 2). Field notes and digital recording of all the interviews were carried out.

All digital media were stored on a password protected computer and backed up on a separate password protected computer. The password is only known by the researcher. Participants were not identifiable from either the recordings or the transcriptions of the interviews and all data were fully anonymised before publication.

Participants were not identifiable from either the recordings or the transcripts, as these were stored by reference number only. The key to this reference number was made on paper only and kept separately from both the transcripts and the recordings within a locked filing cabinet. Only the researcher had access to this filing cabinet.

Data collection continued until saturation was achieved; that is no further insights were elicited from the most recently collected data and thus data collection was halted (Bryman 2008). Fifteen interviews were conducted. No new themes emerged after interview 12.

4.1.4 Transcription

Field notes and digital recording of all the interviews were transcribed verbatim as quickly as possible after the interview to allow the data to be analysed as it was collected.

Transcription was carried out in accordance to the data governance and ethical protocols laid down by the University of Sheffield Ethics committee. Data governance ensured both the probity of the research and the protection of the participants.

4.1.5 Analysis

The data transcripts were analysed using Framework Analysis (Ritchie and Lewis 2003). A preliminary Framework was derived from pre-existing knowledge, in this case the descriptions arising out of the literature review. The initial framework had seven major themes: definitions of professionalism, emotional intelligence, professional image, changes over time, learnt by experience, needs a context and affected by culture.

Thematic Framework Analysis was conducted in five stages to cover data management and the identification of categories in the data as themes in the framework. First, during familiarisation, the researcher re-read the field notes and transcripts in order to be able to list key ideas and recurrent themes. Secondly, to identify the thematic framework, the researcher identified all the key issues, concepts, and themes by which the data could be examined and referenced, and thus produced a detailed index of the data, for subsequent retrieval and exploration. The third stage was that of indexing, during which the researcher applied the thematic framework systematically to all the data in textual form. This was followed by charting, during which the researcher rearranged the data according to the appropriate part of the thematic framework to which they related, using abstraction and synthesis to produce distilled summaries of the views expressed in the data. Finally, the fifth stage consisted of mapping and interpretation. This final stage used charts and emerging themes to define concepts, domains and attributes within the construct of professionalism within dentistry, and provided explanations for their interrelation, which emerged from the data.

During analysis the initial framework was modified when necessary and a record of all the modifications was made. The seven initial themes expanded to 19 subheadings, categorised under trust, reflection, empathy, altruism, vocational and second order after 9 interviews. Following 11 interviews this expanded again into 28 subheadings and “needs a context” was added to the categories. Finally after 15 interviews the data was further analysed to produce four major categories. Following each modification the previously analysed transcripts were revisited to ensure consistency. The analysis was carried out as a continuous process incorporating new data as they became available, thus enabling emergent themes to be chased in subsequent interviews and ensured that no themes were missed. Two pilot interviews were used to assess the interview guide, which was found not to need further modification, and these were included in the full study. In order to ensure the validity of the framework the researcher discussed each stage of the analysis with the research team.

4.1.6 Reflexivity

The researcher had a long standing interest in professionalism in dentistry which may have influenced the way in which the interviews were conducted. However, training in interview techniques was undertaken before data collection and the transcripts were made available to the more experienced members of the research team for comment. Moreover, the interview guides (Appendix 3) were also checked by experienced researchers, as were any amendments. The participants were purposively sampled and this was also crosschecked to ensure both breadth and depth of perspectives were captured. The data analysis was validated by triangulating it between researchers, one of whom (PGR) continually checked both the transcripts and the analysis whilst the other (TER) checked the analysis on a random basis, and by comparing findings with existing knowledge. Transcripts and the index were also checked by the other research team members.

Once the data were collected, transcribed and analysed a report of the identified domains and their relationship to professionalism in dentistry as a construct was written. This was distributed to a panel of experts for comment to ensure that the domains identified are in line with current view of dental professionalism.

4.2 Results

Following data analysis professionalism was conceptualized as the manner in which one reflects on and reconciles different aspects of professional practice and which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects varies with and is appropriate to the context. Accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves. This definition will be used throughout the remainder of the thesis.

During charting the data seemed to form natural groups or categories. This aided in the construction of a conceptual model based on both the categories and the associations between the categories seen in the data during the analysis. Many of the factors were expressed both directly and indirectly leading to the categorisation as tacit and overt, depending on the degree of indirect description.

Four large categories of themes emerged from the data. These were

- professionalism as a second order competence,
- the expression of professionalism as dependent on context
- professionalism encompasses personal aspects which maybe tacit or overt
- reflection

The final category, reflection, appeared as an overarching theme and professionalism was perceived as the balance produced from reflection upon all the various interrelated factors which was subsequently manifest as the manner in which work was performed.

These themes and aspects can be arranged graphically in a framework (Figure 6, page 86). The results will be detailed using this framework and illustrated with pseudonymised quotes from the data.

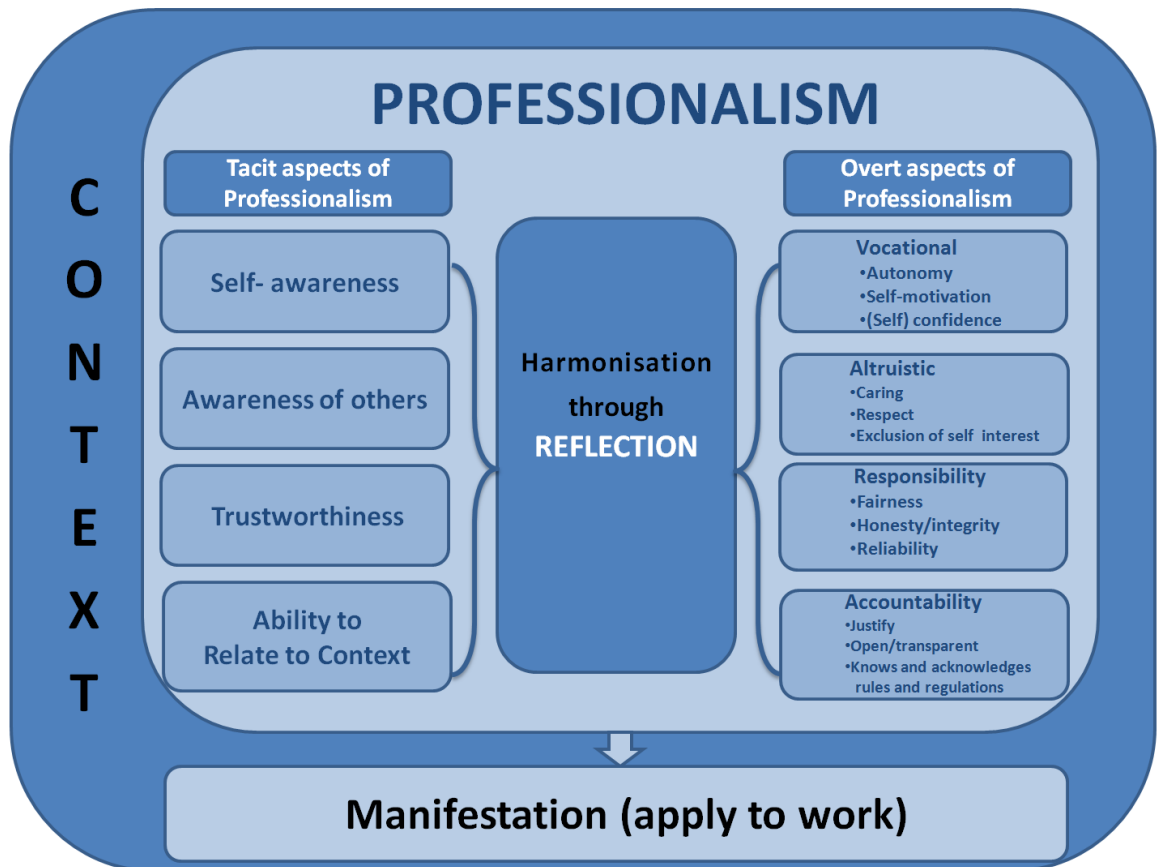


Figure 6 Model of Professionalism in dentistry

4.2.1 Professionalism as a second order competence

Professionalism appears as a second order competence. That is, a competence which is demonstrated only when carrying out another, first order competence. Thus, it encompasses and is demonstrated whilst carrying out first order competences such as technical, communication, interpersonal leadership and management skills. This distinction is described in the data where it was seen as vague and related to the way of thinking. The second order nature arose because

“people might argue that professionalism is actually more about a way of thinking” (David, lay expert in professionalism).

Professionalism was seen to incorporate, or be demonstrated when carrying out, other competences. These include technical competences, communication competences and

other aspects of competence such as those relating to leadership. Descriptions include the following relating to technical competence;

“the judgement and the decision making of professionals rather than pure technical competence” (David, lay expert in professionalism)

“So I think you judge it on the treatment that you receive er as well as how you are treated as a person” (Frederick, patient representative)

Descriptions relating to communication skills included;

“it means that they are aware of what needs to happen in relation to patients, and to patients’ care and how to communicate that with others, with the patient and with anybody else within the organisation who might need to know” (Betty, local councillor)

“a professional dentist would have to be able to not only carry out the procedures optimally, but also to have that ability to inspire trust through explanation and through communication” (George dental adviser)

And finally descriptions relating professionalism to leadership skills included;

“if we are thinking about the dentist in the context of erm the practice owner or the provider then it’s about team leadership and inspiration” (George dental adviser)

“I think that you should be able to work as a team but you should be able to show leadership skills as well” (Jayne, oral surgeon)

Thus, whilst professionalism might encompass technical, communication and leadership skills, these were manifestations of something that was vague;

“professionalism is more than just carrying out the role of being the dentist in the dental surgery” (George dental adviser).

And

“it’s being able to make that judgement” (Les, community dentist)

Furthermore, professionalism encompassed both attitudes and behaviours;

“professionalism can be about knowing things, but it is also about attitudes” (Chris, ethicist)

"I think there is a certain expectation of behaviour, which you associate with professionals Which is perhaps a bit higher than the norm that society norm, if you like" (Frederick, patient representative)

"but it goes beyond the behaviour that you can see" (Kate consultant dentist)

This inclusion of the motivation behind the behaviour was also more directly stated;

"that may come from professionalism or it may come from fear of being caught out, but erm so again you don't know the motivation" (David, lay expert in professionalism)

Thus professionalism was seen as a second order competence which covered both attitudes and behaviour and was manifest in the way first order competences were carried out.

4.2.2 Professionalism as context dependent

Context dependence recognised that 'professionalism' varied in relation to many external factors. It was expressed within the data in a number of ways including flexibility, changes over time, variations in professional image and the influence of both culture and institution.

This context dependence was expressed both directly, for example;

"I think that sometimes depending on what your particular mood is you might accept professionalism that is something here, you know behaviour A, and on a different day behaviour A is just on the borderline of professionalism and on another day behaviour A is completely unsuitable" (Jayne, oral surgeon)

and indirectly in a number of ways which included, for example, flexibility;

"there has to be flexibility within it, and deviating slightly from that, and using you experience and judgement" (Andrew, dental practitioner)

"You should have the ability to adapt into whatever situation that you are in" (Jayne, oral surgeon)

Personal appearance and forms of dress formed part of the context and often related to the person's professional image. Examples include:

“you can win so much more by giving the professional appearance and by paying attention, being clean and tidy it can save you a lot of time and effort” (Betty, local councillor)

“you’ve got to be professional in your appearance I think, patients expect you to dress appropriately” (Ian, Dental Dean)

Time was also part of the context and changes within professionalism were seen over time with examples being given as to how previously accepted norms had changed over the years;

“my concept of professionalism is changing all the time” (Chris, ethicist)

“the old-fashioned days of you know going to hospital and seeing “The consultant” who you expected to be the older gentleman, greying with the half-moon glasses on the end of the nose and it was almost expected that they would be cold, clinical dealing you straight facts, straight down the line, telling you just as much as they felt you needed to tell you or in fact telling you very little indeed. Sort of “I’m the consultant, this is what you’ve got, this is what you need and that’s the end of it” whereas I think nowadays, I think we have almost gone the other way is that I think the people who are successful in their professionalism are those that are more touchy-feely who do present a slightly more human outlook” (Les, community dentist)

“Dentists will have changed over the years the boundaries where they exist now would have been very different years ago, and may move further in future” (Andrew, dental practitioner)

“because best ways and best practices change and what you might be perfectly alright at one stage is certainly not alright at another” (Edna, DCP)

Professionalism was affected by the culture of the institution in which people work and the norms of other staff working in the same environment. In this way work place culture provided the context in which professionalism was expressed;

“it’s interesting, knowing people from different hospitals and schools and sometimes going to visit them and the like, and just to see how the dynamics are different, and you think, well we are all dentists, but quite clearly people are bringing different things to the institution” (Mark, consultant dentist)

“if we take practice; it is different in the community and hospitals” (Edna, DCP)

Examples of the effects of colleagues include;

“You also, I think, are very often guided by the people with whom you work and the settings you go into” (Edna, DCP)

“I think dental nurses’ idea of what professionalism is, is what the dentist they are working with does and that that’s the norm for dentistry” (Andrew, dental practitioner)

The effect of the working environment was seen as positive;

“Ok the physical environment isn’t everything, but if you are in a pleasant environment then within reason you would generally conduct yourself accordingly” (Andrew, dental practitioner)

but could also be seen as one which challenged professional standards;

“I think that sometimes professionalism can clash with NHS edicts or constraints” (Kate, consultant dentist)

Another form of conflict was described where cultural aspects relating to society in general were seen to be important, as was learning how professionalism was expressed in the locality where one worked;

“I certainly think language and cultural awareness of professionals coming in are very important things which have caused problems in the past” (Frederick, patient representative)

“I think one has to recognise that the definition of professionalism as most UK dentists would describe it is not necessarily transferable to all parts of the world. And herein sometimes lies a conflict between colleagues who have come to work in the UK from other places and whose culture is notably different” (George, dental adviser)

Whilst the above examples illustrate the context dependent nature of professionalism they also imply that professionals need the ability to relate to that context. This sensitivity to context is a theme described under personal aspects of professionalism which follow.

4.2.3 The personal aspects of professionalism

The personal aspects could be tacit or overt. Here tacit is used in a similar manner to “tacit knowledge” as described by Polanyi (1967) that is they are aspects which are used without conscious awareness. Overt aspects were the first order behaviours that were more directly interpretable.

4.2.3.1 Self- awareness

Tacit aspects included self- awareness which was seen to be important both for protection of the patient and for the professional satisfaction of the dentist;

“Always being aware that people have limitations and things and what your own limitations are” (Edna, DCP)

“a dentist who has self knowledge can act in a professional way”(George, dental adviser)

“I think that part of professionalism is knowing what your boundaries are and not going past them, because if you go past them you might be lucky and make it right, but the majority of the times, you’ll be unlucky and you’ll make something wrong” (Jayne, oral surgeon)

“I think it’s being happy in yourself with that; that you have done your best for that patient in that situation and in needing to recognise that, which is an important step” (Les, community dentist)

4.2.3.2 Awareness of others

Another of the tacit aspects was sensitivity to context and particularly an awareness of the needs of others (patient, other members of the dental teams etc). Professionals were described as being

“aware of what needs to happen in relation to patients, and to patients’ care” (Betty, local councillor)

and having *“sensitivity to small things” (Chris, ethicist).*

Which lead to the ability to anticipate the needs of other people;

"it really is down to anticipating peoples questions and queries" (Frederick, patient representative).

Awareness of others was strongly related to, but not the same as, caring;

"It's having an awareness as well as the caring" (Kate, consultant dentist)

This awareness was described as being related to feelings;

"I suppose your emotional intelligence comes into it erm be very aware of them, try and pick up on non-verbal clues" (Harriet, recently qualified dentist).

and to respect;

"and there's not that respect and awareness."(Kate, consultant dentist)

The awareness of others was seen as being an important and necessary step in the process of communication with patients;

"... because you have to be able to put people at ease, you have to be able to explain things to them in a way that they understand... .. so I think that's something that is not necessarily recognised or valued and it really needs to be."(Jayne, oral surgeon)

"so you've got to try and imagine, if you were them and didn't know much about it, how would you want the dentist to explain it to you," (Nigel, dental student)

Thus sensitivity to context including awareness of others was seen as a necessary personal factor in order to be caring and meet the needs of others.

4.2.3.3 Trustworthiness

Trustworthiness was a particularly important theme and was described both as the individual's ability to instil trust and actually be trustworthy. It was strongly related to overt aspects of responsibility such as honesty, integrity and fairness. Trust was invested within the professional as a personal quality and descriptions included;

“Trust is vital and so therefore to gain trust, the trust is not just in the treatment; the trust is in you as a person” (Edna, DCP),

that may explain the link to integrity. Trustworthiness was seen as an awareness of how the professional’s actions affected the perception of trust, and thus treatment outcomes;

“if you can instil confidence and trust within them well then, your kind of dentist patient relationship is going to help you throughout the course of treatment and ultimately, I think, result in more successful treatment for the patient” (Harriet, recently qualified dentist).

The effect of trustworthiness was difficult to underestimate and was described in relationship to all interactions between dentists and other people from being central to the dentist patient relationship;

“There’s a whole range of things that build into that overall degree of trust but at the top of the pile is communication and erm empathy between the dentist and patient” (Frederick, patient representative)

“we keep saying professionals should be trustworthy, so we have to trust them” (Olivia, dental practitioner)

“I still think we are a very privileged profession where patients put that trust in you, and it’s all down to trust isn’t it?” (Kate, consultant dentist)

to being an essential practice for everyday actions;

“And when I mean them being trustworthy I mean for example, the simple thing like making sure you wash your hands appropriately, at the appropriate times between patients and that you don’t cut corners” (Ian, Dental Dean)

Trustworthiness was described therefore as an essential central personal factor for professionals. There were also descriptions of a lack of trust leading to unprofessionalism;

“when probity is an issue the dentist is not acting professionally” (George dental adviser)

but the conclusion seemed to be

“it’s a profession taken as a whole, they can have trust in” (George, dental adviser)

Thus, the characteristics relating to trust and the ability to instil trust in those around them were seen as essential for professionalism.

4.2.3.4 Ability to relate to context

As was seen in the descriptions of the context dependent nature of professionalism, the ability to relate to context was a necessary element for professionalism. This was described as the need for flexibility and adaptability:

“You should have the ability to adapt into whatever situation that you are in” (Jayne, Oral surgeon).

“there has to be flexibility within it, and deviating slightly from that, and using you experience and judgement” (Andrew, dental practitioner)

This ability to relate to context was also expressed more directly,

“I just thought that he was very professional in that he read the situation and he came in and he had the social skills and the confidence to do that” (Kate consultant dentist)

In this final example the more tacit aspect can also be seen when the professional is described not just as having the ability to relate to the context but also being able to then apply that ability in relation to what he was doing.

4.2.3.5 Vocational aspects of professionalism

Vocational aspect such as autonomy, (self-)motivation and (self-)confidence, or more simply, a sense of commitment were described more overtly. Descriptions of autonomy included:

“professionalism to me isn’t always giving people what they want. It might be explaining to people why they can’t have something, you know” (Frederick, patient representative)

“to have the amount of freedom, albeit dwindling away, but to have the amount of freedom and that power, good and bad power, over patients and that

ultimate say in what we do, which we do have, is a huge responsibility” (Kate, consultant dentist)

and

“in being a dentist you have to have a certain amount of responsibility erm and therefore you have a certain amount of authority” (Edna DCP)

These later two quotes also illustrate the interconnectedness of the factors by linking autonomy with responsibility. This interconnectedness can be seen in the following description which connects the vocational aspects with both idealism and altruism;

“I mean if you break it down to the kind of core then I think it’s being a good person really, because if you are essentially good and try your best, well then ultimately you’re hopefully going to fulfil the criteria that make up a professional” (Harriet, recently qualified dentist)

4.2.3.6 Altruism

Another overt aspect was altruism. This was seen in such qualities as caring, service to others, respect and the essential need to treat the patient as a person and not just a case, for example;

“I think that is an aspect of professionalism as well, you know, being able to envisage what’s it’s like being sat at the other side of the desk” (Frederick, patient representative)

And

“you just feel that you’re not just someone who has come in for dental treatment you are someone who’s coming to the dentist who actually knows them and understands what is going on.”(Nigel, dental student)

Altruism was also described as the exclusion of self interest;

“but you think, right this person’s in pain, you know, I think I’ll sort this out at my inconvenience, but because I want to kind of sort them out, and that’s something that might be a part of professionalism” (Jayne, oral surgeon).

This consideration of other individuals involved not only patients, but also other members of the dental team and wider considerations relating to society at large. Moreover this had its roots in a form of empathetic reflection;

"I'd like to see more empathy. As I said do as you would be done by, putting yourself in somebody else's position I think is very important" (Edna, DCP)

4.2.3.7 Responsibility

The professional's sense of responsibility played an important role and was associated with honesty and integrity, fairness and reliability for example;

"I think professionalism is first of all being responsible for what you are doing" (Jayne, oral surgeon)

"Patients expect you to be reliable, they expect when they turn up at your surgery they expect you to be there" (Edna DCP)

"I think that idea of honesty, a general duty of honesty is always there" (David, lay expert in professionalism)

"I think honesty, to be considered and when you don't know, just say you don't know" (Kate, Consultant Dentist)

and

"you'd be fair, I think there's got to be an element of fairness" (Kate, consultant dentist).

The relationship between responsibility with honesty, integrity, and fairness was seen in descriptions of social responsibility and its relationship to professional standards;

"I think mutual responsibility, I would put that down. Because one can be responsible as a professional for one's own dentistry and one's own approach; but it's not professional to be aware of other colleagues who are falling by the wayside, or who do have problems and not to, in some way, do something about it" (George dental adviser)

"you are also kind of responsible for professional standards" (Chris, ethicist)

This ideal of responsibility was related to vocational aspects such as autonomy and authority;

"You don't get authority without the responsibility the two go together" (Edna DCP)

And was to be applied both at work and outside of work;

“I think that you should lead a life that’s responsible inside of work and outside of work” (Jayne, oral surgeon)

In this way responsibility was not only an essential aspect of professionalism but also linked into the more tacit ideals of trustworthiness.

4.2.3.8 Accountability

Professional accountability was described as the ability to justify decisions and actions in an open, transparent way to the patient, professional colleagues, society and themselves in relation to the context;

“Ideally you would keep everyone informed who has got a stake in it at all times” (Chris ethicist)

Accountability, when described as an ability to explain the professional’s actions, was expressed both directly, as being able to provide justification;

“you should always contact the individuals concerned and explain the reason why you have done this. They may not agree with what you’ve said, but at least you’ve been upfront” (Ian, Dental Dean)

and indirectly, as a requirement to be open and transparent when dealing with others;

“some dentists are fantastic about telling you upfront. Erm ... and making it very clear and that may come from professionalism” (David, lay expert in professionalism).

The descriptions also included the rationale for being open and transparent in that it helped patients understanding;

“if you’re up front with what you are doing and why you are doing it, usually that allays the fears of the patient” (Ian, Dental Dean)

Descriptions included the need for accountability in the form of audit and thus related accountability to trustworthiness and patient care;

"I think by auditing, we are not saying we distrust all of you, we are just saying, let's see if the system does work, because it is there to protect patients so we have a duty to do some kind of audit of it" (Olivia, dental practitioner)

In this way accountability was seen as a factor which enabled professionals to relate to their patients and maintain public trust and was thus another essential aspect of professionalism.

4.2.4 Reflection and professionalism

Reflection was seen as a core component of professionalism. It was described as "a way of thinking";

"I think professionalism to me is something more experiential, reflective, thought-based" (David, lay expert in professionalism).

In this way reflection was an overarching theme;

"not only reflecting on clinical aspects, but reflecting on interactions and relationships and situations, could they have been handled better, and if they could, how?" (Harriet, recently qualified dentist).

This reflective process incorporated

"An ability to be open to things, to consider other things and yes to make you mind up afterwards" (Betty, local councillor).

The individual professional, once aware of the requirements of the situation, then took each of the themes and personal aspects into consideration;

"the more thoughtful a profession was the better it would be and therefore it would be reassuring to know that they had thought about all the issues, whatever course of action they decided on" (David, lay expert in professionalism).

Once again the interlinking of factors within professionalism was illustrated, as these factors were also related to the ability to demonstrate (self)reflection in the form of reflective learning and this may have arisen out of the individual's self-awareness, alongside the motivation to do something about these;

“If you wanted another aspect of professionalism it is probably to recognise where your shortcomings actually are and to act on them” (George, dental adviser).

4.2.4.1 Harmonising and Balance

Whilst each of the themes and personal aspects described within the model were necessary they were likely to have differing degrees of importance, depending on the context. The reflective process resulted in a reconciling or harmonisation of the themes and personal aspects which acknowledged the differing degrees of relevance to the situation;

This overarching theme of professionalism was the process of reflecting on applying and reconciling, a process described as harmonising, all the different aspects of professionalism to situations in everyday living, within, but also beyond clinical practice. This reflection could then be manifest in behaviours in those situations.

“anything that, you know, affects the patient’s perception of you, and anything that they would expect to be reasonable behaviour of someone that they are entrusting an aspect of their health to would have to be an aspect of professionalism.” (Andrew, dental practitioner)

“one has to be able to balance all sorts of things all at once to process all sorts of information” (George, dental adviser).

This process led to the manifestation of professionalism which was applied to the other domains of competence, e.g. communication skills or technical ability, in the performance of professional work.

4.3 Discussion

The aim of this study was to identify and categorise domains within professionalism relating to dentistry and consider how they may be linked. The analysis revealed that professionalism in dentistry is conceptualised within four main themes, professionalism as a second order competence, the expression of professionalism as dependent on context, professionalism encompasses personal aspects which are both tacit and overt and reflection as a necessary component. These themes were then combined into a conceptual model (Figure 6, page 86).

The data were consistent with the construct being both multifactorial and context dependent. Furthermore professionalism was seen as a complex construct which, in addition to it being multifactorial, vague and variable, encompassed both attitudes and behaviour.

These findings were in accord with the descriptions of professionalism found in the literature (Table 4, page 101). However, what this research adds to this body of work is an empirical base. Moreover, it is the first empirically and theoretically driven work in the field of dental professionalism. Being data-led the research also provides important detail. The following sections build on this triangulation and explain the implications of this detail alongside the relevance for the assessment of professionalism.

The data confirmed professionalism as a second order competence when it was described in relation to carrying out other competences, such as technical and communication competences. This is also seen in the work of Evans (2008) where she states that professionalism can only be demonstrated when doing something.

This second order nature of professionalism partly explains its vague nature. Not only is professionalism linked to actions, but it is also the reasoning behind those actions. This echoes the work of Verkerk and colleagues (2007) who require professionals to be able to account for their actions, in order to reveal this second order aspect. Moreover, Arnold (2002) suggests that one of the ways professionalism should be assessed is as part of clinical performance.

Table 4 Triangulation of themes found in the data with those in the literature on professionalism

Theme		Reference
Ability to relate to context/context dependent		Ginsburg et al (2000, 2004 and 2009) Jha et al (2006) Monrouxe et al (2011)
Second order competence		Arnold (2002) Verkerk et al (2007) Evans (2008)
Personal qualities	Vocational	Arnold (2002) Royal College of Surgeons (2005) GDC (2005) Stern (2006) Monrouxe et al (2011)
	Altruistic	Arnold (2002) Royal College of Surgeons (2005) GDC (2005) Stern (2006) Monrouxe et al (2011)
	Self-awareness	Arnold (2002) van de Camp et al (2004 and 2006) Jha et al (2006), Stern (2006) Monrouxe et al's (2011)
	Awareness of others	Arnold (2002) van de Camp et al (2004 and 2006) Jha et al (2006) Stern (2006) Monrouxe et al (2011)
	Trustworthiness	Arnold (2002) Royal College of Surgeons (2005) GDC (2005) Stern (2006)
	Responsibility	Arnold (2002) Royal College of Surgeons (2005) GDC (2005) Stern (2006)
	Accountability	Arnold (2002) Royal College of Surgeons (2005) GDC (2005) Stern (2006) van de Camp et al (2006)
Reflection		Schön 1983 Rest (1984) Boud et al 1985 Murphy and Atkins (1993) Eraut 1994 Boenink 2006 Aukes 2008
Internal and external		Hilton and Slotnik (2005) Hafferty and Castellani (2009) Monrouxe et al (2011)

Professionalism was described in the data as a “*way of thinking*”. Ginsberg and colleagues (2004) describe the necessity to assess both the observed behaviour and the reasoning behind the action in order to assess professionalism.

The context dependent nature of the manifestation of professionalism was seen in many ways within the data, where professionals were described as adaptable, flexible and responsive to the many variable needs of their patients. Professionalism was seen to vary over time, with outdated modes of professionalism being contrasted with current practice. This variation was also seen in relation to dress and professional image. Finally, the influence of both culture and institution arose in the data, with examples of the influence of colleagues and contrasts in the manifestation of professionalism by practitioners native to the UK and those of other countries. This influence and interaction of external factors relating to context is again seen as a recurring theme in the literature (Hilton and Slotnik 2005, Hafferty and Castellani 2009, Monrouxe et al 2011).

Many of the models of ethical decision making include external factors i.e. context (Trevino 1986, Hunt and Vitell 1986, Ferrell, Gresham and Fraedrich 1989 and Falanagan and Clarke 2007). Moreover, the literature relating to doctor-patient relationships describes these as fluid entities dependent, not only on the attitude of the doctor but also on the expectations of the patient (Gabe, Bury and Elston 2004). Furthermore van Mook and colleagues describe professionalism as a changing entity (2009g) and documents the changes that have occurred over time.

The importance of the context is also seen in the descriptions of the interface between professionalism and aspects of “Fitness to practise”, i.e. rules and regulations, and ethics, where the resulting relationship between the three is described in both the data and by Shaw (2009) as neither simple nor clear cut. This can be explained by seeing the “Fitness to practise” aspects as part of the external context in which professionalism is manifested. Moreover, all 19 of Monrouxe and colleagues’ (2011) dimensions of medical professionalism can also be seen in the data. Their aspects are expressed as a specific dimension when the appropriate context is encountered. Once again this echoes the context dependent nature of professionalism found in both the literature (Ginsberg et al 2000, 2004, 2009) and in the data, where professionalism is described as continually changing according to the circumstances in which it is manifest. This context

dependence suggests that students' professionalism should be assessed in different contexts.

Professionalism encompasses individual characteristics or personal qualities found in both the data and the literature where reviews by Arnold (2002), the Royal College of Surgeons (2005) and Stern (ed.2006) described these aspects. However, these aspects were often not described in clear terms, but more as broad desirable qualities, which concurred with the findings of Jha et al (2006).

The difficulties of clearly describing these personal qualities derive from them being both tacit and overt. Trustworthiness, self-awareness, awareness of others and the ability to relate to context are seen as being tacit in a similar manner to "tacit knowledge", Polanyi (1967) suggested that we know more than we can say. In other words, these aspects are used without conscious awareness, which makes them more difficult to transfer to another person by means of words or symbols and thus they usually require extensive personal contact along with joint or shared activities to be imparted from one person to another. Again, this observation reveals the cultural aspect of context dependence and has important consequences for dental educators as this must be taken into consideration when designing curricula.

The overt aspects of professionalism include personal qualities such as altruism and a sense of vocation, alongside responsibility and accountability. These are more easily explained in verbal terms and relate to more readily interpretable behaviours.

Altruism is regarded as a central value or pillar of professionalism (Stern ed 2006, Arnold 2002, Jha et al 2006, van Camp 2004) and was once again seen in the data. For example, "putting the patient first" is a central theme of GDC standards (GDC 2005). Altruism was described as the exclusion of self interest, and in such qualities as caring, service to others, respect and the essential need to treat the patient as a person and not just a case. These aspects of consideration of others were additionally described in the data as being based on an awareness of, and sensitivity to, the needs of all those involved in patient care, which is again part of the context.

Autonomy is seen as a defining characteristic of a profession (Greenwood 1957, Friedson 2001, Johnson 1972,) but the more individual aspects of autonomy are often described within medical literature in terms of confidence and motivation, or

commitment to the profession (Stern ed 2006, van de Camp 2004). The vocational aspects occurred in relation to these more personal aspects of autonomy. Moreover, autonomy was linked to both the vocational aspects of professional authority and the responsibility which comes with that authority.

In both the data and the literature, accountability and responsibility involve the patient, professional colleagues, society and themselves. This can be seen in van de Camp and colleagues' (2006) framework for assessing general medical practitioners, in which they describe professional behaviour towards the patient, other professionals, the public and oneself.

A need for self awareness was present in the data and is also seen in many codes of practice; mainly described as an awareness of the practitioner's own limitations. Such codes of practice often imply that the limitations are technical, but the GDC apply the idea more widely to describe an awareness of moral and ethical responsibilities, the practitioners' own health and the need for continuing professional development (GDC 2002).

Awareness is also seen as the first step in ethical decision making (Rest 1984,) which explains why it is an important aspect in the data. Such a general sense of awareness is also seen in the literature on medical professionalism (Jha 2006, van de Camp 2004).

Trustworthiness incorporated both the ability to instil trust as well as the quality of being trustworthy. These facets are also present in many codes of practice (ABIM 1995, Duties of a Doctor GMC 2006a, Can Meds Royal College of Physicians and Surgeons of Canada 2006, Standards for Dental Professionals GDC 2005). The data not only linked trust to personal honesty and integrity, but also explained links between patient trust and clinical outcomes. There was a view that clinical outcomes would improve if a good relationship based on trust existed between patient and practitioner. This personal trust was also described as important to the profession as a whole, where trust in the profession relied upon the personal relationship with individual practitioners. Trust emerged as a strong theme in the delegation of care to Dental Care Professionals (DCPs) (Dyer et al 2014).

Both the personal aspects and the context dependence evident in the data concur with those seen in the descriptions of the internal and external factors described in the

literature on medical professionalism. For example all of Hilton and Slotnik's (2005) themes are found, as is reference to those described by Stern (ed 2006) and of echoes Hafferty and Castellani (2009). The latter suggest that professionalism, from a medical point of view, is centred around individual characteristics, but that from a sociological point of view, the contribution of the method of organisation of work plays a central theme. It would therefore be reasonable to assume that both internal and external factors play a role. However the internal factors relate to all the personal aspects whilst the external factors relate to the context and this may give rise to confusion between the tacit and overt nature of the personal aspects.

Finally, the importance of reflection as a component of professionalism was both a central theme of the data and within the literature (Schön 1983, Rest 1984, Boud et al 1985, Atkins and Murphy 1993, Eraut 1994, Boenink 2006 and Aukes 2008). Reflection occurred in the data as an overarching theme, a way of thinking that allowed the practitioner to harmonise the many other factors involved in any given situation. Reflection was also seen as a means of improving professional performance by encouraging the professional to "*recognise where your shortcomings actually are and to act on them*", again concurring with the literature (Schön 1983, Boud et al 1985 and Eraut 1994), but in an essentially practical manner.

Table 5 Equivalence of Reflective processes described by Murphy and Atkins (1993) and Rest (1984)

Reflective processes		
	Atkins and Murphy	Rest
Stage 1	Awareness of uncomfortable feelings and thoughts	Interpret situation then Formulate moral action
Stage 2	Analysis of feelings and knowledge	Select among competing values to make a moral judgement
Stage 3	Develop new perspective	Exercise moral intent

Many descriptions of reflection begin with "awareness" (Schon 1983, Boud et al 1985, Atkins and Murphy 1993), as do descriptions of ethical decision making (Rest 1984), as was found within the data. The second stage of reflection is described by Atkins and Murphy (1993) (Table 5) as a "*Critical analysis of feelings and knowledge*". This was also seen in the data where professionalism encompassed both feelings and knowledge. The

third stage in Atkins and Murphy' description is the development of a new perspective on the situation, which echoes Rest's (1984) "make a moral judgement" and "exercise moral intent". Naturally, the ability to reflect and make decisions based on many different factors is necessarily context dependent. It is when an individual acts on the "moral intent" that there is a relationship between moral decision making and behaviour. Thus, the manifestation of professionalism is the manner in which work is carried out. Moreover Arnold (2002) suggests that assessment of professionalism should be related to assessment of "*behaviors as expressions of value conflicts*" and the resolution of such conflicts.

The application of personal qualities to a context requires harmonisation of the internal and external factors. This arises from the data as a process of reflective harmonisation, thus confirming reflection as an essential element of professionalism and leading to the definition of professionalism as the manner in which one reflects on and reconciles different aspects of professional practice and which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects varies with and is appropriate to the context. Accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves.

This study is one of the first to explore professionalism in dentistry using both conceptual and empirical data. Moreover, the construct has been operationalised in the form of a model which can be validated and can form a framework for an assessment system within dental education. The study is directly related to dentistry. It is comprehensive and covers all the areas found within the literature on professionalism, for example the ability to relate to context is essential given that professionalism is context dependent.

Triangulation against existing ideas validates the findings. However, this study adds to understanding by adding explanatory detail so clarifying the diverse ideas and bringing them together in a comprehensive, specified and structural model. Unlike earlier research, these findings relate directly to dental professionalism (rather than medicine) and meet a need in that profession. Importantly whilst they are rooted in the concepts of professionalism from the literature they are empirically driven.

In this study particular care was taken to ensure that themes and aspects were carefully defined to ensure that the resulting framework (Figure 6, page 86) could be used to operationalise the construct. The initial framework had seven major themes: definitions of professionalism, emotional intelligence, professional image, changes over time, learnt by experience, needs a context and affected by culture. However, during analysis, these were reduced to four major themes; incorporating professional image, changes over time and affected by culture into context dependence and expanding the definitions to include the personal qualities of altruism, awareness (including self awareness), accountability, responsibility, trustworthiness and vocational aspects such as autonomy, confidence and motivation. Reflection emerged as a central characteristic of professionalism and the second order nature of professionalism was confirmed, thus demonstrating the response to the data.

Certain aspects of the method warrant consideration. The intention in qualitative studies is not to generate statistically representative views but to capture the breadth and depth of perspectives. This is achieved by purposively sampling a range of participants and by reaching saturation in the data, where no new themes emerge (Bryman 2008). It is validated by triangulating the data analysis between researchers and by comparing findings with existing knowledge. No further factors were elicited from the most recent interviews, moreover all the areas of professionalism described in the literature were covered which thus confirms that saturation has been achieved and that there is a major overlap between professionalism in dentistry and that in medicine.

The findings derive from interviews carried out within the UK, where the dental profession is regulated by a single independent body. Thus it is possible that they may not be generalisable to settings within different regulatory and business contexts. Nevertheless, the data are compatible with those published about dental and medical professionalism, which suggests that the themes and their inter-relationships are generalisable across wider contexts. As noted earlier, this study was empirical and drew its data from a wide variety of stakeholders, which also enhances its conceptual generalisability. The principal researcher has a long interest in professionalism, was familiar with the literature and was readily able to draw up an initial framework to aid the analysis. However, the revisions of the framework during the study are evidence of considerable response to the data.

4.4 Conclusion

Professionalism can be defined as the manner in which one reflects on and reconciles different aspects of professional practice which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects will vary with and be appropriate to the context whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves. The definition and model conceptualise the construct of professionalism within dentistry, which can be further validated and used to derive an educational and assessment system for it.

Portions of the work in this chapter have been presented as

Zijlstra-Shaw S, Roberts TE and Robinson PG. (2011) Assessment of professionalism in dental education: British Society for Oral and Dental Research Annual Meeting, held in Sheffield

Zijlstra-Shaw S, Roberts TE and Robinson PG. (2012) Dental Professionalism - a conceptual model: Association for Dental Education in Europe Annual Meeting, held in Lyon

The work carried out in this chapter has been published in the peer-reviewed literature as:

Zijlstra-Shaw S, Roberts TE and Robinson PG. (2013) Perceptions of Professionalism in Dentistry - a Qualitative Study *British Dental Journal* 215 E18 1-6

Chapter 5

Development and evaluation of an assessment system for dental professionalism within an undergraduate curriculum

Chapter 5

Development and evaluation of an assessment system for dental professionalism within an undergraduate curriculum

Preceding chapters have detailed how professionalism is an essential competence for dental professionals and that consequentially there is a need for programmes of assessment within dental education which promote personal and professional development throughout the undergraduate course.

Methods and systems that have been used to assess medical professionalism are well documented (Arnold 2002, Lynch et al 2004, Veloski et al 2005, Stern 2006, Jha et al 2007, van Mook et al 2009g) and these methods may be useful within dentistry.

Unfortunately no single method has been found that adequately measures professionalism, therefore triangulation via a number of different methods is thought to be necessary (van Mook et al.2009g). In addition, the context of dentistry is different so specific models of assessment methods may be required. This context dependence and second order nature thus require flexibility within the assessment system, and assessment over both time and different contexts. This situation suggests a portfolio approach (van Mook et al 2009g, O'Sullivan et al 2012). Unfortunately, portfolios have been criticised as time consuming to both compile and assess and of questionable validity (Dornan et al 2002, Yorke et al 2000).

Any programme of assessment must have clear statements of purpose and targets, for both students and assessors (Hawkins et al 2009). The AMEE guide to the assessment of professionalism within medical education (O'Sullivan et al 2012) suggests that firstly a definition should be agreed. Then a framework should be agreed using this definition, alongside a suitable model of learning. Frameworks are useful in education as they provide clarity and can direct observations by examiners and so improve assessment (Pangaro and Ten Cate 2013).

The definition and theoretical model of professionalism in dentistry from the research described in chapter 4 is one such framework and could be integrated into an existing curriculum to provide an assessment strategy for students' professional development.

The aim of the work reported in this chapter was therefore to develop and panel test an assessment strategy linked to an existing curriculum, and develop an assessment tool for use within it.

5.1 Method

Overview:

Firstly, an educational framework, which incorporated both the conceptual model of professionalism and appropriate models of learning, was developed, followed by the development of an assessment strategy based on that framework. Secondly, a programme of assessment relating to an existing undergraduate curriculum was developed. Within this overall programme a specific assessment tool was also developed. The programme and assessment tool were then panel tested in stakeholder focus groups.

5.1.1 Development of the programme of assessment

Programmes of assessment should be based on a method that takes into account their indications and limitations. The first stage in this process was to adopt the definition and conceptual model of professionalism developed in chapter 4.

Next, a model of assessment in learning was required. The one chosen was the commonly used conceptual model of clinical competence framework devised by Miller (1990), (Figure 7, page 112). The combination of individual and external factors and the second order nature of professionalism resonate with Miller's pyramid (1990) (Figure 7, page 112). This has four levels, "knows", "knows how", "shows how" and "does". Miller developed this concept to act as a guide for the suitability of differing assessment methods. He uses the lower layers to differentiate between knowledge and skills and the top two stages to differentiate between the testing of students in situations where they are aware of being tested and those where they are not.

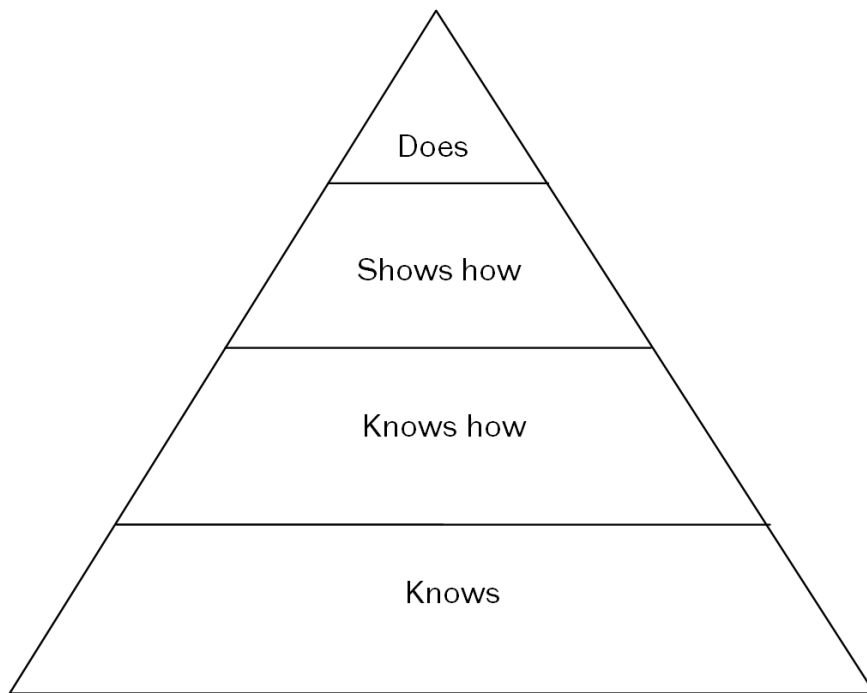


Figure 7 Miller's pyramid

Internal aspects of professionalism relate to “knows” whereas the demonstration when doing something else relates directly to “shows how”. Therefore Miller's pyramid seems well suited as a model of learning and assessment of professionalism.

The task then became one of mapping the construct of professionalism in dentistry alongside that of Miller to the existing curriculum. This mapping process consisted of developing educational aims and objectives for each academic year, identifying appropriate assessments and then applying them to the curriculum by identifying assessment opportunities. Descriptors were also written for each assessment to ensure clarity and aid calibration of staff.

This process was iterative. Between each round of development a report was written and expert comment invited. Amendments were made in the light of these comments.

The Draft Statement on Assessment of Professionalism (Appendix 1) was designed to fully integrate with the existing curriculum and enhance existing opportunities for both learning and assessing students' professional development. The intention was to ensure that this assessment strategy had clear statements of purpose and clear targets, for both students and assessors.

The strategy was designed to provide an educational framework within which the development of student professionalism could be assessed. It therefore provided both the parameters for staff to assess whether students met the criteria to progress from one stage of their study to the next, and provided the goals which drive students' development and learning, as it provided a guide as to what is expected at each stage of the curriculum. For example it was based on educational aims and objectives that developed annually in a spiral curriculum, becoming more complex as students competence developed.

Within this strategy a specific assessment tool was also developed. This Assessment of Dental Student's Professionalism System (ADSPS) was designed to be used by staff and senior dental students within one area of the curriculum. Senior students were specifically selected to allow all aspects of the model to be included in the ADSPS. It took account of the second order nature of professionalism and used the domains identified in chapter 4 (Figure 6, page 86), each domain being assessed on a 6 point Likert scale. A global rating was also included for purposes of construct validation. Detailed descriptions of this system are found in the Draft Strategy for the Assessment of Professionalism within the Outreach programme (Appendix 1b).

5.1.2 Panel testing

Panel testing of both the Draft Statement on Assessment of Professionalism and ADSPS focussed on the processes involved and the outcomes. This encompassed feasibility and acceptability in addition to face and content validity of both the Draft Statement on Assessment of Professionalism and the ADSPS.

Participants represented stakeholders within the staff and students of the School of Clinical Dentistry. This target population would be familiar with the curriculum and could influence any subsequent implementation of the Draft Statement on Assessment of Professionalism and the ADSPS.

Panel members were drawn from a number of stakeholder groups. These included senior dental school staff, and e-learning portfolio workstream group members along with student representatives of a School of Clinical Dentistry. Three focus groups were arranged, each with 4-8 members. The student focus group was held separately from

those for staff. As senior staff and the e-learning portfolio workstream group both have dentally qualified and non-dentally qualified members, efforts were made to ensure non-dental views were represented. Persons who declined were excluded from the study.

Following permission from the University of Sheffield Ethics Committee (Appendix 2), recruitment began by e-mail from the researcher introducing the project, and was followed up by office visit to staff and invitation to the researcher's office for students, to explain the study and invite participation.

5.1.3 Conduct

The Draft Statement on Methods of Assessment of Professionalism and ADSPS were sent to participants one week before the panel. A preliminary semi-structured interview guide was used to steer the interview. The presence of some structure enabled the relevant ground to be covered but the guide was adapted for each group and modified, using constant comparative analysis (Bryman 2008) to follow new leads. For example, the students were asked about the acceptability from a student perspective, whilst the e-portfolio group were asked about the feasibility of the assessment system (Appendix 3).

The three different panels were held, at times and places most convenient to the participants, and the Draft Statement on Methods of Assessment of Professionalism was discussed. However general impressions of the definition and theoretical model were also requested.

Field notes and digital recordings of all the panel meetings were transcribed as soon as possible after the meetings to allow the data to be analysed as it was collected.

Transcription was carried out in accordance to the data governance and ethical protocols laid down by the University of Sheffield Ethics committee. Data governance ensured both the probity of the research and the protection of the participants. All audio recordings/digital media were stored on a password protected computer and backed up on a separate password protected computer. The password was only known

by the researcher. Participants were not identifiable from either the recordings or the transcripts of the meetings and all data were fully anonymised.

5.1.4 Analysis

The data from the focus groups were analysed using thematic Framework analysis and suggestions for modification were agreed by consensus. The assessment tool was revised and then submitted to the School's Teaching Committee for further evaluation.

5.1.5 Approvals and permissions

Permission was sought from the University of Sheffield Ethics Committee before participants were approached (Appendix 2). Permission was also requested from the School of Clinical Dentistry, to carry out the research within the school. Consent to participation and to the meetings being recorded was obtained using a standardised consent form before any data were collected (Appendix 2).

5.2 Results

The Draft Statement on Methods of Assessment of Professionalism was described as acceptable and feasible, as was its face and content validity. Themes arising from the discussions included greater clarity for students and staff and training for assessors. There were also comments that the programme should enable patterns of behaviour to be assessed and that it needed to integrate into the current curriculum. Additionally, the framework was perceived as useful for mapping learning and teaching of professionalism within the dental curriculum. The only negative comments referred to the costs of implementing the system. However, this was thought to be acceptable, particularly as assessment of professionalism was a priority.

Three key themes arose from the data

- Contrast with existing system including
 - increased clarity
 - Improved ability to reward positive student behaviour
 - Integration across the whole breadth and length of the curriculum
- Professionalism and patterns of behaviour
- Professionalism and the educational environment including
 - Necessity for staff training
 - Cost implications

The text that follows expands on these themes and uses pseudonymised quotes to illustrate the data. This is followed by the specific discussion on face and content validity.

5.2.1 Contrast with existing system

The existing system of assessment of professionalism was criticised as too implicit and based on subjective judgement.

“From the Schools point of view we would like a system where a bar is set and if they did not pass this we could ask them to leave the course, without any questions asked. At the moment we don’t have that, we make a recommendation based on judgement, the student appeals and the student always wins the appeal” (Tom, senior dental educator)

Similar criticism felt that there was not enough emphasis placed on professionalism as an aspect of student education. Without formal assessment many students would not take professionalism seriously enough;

“students need to be made aware that it is a fundamental part of their training”
(Mark, dental student)

“They (other students) feel that it isn’t one of the targets so they don’t see it as important” (Cath, dental student).

5.2.1.1 Contrast with existing system - increased clarity

The Draft Statement on Methods of Assessment of Professionalism was seen as an improvement as it made the situation clearer and more acceptable. Furthermore the structure and positivity of the document was seen as important;

"I think it is a very positive document I thought it tried to make it much clearer where the support is for the students. If you look at what we have now it is very tacit and very amorphous, but if you look at the document it is very structured",
(Chris, educator)

This increased clarity was not only seen to be important for student learning

"I think a lot of it is just making more obvious things that we are subtly expected to do anyway, if you are currently professional, none of this is extra work, it's just making it official, if you are or aren't professional, so that's good it's just making it more apparent to everyone" (Ruth, dental student)

but also for the standardisation of their experience and especially for the standardisation of assessment by staff;

"if that's clear to the tutors, then I think that will help" (Ellis, dental student)

and

"It standardises the tutors then, as well," (Ruth, dental student)

One specific aspect of the Draft Statement that was singled out for its contribution to the clarity of the system was the descriptors;

"I like the way it is laid out with descriptors so that the sort of educational processes that we go through so you have clear criteria for attainment which is very important. It sets the bar and the students have to know where the bar is, both positively and negatively. This makes it clear and then it seems fair to students." (Tom, senior dental educator)

This clarity and standardisation was seen as a formalisation process, which was informative and an improvement.

"I think it is a very good thing and doing it like this is better, or will be better than the ad hoc system we have at the minute with ... because I am not sure if people realise when it is and when it isn't appropriate.... So a more formal system would be much better" (Laura, senior dental researcher)

“there is no formal mechanism for that and there should be” (Alison, education administrator)

“also for the people who aren’t professional there is none of this “I didn’t know” I wasn’t sure” arguments. It is explicitly written here for you, black and white” (Sue, dental student).

Finally, the clarity of the aims and objectives within the Draft Statement was seen to emphasise different aspects of professionalism such as reflection;

“if the emphasis was better in the aims and objectives, at the time, and it was known by students that this was part of the assessment of professionalism, and part of the assessment of reflection which is part of the criteria, then it would give a bit more emphasis and meaning” (Ellis, dental student)

Thus, this Draft Statement was seen as providing clarity. Positive aspects described included an ability to standardise student learning and staff expectations. It was seen as a step forward from the existing situation.

5.2.1.2 Contrast with existing system - Improved ability to reward positive student behaviour

The existing situation was seen as one in which positive behaviour was ignored whereas unprofessional behaviour was punished. This was expressed as;

“It is almost as though unless there is one big event and someone goes, “Right that deserves a professionalism form right now!”. That it kind of ticks along and nobody does anything”, (Louise, dental student).

This was additionally thought to put professionalism in a poor light;

“... has negative connotations, because historically we only record it negatively” (Tom, senior dental educator).

This was acknowledged to be a very negative and unfair way of educating and assessing professionalism;

“they only want to know if they have done something wrong. People are beginning to realise that this is not an equitable way” (Tom, senior dental educator).

In contrast to existing practice it was felt very important to reward good student behaviour;

"I think we should as we should be able to reward good behaviour" (Tom, senior dental educator).

Positive reinforcement of good behaviour was seen as an important improvement within this Draft Statement because within the existing system students were seen to be unrewarded for positive contributions;

"Because a lot of students demonstrate good behaviour by their participation in the environment in which they live and work" (Tom, senior dental educator).

Furthermore, cogent positive feedback was anticipated to have a positive effect on the way students perceived professionalism;

"if you have been professional it's nice to be told that, "well done". But this is better because you know they have actually thought about it and discussed it" (Ruth, dental student).

This emphasis on positive aspects of professionalism was further emphasised as something not just positive, but something special and important, which would help socialise students into the dental school and profession;

"I think to include it then would actually help you enjoy first year more as you could then think we are doing some things that are directly relating to dentistry as a profession" (Ruth, dental student)

"if you get in the professionalism then it not only ties them to the Dental School better, but it signals from the off that they are different and this is part of what you do" (Ellis, dental student)

"it is a very positive thing something special and unique that you are going to learn and become part of" (Paul, educator).

Thus the potential of the Draft Statement to reward positive student behaviour was seen as important and was seen to alter the perception of teaching professionalism from something negative, which resulted from unacceptable behaviour, to a positive special aspect of their education. All this was also seen to increase the profile of professionalism.

5.2.1.3 Contrast with existing system - Integration across the whole breadth and length of the curriculum

The increased clarity helped participants to see how educational processes relating to professionalism could be integrated into the curriculum;

“we wanted to make professionalism a bigger part of the standard curriculum and it shouldn't stand apart it should be integral” (Alan, senior dental educator)

“it is only a question of getting right across the curriculum” (Carol education administrator).

This integration was seen as important as it was felt that professionalism should be applied to all aspects of the course and assessed alongside as many aspects as possible;

“And it's good that it is all the time it and that it uses all aspects especially anything to do with clinical practice” (Alison, education administrator).

Integration in this way also reinforced the pervasive nature of professionalism;

“But it means as well that professionalism is part of everything we do, so it's not ever making it a separate entity” (Ruth, dental student).

There was also a wish for education and assessment of professionalism to be introduced early in the course to help student understanding;

“I think it is really good that it is introduced in the first year because, for me I didn't really know until I was on clinics” (Mable, dental student).

Enhanced monitoring of professionalism was seen as beneficial, especially early in the course, because leaving negative assessment until later in the course didn't provide adequate support for students who needed it:

“but it would need to be monitored, as it feels like nobody is monitoring it” (Louise, dental student)

“but I do think that for some people bringing it up then is too late and it's really important to instil it before ... as it seems that is where a lot of people get unstuck and perhaps in that respect they're let down by no one having ever told them that they are not being professional, even if they should know” (Ruth, dental student).

Longitudinal assessment that begins early was also seen as supporting valid assessment;

“So it would then take a while to build up the evidence, be longitudinal and go with the students” (Chris, educator)

and as a positive experience;

“we could watch them develop, blossom through the clinics or whatever and spend time with them” (Alan, senior dental educator).

Longitudinal assessment could reflect the student learning process and stage of development and should be taken that into consideration when monitoring;

“it needs to reflect the iterative process that we use in education, for example 1st year students may exhibit unacceptable behaviour on clinics without realising this, but 5th year students shouldn’t and it needs to reflect this” (Tom, senior dental educator).

Longitudinal assessment would also reinforce the importance of professionalism;

“I think this needs to be reinforced” (Mark, dental student).

The developing complexity of the educational aims and objectives throughout the programme was also positively received;

“I thought this was a sensible approach, building up the levels of the detail of what you are expecting and in a sense the conceptual framework becomes more complicated as time goes on and also the opportunities for students to demonstrate it become less theoretical and more in an applied clinical situation and so there is a clear progression in the matter of outcomes and exercises, as well as just being professional” (Alan, senior dental educator).

The provision of a framework for mapping the learning and teaching of professionalism throughout the dental curriculum was seen to provide more clarity. Moreover, the framework was seen to enhance the ability of staff to ensure that professionalism was integrated throughout the educational processes and to enable blueprinting assessment and reinforcing student learning. This was seen as being particularly important within a curriculum designed to be integrated and iterative.

5.2.2 Professionalism and patterns of behaviour

Repeated assessment was also seen as important because it enabled patterns of behaviour to be assessed, rather than isolated occurrences.

“most students are just a one off situation they get a rollicking, never do it again and are fine. For other students, it is just their whole general attitude and demeanour is unprofessionalism, and they can never be remediated, and it’s these students we can’t do anything about.” (Tom, senior dental educator)

These patterns of behaviour were seen to be crucial to the assessment of professionalism, because it was these, rather than occasional lapses that were important and yet not picked up by the existing system;

“No the pattern of behaviour is important I don’t think a one-off event is necessarily important but they are the things that seem to get flagged up a lot, you do one thing that is wrong and then you get a form for them, and then there are the people who are consistently late and never get a form because it is not one major event it is just a continuous thing. Which is more important actually” (Louise, dental student)

and

“in general it is very difficult to mitigate against a pattern of behaviour, mitigation usually occurs with a one off incident” (Tom, senior dental educator).

The Draft Statement on Methods of Assessment of Professionalism was seen as a system that could identify patterns of behaviour and thus formally assess student professionalism. It therefore provided a means of identifying students who needed extra support.

5.2.3 Professionalism and the educational environment

The importance and all pervasive nature of professionalism were seen within a context of the educational environment, which raised particular challenges;

“it will be tricky as you need institutional change around it, which is always difficult to achieve.” (Paul, educator)

“this does raise the aspect that the staff do need to be on board with every aspect” (Tom, senior dental educator)

“if you are asking the students to be professional then the staff have to be professional and do it” (Laura, senior dental researcher).

The variability of the context was also expressed;

“sometimes it varies with staff and sometimes with patients” (Tom, senior dental educator).

This variability of professionalism with context and the need for a School culture led into discussions about staff training;

“some tutors expect more than others, so it’s going to be hard to keep it consistent, I think.” (Anisha, dental student)

“some tutors are not totally sure what things stand for ... , and they always vary” (Louise, dental student)

“How are the staff sort of trained on this?” (Ruth, dental student)

Staff calibration and training was proposed so that the staff could more easily understand the processes concerned, to increase equality within the system and so that they too can see the aims of the assessments more clearly;

“it does involve training of these tutors” (Alan, senior dental educator)

“I just think it is important that ALL of the tutors realise the distinction between all of the levels so that it does actually mean something” (Cath, dental student).

Bringing in a new system might pose training issues;

“you would probably need a team of people to be trained up as mentors, specialist, support people” (Alison, education administrator).

There were also cost implications, from both staff training and putting extra support in place for students identified, by the proposed system, as needing it. This was nevertheless, thought to be resolvable. Furthermore, by integrating the assessment

system into the current curriculum and raising the profile of professionalism, it was thought to be value for money.

“There is extra work here, undoubtedly, but it is an important issue.” (Alan, senior dental educator)

Discussion about practicalities, considered fitting time lines into University regulations, the minutiae within the draft statement and how it would fit into the existing curricular documentation. A consensus was that editing would be best carried out nearer implementation.

5.2.4 Face and content validity

The face and content validity of the definition and model of professionalism, the Draft Statement on Methods of Assessment of Professionalism and the ADSPS were discussed. All four were seen in a positive light. The construct of professionalism as described in the definition and model and its importance to dentistry were endorsed:

“I think the idea that professionalism is important and that reflection underpins it and that it needs to be assessed and all the factors involved is fine.” (Paul, educator)

All the factors described in the model were agreed to be relevant. Importantly no omissions were noted;

“Professionalism’s like quality in a sense, one instinctively knows if it’s there, but then trying to justify it if it’s not becomes hard to do. So you tend to start going through a list but certainly what I thought is ... if you look at the list you think, “Yeah these things sound great” and it’s hard to think of an extra one” (Alan, senior dental educator).

Comments on the content tended to agree with the ethos of the draft assessment system. The increased clarity helped all the participants see how the educational processes relating to professionalism could be integrated into the current curriculum, which was felt by all parties to be important. There were no adverse comments; however a more cautious approach suggested incremental implementation;

“some of this, you’ll never come across, so you have to start with a framework that looks good, if we come across flaws we can correct them” (Alison, education administrator).

In addition to the draft statement, all focus groups were specifically requested to evaluate an instrument to be used during the senior students' Outreach placements, the ASDPP. General comments included;

"That's a good idea" (multiple dental students, simultaneous comment)

More specific comments included those over the choice of placement, which was seen to be appropriate;

"Outreach would be more interesting as there are more tutors involved and more variation, so if the numbers work there they will work anywhere." (Chris educator)

and the scoring system;

"I really like the idea of filling in the forms separately" (Louise, dental student)

"I like the idea of averaging at the end like getting an average because right now you fill in the books and hand them into the office and you don't get anything back. You could then get an average and could compare this with the year average; it can just make you a bit more aware." (Anisha, dental student)

The idea of amending the existing informal appraisal system into a more formal one was seen as useful and important;

"It does get around the issue of students who don't reply to your e-mails and don't turn up because then it would be a formal act, because if you then don't complete it you have failed to do what's required" (Alan, senior dental educator)

The consensus of opinion was that this ADSPS was feasible and should be piloted. The panel suggested renaming a number of domains within the model for clarity. These included describing vocational aspects including self-motivation as "commitment"; altruistic aspects as "consideration" with the "awareness of others" becoming "understands others". "Self-awareness" was described as "understands own abilities". Reflection was divided into three factors; "reflects on own actions", "reflection includes choices" and "reflection shows balance". Descriptors provided to aid in the assessment process and the suggested scale for assessment were also discussed and found to be acceptable.

Following acceptance by the focus groups the ADSPS was referred to School Teaching Committee for further approval before it could be piloted.

5.3 Discussion

A Draft Statement on Assessment of Professionalism combined an educational framework and a theoretic model of professionalism. It was panel tested by stakeholders including senior administrative and teaching staff and student representatives.

Although it is difficult to draw generalisations from qualitative methods, the draft statement of assessment of professionalism was seen as a positive step forwards and was found to be acceptable and feasible. Moreover, the model of professionalism developed in chapter 4 was seen as useful for mapping learning and teaching of professionalism within the dental curriculum. In addition both face and content validity were found to be acceptable and the resulting educational framework was seen to confer advantages over the current situation.

The increase in clarity was felt to formalise what many teachers were already providing in this area. The purpose of the assessment strategy was to provide the students and staff with clear educational aims as described in the literature (Arnold 2002, Stern ed 2006, van Mook et al 2009b, 2009c, 2009g, O'Sullivan et al 2012). The achievement of this purpose was supported in all the focus groups.

The process of defining professionalism and a framework to assess professionalism are the first two steps suggested by AMEE (O'Sullivan et al 2012) to integrate professionalism into the curriculum. We used a definition and model of professionalism based on empirical research and the resulting framework was found to be both acceptable and feasible.

O'Sullivan and colleagues (2012) go on to suggest that experience is then built into the curriculum. In this case the areas within the curriculum where facets of professionalism were taught had already been identified using the model. This enabled the previously implicit teaching to become more explicit and enabled more formal assessment. This

accords with the recommendations within the literature (Arnold 2002, Stern ed 2006, Hawkins et al 2009, van Mook et al 2009c, Hodges et al 2011, O'Sullivan et al 2012, Birden et al 2013, Morihara et al 2013) and enables professionalism to be seen as a special quality with a clearly identified unifying theme. This in turn helped socialise students into the dental school, the curriculum and the profession.

Furthermore this clarity and formalisation increased the positive aspects of professionalism and increased possibilities for rewarding good students rather than simply providing a system of punishment for poor students. This also accords with current notions of education (Stern and Papadakis 2006).

Using the whole curriculum for mapping ensured that the assessment strategy could be integrated across its entirety (Arnold 2002, Stern ed 2006, Hawkins et al 2009, van Mook et al 2009d, Hodges et al 2011, O'Sullivan et al 2012, Birden et al 2013, Morihara et al 2013). This also enabled professionalism to be introduced early and assessed longitudinally allowing for student development from first to fifth year (van Luik et al 2000, Papadakis et al 2001, Hawkins et al 2009, van Mook et al 2009d, Birden et al 2013). This apparently brought two explicit advantages within this particular study. The early introduction allowed students to learn about professionalism before coming into contact with patients and allowed patterns of behaviour to be assessed.

The assessment of patterns of behaviour is particularly important in the area of professionalism as it is context dependent and thus needs assessing across contexts (Ginsberg et al 2000, van Mook et al 2009g). Using a framework enables patterns assessed across the curriculum and ensures that opportunities for learning and assessing professionalism are used appropriately (Hawkins et al 2009, O'Sullivan et al 2012). Participants also stressed the importance of these patterns of behaviour which were seen to be crucial in professionalism, rather than occasional lapses. The Draft Statement on Methods of Assessment of Professionalism improved the existing system, specifically because it enabled these patterns of behaviour to be measured, unlike the current system.

Another theme in the data was the institutional implications of the assessment strategy, including its effects on members of staff. This institutional culture is important because conflict between the learning environment and assessment is documented as a

problem within professionalism education (Ginsberg et al 2000, van Mook et al 2009b, Hodges et al 2011, O'Sullivan et al 2012).

The interaction between the learning environment and student learning and assessment of professionalism is a common theme in the literature (van Mook et al 2009e, O'Sullivan et al 2012, Birden et al 2013). So much so that it has led to developments of assessments of the learning environment (Quaintance et al 2008, Thrush et al 2011). However, the main reason for understanding this aspect is that it is the context in which professionalism is learnt and assessed and this affects students' perceptions of the importance of professionalism (Moihara et al 2013, Monrouxe et al 2011). The use of a framework and the mapping of the curriculum to that framework brought the implicit nature of the context in to sharper focus.

Institutional culture also has an effect on staff role modelling. Role modelling is seen as a major part in the education of professionalism in undergraduates (O'Sullivan et al 2012, Birden et al 2013). Clinicians' behaviour has more effect on student behaviour than more formal teaching (Hafferty and Franks 1994, Hafferty 1998, Ginsberg et al 2000, van Mook et al 2009b, Hodges et al 2011, O'Sullivan et al 2012, Birden et al 2013). This has led to role modelling being used amongst the more formal methods of delivery, often in the form of mentoring (Birden et al 2013). Staff development is therefore a crucial aspect in the teaching and assessment of professionalism (Hawkins et al 2009, van Mook et al 2009d, 2009e, O'Sullivan et al 2012, Birden et al 2013, Warren et al 2014).

Descriptors were seen to be useful for staff training and calibration to make assessments that were fair and equitable. The use of descriptors might also help staff identify areas where students needed more support and where they themselves might need extra training. This use of descriptors has been described as an essential aspect of teaching and assessment in professionalism (Warren et al 2014).

The definition and model of professionalism along with the Draft Statement on Assessment of Professionalism were seen in a positive light. Whilst the face and content validity of ADSPS were also supported, some modification of the language made it consistent with that more commonly used by staff and students. This is in line with recommendations aligning judgements with the reality map of the assessors (Crossley and Jolly 2012) and was achieved by consensus. The face and content validity of the assessment tool was thus endorsed and it was recommended for piloting.

The framework was described as useful as it helped clarify educational aims and objectives, identifying areas within the curriculum which could be used for assessing professionalism and identifying the appropriate assessment tools within an overall strategy. It also helped increase awareness of the importance of professionalism, and increased the opportunities within the current curriculum for assessment of professionalism. This increase in awareness was thought to be particularly true of reflective practice.

Thus the Draft Statement was seen to have advantages because it integrated the assessment of professionalism across the whole curriculum. Student learning and staff expectations were standardised by clarifying them. This clarity allowed positive student behaviour to be rewarded and was anticipated to increase the effects of students' socialisation.

The resource implications and effects on the institutional culture was seen as a challenge, but one which could be met by appropriate staff calibration and training so that the staff could more easily understand the processes concerned. Staff training would also increase equality within the system.

5.4 Conclusion

Using a theoretical model enabled a programme of assessment of professionalism to be developed which has clear statements of purpose and clear targets, for both students and assessors. These targets were converted into discrete educational objectives, thus allowing appropriate educational media, assignments and assessments to be constructed and applied.

The work described in this chapter has been presented as

Zijlstra-Shaw S, Roberts TE and Robinson PG. (2014) Using a Theoretical Model to develop an Assessment System for Professionalism: Association for Dental Education in Europe Annual Meeting, held in Riga

Chapter 6

Evaluation of an assessment tool

Chapter 6.

Evaluation of an assessment tool

Assessment of professionalism of dental students is important, both formatively, to aid professional development, and summatively, to provide assurance they have reached appropriate standards. The tools used for assessment need to be evaluated to ensure they are fit for the purpose.

Assessment needs to be based on explicit criteria. Chapter 4 defined professionalism in dentistry and operationalised this definition in a theoretical model, which was modified by changing the wording from “vocational” to “commitment” and from “altruism” to “consideration”, with “awareness” being replaced by “understanding”; for use on student assessment following panel testing (see Chapter 5 and Figure 6 page 86 compared with 8).

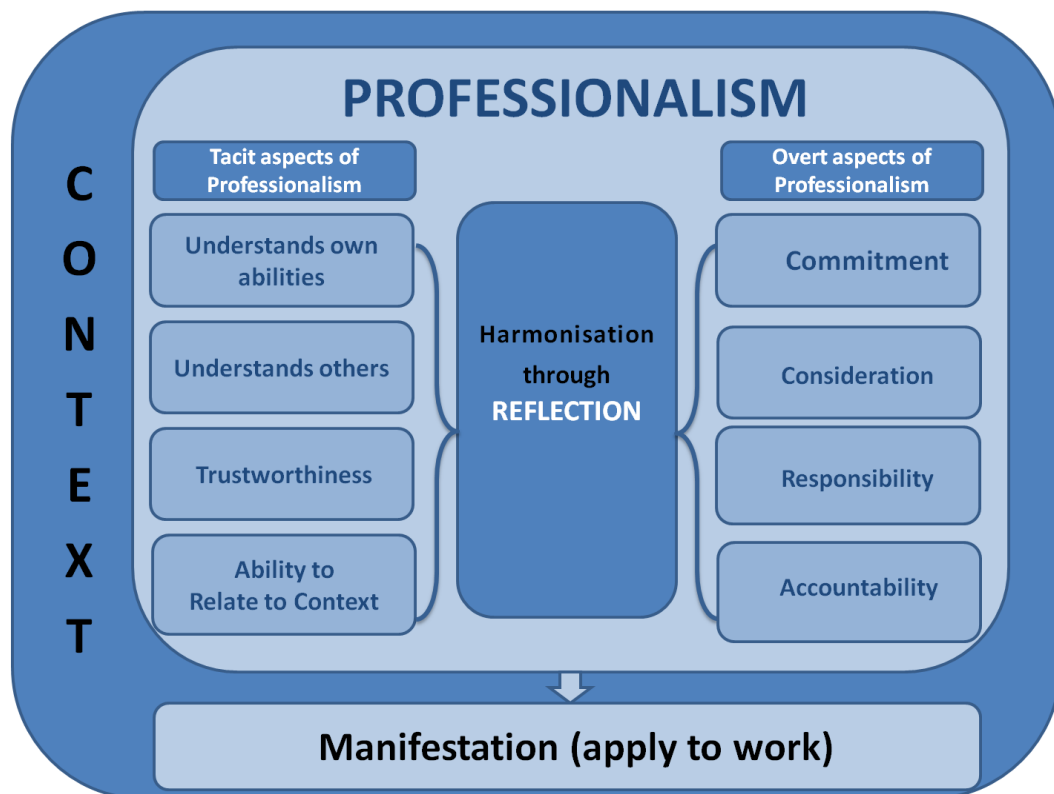


Figure 8 Model of Professionalism in dentistry adapted for use in assessment of senior dental students

This model was then used alongside a model of assessment in learning (Miller 1990) to produce a framework of educational aims and objectives within the existing curriculum. This framework was then used to produce an assessment programme (Appendix 1), within which is an tool, the Assessment of Dental Student's Professionalism System (ADSPS), panel testing of which was reported in chapter 5.

The aim of this phase of the project was to evaluate this ADSPS assessment tool.

6.1. Method

Overview:

Test validation study using ADSPS in a cohort of senior clinical dental students within primary care settings.

6.1.1 Setting

Within the existing curriculum dental students in their fourth and fifth years of study attend three "Outreach" placements within primary care. These placements are either NHS general practices (6) or within the salaried dental services (5), one of which is a Direct Access Centre. Each placement receives between 2 and 5 students for six week placements. The placements take place throughout the second semester of the students' fourth and first semester of their fifth year of study.

During the placement the students provide dental care commensurate with the nature of the placement. The general practices provide comprehensive dental care for patients, many of whom are long term patients of the practice, within the regulations laid down by the NHS for general practice (Smith et al 2010). The salaried dental services treat children and patients with special care needs. The access centre cares for patients experiencing difficulty accessing routine care and the treatment carried out in this placement is often of an emergency nature (Smith et al 2010).

The placements are small establishments and students work under close supervision, provided continuously by the dental nurses and by dentally qualified clinicians. There is a very high ratio of dentists to students varying from 1:2 to 1:5.

The students manage a case mix similar to that seen in primary care which varies from placement to placement, but accumulates to a wide range of both patients and procedures (Smith et al 2010). Students develop and demonstrate their abilities in a wide variety of contexts and Outreach was therefore considered a suitable part of the curriculum to pilot the ADSPS assessment tool. Furthermore, the close supervision meant that clinicians would be able carry out detailed assessment within a more holistic treatment setting and over a wider context than in the dental hospital clinics.

At the end of each placement students evaluate their experiences and specific student feedback on their experience is obtained. As each placement is evaluated at the end of each rotation, staff collect feedback and encourage reflection on students' personal learning during each placement. These processes allowed qualitative evaluation of the assessment tool.

6.1.2 Participants

Recruitment of staff was initially by e-mail, followed by placement visit. Each placement was also visited and training and calibration was provided for the participating staff.

As there was no data upon which a power calculation could be based and for reasons of practicality, one complete cohort of students was requested to participate.

Recruitment of students was initially by e-mail followed by a lecture presentation. This sample was selected in the expectation that findings could be used to power a larger study at a later date, if this was deemed necessary.

The cohort consisted of 81 students of whom 44 were female. They were provided with details of the pilot during a specifically designed lecture at which they were encouraged to ask questions about the system. Each student and practice was also provided with a handbook explaining the ADSPS.

6.1.3 Assessment system

The Assessment of Dental Student Professionalism System (ADSPPS) consisted of a meeting between each student and a supervising clinician at each Outreach placement, using three forms based on the dentists' observations of the student.

Each student completed a self-assessment of their performance over the 6 weeks of the placement on a form containing 8 items relating to their professionalism (see Appendix 1b) based on an assessment. The supervising clinician completed an analogous form for each student (see Appendix 1b) which then formed the basis of a discussion about the student's performance. This system was designed to encourage students to reflect on and explain their observed behaviours with appropriate feedback. The appraisal was then recorded on a combined results form (agreed form), which had 16 items (Appendix 1b). A global rating of professionalism was collected separately for each student at the completion of placements. During the research the results were used to provide formative feedback only.

The forms were designed to record observed behaviour over time, whilst the appraisal interview allowed modification, where students could give an account of their behaviour. Thus, observed behaviours and the second order nature of professionalism were taken into account and the students were encouraged to develop their skills in both overt and tacit aspects of professionalism by reflecting on the staff feedback.

The global score and each domain were scored on a six point Likert scale where points 1 and 2 denoted students performing below the level expected from students at their stage of training. These scores related to the unsatisfactory level on the existing School system. The middle of the range (3, 4) represented students felt to be performing at the level expected (satisfactory). The upper range (5,6) represented students performing well above the level expected (outstanding). Descriptors were provided for guidance when completing the forms (see Appendix 1b).

6.1.4 Permissions and liaison

Permission for the pilot was obtained from the University of Sheffield Ethics Committee before participants were approached or recruited. Permission was also obtained from the teaching committee of the School of Clinical Dentistry, University of Sheffield to carry out the research within the school. Consent to participation in the research and to the meetings being recorded was obtained using a standardised consent form before any data were collected. For the students this was carried out as part of the explanatory lecture, whilst the researcher visited every placement and

obtained consent during the training process. Copies of consent forms can be found in Appendix 2.

6.1.5 Evaluation of ADSPS

The Assessment of Dental Student Professionalism System (ADSPS) was evaluated both quantitatively and qualitatively.

6.1.5.1 Face and content validity

Face and content validity of the ADSPS had been evaluated by panel testing reported in chapter 5.

6.1.5.2 Response process

The response process describes the way an assessment system is used by the assessors and assessed, and was evaluated by descriptive analysis and by comparing the scores by students and staff over eight domains. The first available complete set of data was used for the analysis.

6.1.5.3 Reliability

6.1.5.3a Internal consistency

Internal reliability was evaluated via Cronbach's alpha, alphas with each item deleted and corrected item-totals, on the agreed assessment form from the first available complete data set.

6.1.5.3b Test-retest reliability

Test-retest reliability was evaluated by comparing the first and second complete data sets. These scores were related to the student and not the tutor, as the student

placements were allocated randomly by the School administration. Intraclass correlation coefficient (ICC) was calculated for each item using a one-way repeated measures model. The global scores were also assessed as these were expected to show any changes in student development between placements.

6.1.5.4 Validity

6.1.5.4a Construct Validity

Construct validity was evaluated by assessing correlations between items within the model hypothesized to be related or unrelated. This analysis was based on the following hypotheses;

- There would be a correlation between “self-awareness” and “reflection”
- There would be a correlation between “self-awareness” and “vocational” aspects, especially self-motivation
- There would be a correlation between “awareness of others” and “altruism” especially caring and respect
- There would be a correlation between “trustworthiness” and “responsibility”
- There would be a correlation between “ability to relate to context” and “accountability”

and the following hypothesis;

- There would be no associations between the scores and age or gender

Correlations were expressed as these were evaluated using Spearman rho coefficients from the agreed assessment form from the first available complete set of data.

6.1.5.4b Criterion validity

Criterion validity was evaluated by correlating (Spearman's rho) each item with the global rating using the agreed assessment form from the first available complete set of data. This global rating for each student was provided separately by the supervising clinicians at completion of the placements.

6.1.5.5 Qualitative evaluation

The feasibility and acceptability of ADSPS were evaluated qualitatively by the students at their regular feedback sessions. During these sessions the students divide into a group for each placement to provide written and verbal feedback. The students were encouraged to provide verbal feedback on the assessment system and notes were taken. Students wishing to provide more detailed feedback were asked to e-mail this to the researcher. This produced the advantages of a focus group situation where the students generated ideas from one another, memories being triggered by other students' experiences (Ritchie and Lewis eds. 2003), and allowed for more detail or confidential data to be collected privately.

Notes were taken at these sessions and some students e-mailed more detailed responses. Data was evaluated using content analysis (Bryman 2008).

6.2. Results

The cohort consisted of 81 students of whom 44 were female. Ages ranged from 21 to 38 years with a median of 23 years. One student joined the programme part way through the placements. Each student attended 3 placements, at least one of which was an NHS general practice and at least one of which was within the salaried services.

Unfortunately, two general dental practices only returned data for one cycle of students. One practice explained that this was because of other commitments, including family commitments and illness during the study period. Problems were encountered at the inception of the pilot with some placements missing the start of the study. Follow up provided global ratings for all students for whom appraisal results were available. This produced one complete data set for all 81 students, along with a second set of data for 66 students. The forms were completed by 19 different members of staff.

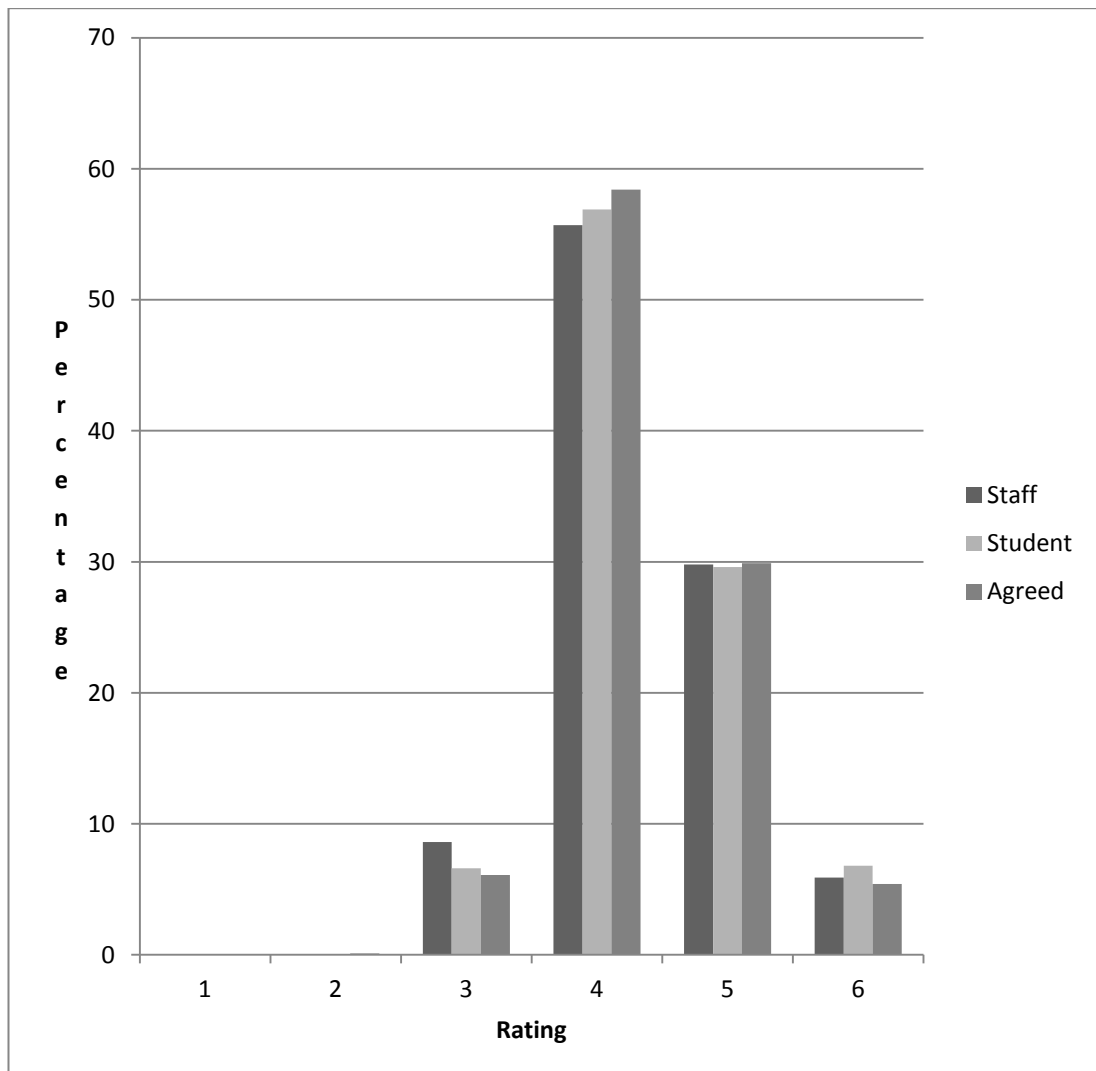
6.2.1 Face and content validity

Face and content validity of the ADSPS were evaluated by panel testing as reported in chapter 5.

6.2.2 Descriptive analysis and response process

Descriptive analysis of the first available complete set of data from the ADSPS showed that students used a slightly narrower range of scores than staff. Points 2-6 inclusive of the Likert scale were used by staff whilst students scored between points 3 and 6. The modal rating was a score of 4 used in 56.9% of the cases by students, 55.7% by staff and 58.4% of the combined forms (Figure 9). The means of the scores were similar, 4.37, 4.33 and 4.34 respectively.

Figure 9 Distribution of ADSPS staff, students and agreed assessments for 81 students involved in ADSPS.



All but two staff, student and agreed scores were correlated (Table 6). Only staff vs student scores for consideration and relating to context were not significantly correlated. Thus, the agreed form could be seen to reflect the joint views of staff members and students. This agreed form was then used for the further analysis.

Table 6 Correlation between scores from staff and students for 81 students involved in ADSPS

Factor	Staff vs Student (r_s)	p	Student vs agreed (r_s)	p	Staff vs agreed (r_s)
Commitment	0.31	<0.01	0.33	<0.01	0.95
Consideration	0.18	<0.13	0.17	<0.01	0.93
Responsibility	0.33	<0.01	0.48	<0.01	0.79
Trustworthiness	0.35	<0.01	0.39	<0.01	0.91
Understands own abilities	0.31	<0.05	0.46	<0.01	0.79
Understands needs of others	0.35	<0.01	0.51	<0.01	0.80
Instils trust	0.31	<0.01	0.48	<0.01	0.90
Relates to context	0.15	<0.18	0.33	<0.01	0.79

6.2.3 Reliability

6.2.3.1 Internal consistency

Internal consistency was evaluated using Cronbach's alpha coefficient on the agreed assessment form, using the first complete set of data. All item-total correlations exceeded 0.65 and Cronbach's alpha, based on all 16 standardised items, was 0.95 which demonstrates that internal consistency is very high. This consistency persisted for each item or factor when deleted (Table 7),

Table 7 Internal reliability of assessment domains within ADSPS for 81 students

	Corrected Item- Total Correlation	Alpha if Item Deleted	Cronbach alpha
Commitment	0.66	0.95	0.95
Consideration	0.72	0.95	0.95
Responsibility	0.77	0.95	0.95
Trustworthiness	0.74	0.95	0.95
Understands abilities	0.65	0.95	0.95
Understands others	0.68	0.95	0.95
Instils trust	0.68	0.95	0.95
Relates to context	0.67	0.95	0.95
Accounts transparently	0.69	0.95	0.95
Respects rules etc	0.66	0.95	0.95
Reflects on own actions	0.67	0.95	0.95
Reflection includes choices	0.73	0.95	0.95
Reflection shows balance	0.78	0.95	0.95
Manifest as clinical skills	0.70	0.95	0.95
Manifest as communication	0.80	0.95	0.95
Manifest as organisation	0.79	0.95	0.95

6.2.3.2 Test-retest reliability

The ICC was calculated using the data from 66 students, for whom a second set of data was available. ICCs above 0.9 indicate that the measure is stable over time. “Reflection shows balance” was the only variable under this threshold, with a value of 0.88. The remainder had values between 0.96 and 1 (Table 8).

Table 8 Reliability of assessment domains within ADSPS for 66 students

	ICC
Commitment	0.99
Consideration	0.97
Responsibility	0.96
Trustworthiness	0.99
Understands abilities	0.97
Understands others	0.98
Instils trust	0.99
Relates to context	0.99
Accounts transparently	0.98
Respects rules etc	1.00
Reflects on own actions	0.98
Reflection includes choices	0.96
Reflection shows balance	0.88
Manifest as clinical skills	0.90
Manifest as communication	0.99(8)
Manifest as organisation	0.96
Global score	0.96

6.2.4 Validity

6.2.4.1 Construct validity

Construct validity was evaluated by assessing correlations between items within the model hypothesized to be related or unrelated. This analysis was based on the following hypotheses:

- There would be a correlation between “self-awareness” and “reflection”
- There would be a correlation between “self-awareness” and “vocational” aspects, especially self-motivation
- There would be a correlation between “awareness of others” and “altruism” especially caring and respect
- There would be a correlation between “trustworthiness” and “responsibility”
- There would be a correlation between “ability to relate to context” and “accountability”

All relationships that were hypothesised to be significant were so, all but one being $r_s > 0.5$, $p < 0.01$ (Tables 9-11, pages 143-144)

The correlations between the different aspects of reflection were between 0.68 and 0.80 (Table 9, all $p < 0.01$).

Table 9 Construct validity of ADSPS: Different aspects of reflection among 81 dental students

Domains	Correlation (r_s)	p
Reflects on own actions/Reflection includes choices	0.72	<0.01
Reflects on own actions/ Reflection shows balance	0.68	<0.01
Reflection includes choices/Reflection shows balance	0.80	<0.01

The hypothesis of correlations between “self-awareness”, measured as “Understands abilities” and “vocational” aspects measured as “Commitment” and between “self-awareness” and aspects of “reflection” were all supported (all $r_s > 0.47$, $p < 0.01$, Table 10).

Table 10 Construct validity of ADSPS: reflection and self-awareness among 81 dental students

Domains	Correlation (r_s)	p
Understands abilities/Commitment	0.54	<0.01
Understands abilities /Reflects on own actions	0.47	<0.01
Understands abilities /Reflection includes choices	0.57	<0.01
Understands abilities /Reflection shows balance	0.50	<0.01

The hypothesis of correlations between altruistic factors, measured as “Consideration”, with “awareness of others”, measured as “Understands others”, between “trustworthiness” and “ability to instil trust” between “trustworthiness” and “responsibility” and between the ability to relate to context and the ability to account transparently for ones actions were all supported (all $r_s > 0.34$ $p < 0.01$, Table 11).

Table 11 Construct validity of ADSPS: aspects of consideration, trustworthiness and ability to relate to context among 81 dental students

Domains	Correlation (r_s)	p
Consideration/Understands others	0.76	$p < 0.01$
Trustworthiness/ Responsibility	0.62	$p < 0.01$
Trustworthiness/ Instils trust	0.64	$p < 0.01$
Relates to context/ Accounts transparently	0.34	$p < 0.01$

The convergent validity hypothesis that there should be no or only weak associations between the scores and age or gender was supported for gender where there was no significant difference ($U = 705-813, p > 0.23$, Table 12).

Table 12 Domain scores by gender amongst 81 dental students

Domain	Male		Female		P (MW test)
	Mean (sd)	Median (Range)	Mean (sd)	Median (Range)	
Commitment	4.43 (0.75)	4 (3-6)	4.22 (0.69)	4 (3-6)	0.23
Consideration	4.45 (0.75)	4 (3-6)	4.61 (0.63)	5 (4-6)	0.43
Responsibility	3.8 (0.71)	4 (3-6)	4.51 (0.71)	4 (3-6)	0.37
Trustworthiness	4.45 (0.71)	4 (3-6)	4.51 (0.78)	4 (3-6)	0.67
Understands abilities	4.43 (0.61)	4 (3-6)	4.12 (0.71)	4 (3-6)	0.24
Understands others	4.44 (0.71)	4 (3-6)	4.44 (0.74)	4 (3-6)	0.84
Instils trust	4.33 (0.76)	4 (3-6)	4.39 (0.77)	4 (3-6)	0.74
Relates to context	4.38 (0.71)	4 (3-6)	4.39 (0.59)	4 (3-6)	0.61
Accounts transparently	4.44 (0.62)	4 (3-6)	4.44 (0.59)	4 (3-6)	0.70
Respects rules etc	4.33 (0.53)	4 (4-6)	4.44 (0.71)	4 (3-6)	0.52
Reflects on own actions	4.35 (0.61)	4 (3-6)	4.37 (0.54)	4 (4-6)	0.89
Reflection includes choices	4.20 (0.61)	4 (3-6)	4.29 (0.56)	4 (3-6)	0.33
Reflection shows balance	4.10 (0.59)	4 (3-6)	4.15 (0.62)	4 (3-6)	0.69
Manifest as clinical skills	4.25 (0.70)	4 (3-6)	4.34 (0.69)	4 (3-6)	0.33
Manifest as communication	4.38 (0.59)	4 (3-6)	4.37 (0.58)	4 (3-6)	0.94
Manifest as organisation	4.33 (0.66)	4 (3-6)	4.34 (0.66)	4 (3-6)	0.76

The convergent validity hypothesis was generally supported for age for constructs measured as “commitment”, “consideration”, “responsibility”, “understands abilities”, “instils trust”, “accounts transparently” and “respects rules”, (r_s 0.02-0.19 p 0.1 -0.9, Table 13) with weak correlations for domains of “trustworthiness”, “relates to context”, those relating to reflection and their manifestation (r_s 0.22 -0.32 p <0.05, Table 13).

Table 13 Correlation between domain scores and age amongst 81 dental students

Domains	Correlation (r_s)	p
Commitment	0.19	0.10
Consideration	0.11	0.33
Responsibility	0.16	0.16
Trustworthiness	0.25	0.03
Understands abilities	0.04	0.75
Understands others	0.02	0.90
Instils trust	0.12	0.30
Relates to context	0.27	0.02
Accounts transparently	0.17	0.14
Respects rules etc	0.17	0.13
Reflects on own actions	0.29	0.01
Reflection includes choices	0.27	0.02
Reflection shows balance	0.25	0.02
Manifest as clinical skills	0.22	0.05
Manifest as communication	0.32	< .01
Manifest as organisation	0.32	< .01

6.2.4.2 Criterion Validity

Each factor on the agreed form correlated with the global ratings provided by the supervising clinicians (Table 14, all $r_s > 0.32$ and $p < 0.05$).

Table 14. Criterion validity for each domain within ADSPS and the global scores amongst 81 dental students

Correlation for each factor with global score		
Domains	Correlation coefficient (r_s)	p
Commitment	0.56	<0.05
Consideration	0.60	<0.05
Responsibility	0.53	<0.05
Trustworthiness	0.35	<0.05
Understands abilities	0.47	<0.05
Understands others	0.49	<0.05
Instils trust	0.41	<0.05
Relates to context	0.45	<0.05
Accounts transparently	0.41	<0.05
Respects rules etc	0.32	<0.05
Reflects on own actions	0.51	<0.05
Reflection includes choices	0.47	<0.05
Reflection shows balance	0.46	<0.05
Manifest as clinical skills	0.44	<0.05
Manifest as communication	0.55	<0.05
Manifest as organisation	0.42	<0.05

6.2.5 Qualitative evaluation

At the meetings held to collect student feedback and encourage student reflection, students fed back on the ADSPS. This information was recorded in notes. Students were also encouraged to e-mail further thoughts to the researcher. Nine students sent further e-mails (11%).

Content analysis of these data produced three main themes, the ADSPS process, educational value and suggestions for improvements. The results are summarised in these themes using pseudonymised quotes for illustration.

6.2.5.1 ADSPS process

The ADSPS process was initially found to be confusing. Following the first placement reports indicated that some found the forms confusing and that some staff also seemed to be unaware of what was expected. During later feedback sessions there were reports that students *"found it a better more useful experience this time"* (David).

Initially it was reported that students found the forms *"quite complicated and had to refer to the descriptors a lot"* (Helen). However later on it was reported that students *"understood them better"* (Mary) and found them *"interesting to do"* (George). Initial reports also indicated that staff found the forms difficult to follow, but that they found the descriptors helpful. By the second or third placement, it was reported that staff were better able to complete the forms, stating that *"as they have more practice and this is making the feedback from the forms more useful"* (Sean).

This initial confusion was also related to localised situations, with one report stating *"Confusion regarding these forms now appears to lie just with a small number of staff members at a couple of practices"* (Adam). This report goes on to explain that this often related to other priorities within the practice *"the confusion was understandable as the last week we spent at the practice was full of transition (for the practice)"* (Anisha)

Training was seen as a way of improving understanding of the ADSPS process as

“The staff at the practice were very complimentary of the Outreach Training day(s) ... the format and content of the day was constructive and it was the most interesting and enjoyable of the day” (Sarah).

Previous training of staff members was also seen to contribute to their understanding of the process

“it is an advantage if the staff member completing the form is a DF1 trainer as they understand the process already” (Adam).

This necessity to have staff members committed to the process was also commented on by another student:

“Essentially, it mustn't be forgotten that for the process to work, it is heavily reliant on the tutors/supervisors' professionalism and their desire to go the extra mile, providing extensive constructive criticism in an articulate, non-judgmental fashion.” (Philipa)

It was also reported to be quite a time consuming process but students felt it prompted worthwhile conversations with placement staff. The importance of allowing an appropriate amount of time to complete the process was reported;

“it was important to put time aside to complete the forms and they could not be done in a rush” (Chris).

Reports did, however, suggest that some in placements the process was rushed the forms were not completed properly and when this occurred the process did not appear to be worthwhile. However reports from placements where time was put aside and the forms were completed properly suggested that it was a very valuable exercise, commenting on one tutor that she

“was very good and blocked off time to complete the forms.” (Sean)

The third aspect of the process some students particularly like was the ability of the ADSPS to involve all members of staff. One student commented that

“Every member of staff who was in contact with students in our placement filled out a professionalism assessment form, these were then reviewed by the clinical director ... This meant that our professionalism was assessed on the basis of our performance throughout the entire placement, this would not be possible if only one member of staff was responsible for the assessment” (Moir)

Some practices asked the nursing staff to be involved which was found to be useful

“having the nurses complete the forms was actually beneficial as they were more often aware of what was happening on the clinics”. (Meera)

This flexibility to involve all staff and then combine the results was seen to have a great advantage as it enabled the placement to form a more complete picture of the students' professionalism. This aspect of the process meant one supervising clinician

“had gained an accurate and complete idea of our professional performance during the placement” (Blake)

Thus, the process was seen to be initially complex, requiring both staff and student training, and time consuming. Students were positive and found it very useful. They also reported that the placements also liked it and *“found it useful”*. This usefulness comes in part from the fact that it can combine all aspects of student professional performance within the assessment process,

6.2.5.2 Educational value

There was recognition of the importance of learning professionalism and some feeling that this was a good way of measuring it. The formalisation of the feedback provided by staff was particularly appreciated;

“Staff used the process to hone in on specific areas and discuss them” (Barry)

and

“the one on one feedback session conducted at the end of the placement was an ideal way to communicate the results of the assessment”. (Adnan)

Some students found it very useful to compare the scores they had given themselves with those of the staff and to receive an explanation on how to improve. Comments included;

“The system provides better more constructive feedback” (Jane)

and

“It was a great idea to do this, because the feedback I received was in depth, comprehensive and gave a great insight to my strengths as well as areas in which I could improve on”. (Philip)

Furthermore, one student commented that he found it very useful as it

“allowed his tutor to pin point an area he wasn’t aware was a problem and give him advice of how to improve” (Simon).

This ability of the ADSPS to allow feedback also promoted student reflection. One student commented that ADSPS

“helped me evaluate how other professionals perceive me and helped me identify particular areas I needed to work on” (Clare)

ADSPS was also felt to be useful and appropriate on Outreach as

“it was a very good exercise because in general practice, professionalism is much more central to one’s patient management and team working” (Jenny)

and

“everyone I’ve spoken to feels it is a positive contribution to the assessment of our time on outreach” (Alan)

This combination of feedback and reflection could be important for students’ professional development. One student had saved the negative comments received at the end of his first placement onto his mobile phone. He then looked at the comments every day during his second placement and worked to improve on weaker areas. At the end of his second placement he got much more positive comments and had improved.

6.2.5.3 Suggestions for improvements

The ADSPS was piloted and therefore both staff and students were encouraged to provide suggestions for improvements as part of the evaluation.

One area for improvement was the layout of the forms, which had boxes for feedback, but these were found to be inadequate

“the boxes were too small so not much information could be fitted in” (Phillipa)

and

“Making the proforma sheets A4 would be advantageous too” (Dave).

Finally the forms were seen as complex *“the third form looks and is very congested”* (Chris)

Improvements to the categories were also suggested; one student had particular problems with one area of the form commenting:

“Commitment, autonomy, confidence and motivation are in the same row. Taking myself as an example my tutors found I lacked some confidence and marked me lower in this row. Therefore this also lowered my motivation and commitment score even though I had shown no lack of these” (Anisha)

However, this was tempered by understanding the practicalities of the situation

“I understand that this is hard to fit onto the one sheet” (Anisha)

There were also difficulties with categories such as honesty and trustworthiness;

“it’s difficult to rate something like honesty on a scale of 1 to 6 as really it’s a yes or no question” (Paul).

Understanding of the forms was aided by the descriptors, with staff commenting that

“They did struggle to understand some of the questions but did understand the descriptors.” (Freda)

Whilst others felt *“It would help if descriptors were simplified”* (Simon)

However, there was an understanding that professionalism was complex and that covering all the areas required was therefore also complex. Despite suggested improvements to the clarity of the wording on the forms, students commented that *“We felt the guide covered all aspects of professionalism, nothing was left out.”*

6.3. Discussion

The aim of this phase of the project was to evaluate an assessment based on the model developed in the previous phase by evaluating a pilot assessment tool (ADSPS) amongst 81 senior dental students during their Outreach placements. Overall ADSPS performed well as a test of professionalism and students largely supported its acceptability and educational value.

Evaluation of the qualitative data suggests that ADSPS provides useful feedback and encourages student reflection and the quantitative data reveals ADSPS to have good psychometric properties. Thus this preliminary study suggests that the ADSPS used is a feasible system which is both reliable and valid and has educational value when used to assess dental students' professionalism.

Face and content validity of ADSPS had been evaluated by panel testing the assessment system before it was administered. However, initial comments suggested improvements could be made to the wording on the forms. The feedback given to the students was written onto the forms and, whilst the space for this was often deemed limited, these data can be used to improve the wording of the forms and descriptors so that they relate more closely to the experiences of students and staff.

Despite initial problems with interpretation, the response process demonstrated good alignment between student and staff interpretations and the agreed form reflected the joint views of staff members and students. The awarded marks were positively skewed towards the upper end of the scales, with the modal response of 4 being used 58% of the time and the mean being 4.34 on the agreed form (Figure 9, page 139). This skewness has educational value as this may help identify borderline and failing students, who are often not recorded by other systems (van Mook et al 2007) and may reflect the developed professionalism of these senior students.

Furthermore, professionalism is often assessed using a global score and staff aggregate good points with less good ones, thus borderline behaviour isn't often recorded. The piloted system divided professionalism into its constituent parts and that, in combination with the 1-6 point scale, enabled the less able students to be identified, indeed 8.6% of the scores given by staff were a 3. Moreover, by breaking professionalism into its constituent parts, staff may have become more aware of the different domains involved and thus encouraged to recognise lower professionalism in specific areas.

The reliability of ADSPS was consistently high. Internal reliability was very high with all item-total correlations being > 0.6 and Cronbach's alpha 0.95 (Table 7, page 141). This exceeds standards for assessment instruments for individuals and implies that the system could be useful for summative assessment (Downing 2004). This high value of alpha, even with each item removed indicates that all the items are construct relevant. Whilst it could be argued that there are too many aspects being assessed by ADSPS, any

reduction could reduce its content validity. In addition, it would reduce the educational value by reducing the specificity of the feedback an aspect of ADSPS that the students valued.

Despite differences in reported interpretation of the criteria, test-retest reliability was very high with the ICC values greater than 0.96 for all but one aspect (Table 8, page 142). This again confirms the reliability of ADSPS as the forms were completed by a total of 19 different members of staff across 9 different Outreach placements. Due to the high number of placements and tutors, Generalizability theory was considered to calculate reliability, however the breadth of data was not available to ensure meaningful interpretation of the results and ICC is considered a legitimate test under these circumstances (Downing 2004).

The use of a validity argument, alongside the identification of construct under representation and construct irrelevance (Messink 1989, Kane 2006) were considered. But this approach relies on having a strong theoretical construct and therefore a classic test theory approach was preferred. Construct validity of ADSPS was therefore evaluated by correlating items within the model hypothesized to be related or unrelated. All factors hypothesized to be significant were so.

Correlations between different aspects of reflection were, as would be expected, high (r_s range 0.68 and 0.80, Table 9, page 143) but they were also high between reflection and “self-awareness” (r_s range 0.47 and 0.57, Table 10, page 144). Thus demonstrating the link between these two factors as hypothesized from the model and thus validating not only the construct within the assessment but also that of the model.

There was a significant correlation between altruistic factors, as recorded under “Consideration”, with an “awareness of others”, recorded under “Understands others”, r_s being 0.76 (Table 11, page 144) which again confirms the link as hypothesized.

Other hypothesized links with significant correlations include “trustworthiness” and the “ability to instil trust” where r_s is 0.62 (Table 11, page 144). There was also a significant correlation between “trustworthiness” and “responsibility” ($r_s=0.62$, Table 11, page 144), and between the ability to relate to context and the ability to account transparently for ones actions where $r_s=0.34$ (Table 11, page 144). This lower value of r_s could be a result of the very varied circumstances under which the assessments were made. This

variation will have made the context especially relevant and it could be that some students adapted better to their context than others. However, the fact that this remains significant underlines the strength of the ADSPS assessment tool in different circumstances.

The convergent validity hypotheses that there should be no associations between professionalism scores and age or gender were supported (Tables 12 and 13, pages 145 and 146). Although there were weak correlations for age and domains measured as “trustworthiness”, “relates to context”, those relating to reflection and their manifestation ($r_s 0.22 - 0.32 p < 0.05$, Table 13, page 146). The correlation with trustworthiness could stem from a perceived association between increasing age and this construct, whilst the ability to relate to context could be related to life experience and thus also to increasing age.

The correlations between those relating to reflection and age could be explained by the fact that older students were perceived as more reflective and this in turn could have an effect on the manifestation of their professionalism. Thus, age may not have been a suitable neutral factor to use in a convergent hypothesis.

In terms of criterion validity, each factor on the agreed form correlated with the global ratings provided by the supervising clinicians (Table 14, page 147) with all but two items being $r_s > 0.4$. Of the factors which have a lower value of r_s , qualitative data show that “trustworthiness” was interpreted differently by different placements. The item “Respects rules etc” may have been affected by the differences between the local rules at each placement and those the students were used to within the main area of their education. Thus it could be that their knowledge played a significant role in their abilities in this area and thus confirms professionalism as a second order competence affected by first order abilities.

The qualitative data affirm the educational impact and acceptability of the ADSPS, with it making a positive contribution to student assessment on Outreach.

Unfortunately, two general dental practices only returned data for one cycle of students. One practice subsequently explained that this was because of other commitments, including family commitments and illness during the study period. Qualitative data from the students reported that the other practice had many changes

in staff during the pilot, which may explain why they were only able to return one set of data.

The problems encountered at the inception of the pilot revealed by the qualitative data highlight the need for staff training and the further need for clarity in the wording of the assessment instrument and greater organisational weight behind the process.

Time factors were also seen to be important. The quality of the feedback given was very time dependent and this was often seen as an issue, particularly in the NHS general practices. This has cost implications, particularly in situations where staff time is expensive, which may affect the feasibility of implementing ADSPS broadly across a curriculum. However, the importance of protecting time to teach, despite heavy clinical workloads, is stressed within the literature relating to role modelling and the teaching of professionalism in medical education (Wright et al 1998, Cruess et al 2008). Thus, this needs to be recognised as an important aspect within the curriculum for undergraduates.

The number of staff involved, even in this pilot study was seen to have both advantages; in that it was inclusive and allowed views from nursing staff as well as supervising clinicians, and disadvantages; in that this increased the need for staff training and calibration. Despite this the analysis of the ADSPS demonstrated good psychometrics.

The importance of learning professionalism was recognised and this appeared to be a good way of measuring it. The appraisal allowed discussions which enabled the reasoning behind some of the students' actions to be explored and was thus very useful for encouraging reflection and providing students with appropriate feedback. Furthermore this accords with the literature which recommends assessing professionalism using both observed behaviour and the reasoning behind this (Ginsberg et al 2009).

Some students found it useful to compare their own scores with those of the staff and to get an explanation on how to improve. This prompting is also seen in the literature within medical education (Rees and Shepherd 2005a). In addition the fact that many staff members could be included within one assessment system was seen to have particular advantages with respect to providing a more complete picture of the

student's professionalism which also accords with the literature on 360° feedback (Rees and Shepherd 2005b).

The specificity of the feedback and its ability to stimulate reflection were seen as important especially as part of students' professional development. This again accords with the literature on reflection within medical education (Atkins and Murphy 1993, Boenink 2006, Muir et al 2014) which describes the strong link between good feedback and reflection. Furthermore the encouragement of reflective practice is seen as an important aspect of professionalism (Passi et al 2010). ADSPS encourages the development of reflection by making this aspect explicit and making the link between reflection and other competences such as communication and clinical skills by recognising the second order nature of professionalism.

However, whilst the literature describes individual aspects of assessment, feedback and reflection with respect to professionalism these aspects tend to have been reported separately and reports of the psychometric properties of these measures are limited (Veloski et al 2005, Jha et al 2007). The lack of a theoretical model has been identified within medical education as one of the limitations in curriculum design with respect to this integration and assessment of professionalism (Passi et al 2010). ADSPS not only accords with these individual aspects, it provides a framework based on a theoretical model of professionalism which allows these aspects to be identified in a structured manner. Moreover, evaluation of the psychometric properties of ADSPS is also positive.

Suggestions for improvements were mainly of a practical nature, a range of comments focused on the size and layout of the forms. These comments were very useful as these changes can be incorporated into future assessments. Suggestions for improvements to the way the domains are presented were also useful as the wording can then be adjusted to reflect the context in which the assessment is carried out.

This pilot study supported the need for staff training and calibration. It also confirmed the need to evaluate assessment of this type and involve the assessors in the wording of the descriptors to ensure that they were aligned to the reality map of the assessors (Crossley and Jolley 2012). Further research may be needed to ensure clarity within the descriptors and that these descriptors are available for the varying stages of student education from beginner to competent.

Participants broadly reported finding the ADSPS useful and it appeared to cover all areas of professionalism.

The purpose of the pilot was to evaluate an assessment tool based on the previously developed model and therefore all aspects of the model were incorporated into the ADSPS. This development was ambitious. Whilst there was general understanding that professionalism was complex and that covering it comprehensively was commensurately complex, the evaluation suggests that covering different aspects in different contexts could also be appropriate.

Although the numbers of students being assessed was small, the psychometric analysis showed not only the ADSPS to be reliable and valid but also the strength of the underlying theoretical model. Furthermore the qualitative evaluation demonstrated the usefulness of ADSPS alongside its acceptability, feasibility and educational impact. Thus, ADSPS demonstrated theoretical and empirical robustness. The qualitative data also demonstrated that ADSPS allowed students to receive detailed feedback and encouraged student reflection.

This pilot study involved one cohort of students from one dental school, so the generalisability of the results cannot be confirmed. Further research is therefore needed on the use of ADSPS within other curricula. This would inevitably result in the assessment having to be adapted to any new context. However the current study did involve a broad range of primary care placements, so it does suggest that the results may be generalisable.

6.4. Conclusion

This evaluation reveals ADSPS to have good internal reliability and validity and suggests that basing an assessment system around the model developed in phase one of this research is a valuable approach to the assessment of professionalism within dental education.

Part of the work in this chapter has been presented as

Zijlstra-Shaw S., Roberts T.E. and Robinson P.G. (2014) Validation of an assessment system for professionalism amongst dental students: International Association for Dental Research, Pan European Region Congress, held in Dubrovnik

Chapter 7

Discussion

Chapter 7.

Discussion

Professionalism has become increasingly important as a core competency to practice dentistry. Throughout healthcare there has been a shift towards a patient centred approach with higher expectations of healthcare professionals as the norm (Irvine 1997, Royal College of Physicians of London.2005, van Mook et al 2009a, 2009f).

These changes require healthcare professions who are willing and able to adapt their traditional professional culture to meet these growing societal expectations. One result is the emergence of a new framing of professionalism, which welcomes patient autonomy, and embraces the pursuit of excellence through knowledge, skill, service, accountability, transparency, and a collective responsibility for assuring patients through setting and demonstrating achievement with professional standards (Irvine and Hafferty 2011). Moreover, this framework should be a socially responsible expression of the healthcare professions' personal and collective commitment to patient-centeredness (Irvine and Hafferty 2011).

This need to adapt the traditional framework to create a new professionalism is clearly seen within the growing literature relating to medical professionalism, especially within medical education (Hodges et al 2011). Within this literature there is a growing demand for a clearly circumscribed definition of professionalism, which can be used within medical education, and upon which clear educational aims can be based (Arnold 2002, Birden et al 2013, Birden et al 2014, Hawkins 2009, O'Sullivan et al 2012, Stern and Papadakis 2006, Warren et al 2014).

The necessity of a clear, circumscribed definition in education supports teaching and assessment. Frameworks in education are useful for communicating expectations to staff and students (Pangaro and Ten Cate 2013). Moreover, good assessment must be aligned to a clear construct to enable validation (Schurwith and van der Vleuten 2011b). This is particularly important where assessment is judgement based, as is frequently the case in assessment of professionalism (Bryden et al 2012, Goldie 2013, van Mook et al 2009g, Warren et al 2014).

Without a framework for professionalism it is difficult to set expectations, to ensure adequate provision of experiences for students and to evaluate learning outcomes, all of which are essential when teaching professionalism (van Mook et al 2009d, O'Sullivan et al 2012). This lack of clarity has in addition been cited as a factor in reducing the ability of staff to be confident in the results of teaching and learning professionalism despite their acknowledging the importance of this aspect of medical education (Whitehead et al 2011, Warren et al 2014).

Thus, whilst there is general agreement about the need for a definition and framework, there has been neither universal nor standard agreement as to what that definition should be (Jha 2007, Birden et al 2014). This difficulty has led to a number of suggestions for ways of tackling this issue, with some authorities even suggesting that a clear definition is not possible (Erde 2008). Others suggest a more practical approach. For example O'Sullivan and colleagues suggest that a localised definition be agreed by the institution so that its curriculum can be based around this (O'Sullivan et al 2012). A similar pragmatic view by Cruess and Cruess (2006) suggests that the cognitive base of professionalism be taught and reinforced by experiential learning. Others have used either an analysis of the literature or empirical data from interviews or surveys to try and conceptualize professionalism (Green et al 2009, Jha et al 2006, Montrouxe et al 2011, van de Camp et al 2004 Wagner et al 2007). Despite this, the definition of professionalism remains vague and remains an area recommended for further research (Hodges et al 2011).

The same demands are being made of dental professionals, as can be seen in the view of the GDC who stated that it is "*universally accepted that dentists subscribe fully to the core values of the doctor*" (2002). That these core values in medicine have changed over time is well documented (Erde 2008, Hafferty and Castellani 2010, Sox 2007, van Mook et al 2009a), but they also change within dentistry, as can be seen from the regular updates to the professional standards described by the GDC (GDC 2001, GDC 2005, GDC 2013). Not only do the professional standards change, but the GDC's expectations of the dental undergraduate curriculum has also changed from demonstrating "*acceptance of the obligation to work in the best interests of the patient at all times*" (GDC 2002) via putting "*professionalism at the heart of the undergraduate agenda*" (GDC 2008) to making professionalism one of the four domains of educational outcomes (GDC 2011).

The GDC also states that “*certain features of the practice of dentistry have ensured that the identity of a separate profession has been maintained*” (GDC 2002). Thus a definition and framework for professionalism relating specifically to dentistry is necessary in order to provide the clarity expected for educational aims and outcomes within the dental curriculum.

The aim of this study was to develop an instrument to assess professionalism within dentistry by firstly identifying concepts of professionalism in dentistry and the domains within the construct; then developing and panel testing indicators based on those domains for use within an educational curriculum for dental students. Finally, the objective was to create and pilot an assessment method for professionalism within dental undergraduate education.

These objectives were achieved. A definition of professionalism was derived based on empirical data. Professionalism emerged from the data as the manner in which one reflects on and reconciles different aspects of professional practice which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects will vary with and be appropriate to the context whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves (Zijlstra-Shaw et al 2012).

This study is novel in so far as it is among the first to explore professionalism in dentistry by combining conceptual and empirical data. Furthermore professionalism was not only defined but was also operationalised in the form of a model (Figure 6, page 86). This model exceeds the requirements recommended for a definition as a foundation for an assessment system for professionalism (Hawkins et al 2009, Hodges et al 2011, O’Sullivan et al 2012), because the operationalised model can be mapped to a curriculum to produce an assessment system. It has also shown good psychometric properties when used as the basis for an assessment programme.

The operationalisation of this definition in the form of a model (Figure 6, page 86) also meets these recommendations as the model provides a theoretical framework upon which an assessment system can be based (Hawkins et al 2009, Hodges et al 2011, O’Sullivan et al 2012). This also improved the ability to identify areas within the curriculum in which appropriate assessment of professionalism could be carried out,

and thus ensure more comprehensive student learning experiences (van Mook et al 2009d, O'Sullivan et al 2012).

By mapping the domains within the model together with an assessment framework (Miller 1990) against the current undergraduate dental curriculum, concrete educational aims and objectives were developed. The provision of these educational objectives thus met the requirements recommended in the literature (Arnold 2002, Birden et al 2013, Birden et al 2014, Hawkins 2009, O'Sullivan et al 2012, Stern and Papadakis 2006, Warren et al 2014). Panel testing further confirmed their acceptability, feasibility and face validity. Moreover using a specific framework increased the clarity of these educational aims for both staff and students.

During this panel testing the domains and the model were also considered to ensure construct representation and were found to be generally complete. Using the model as a basis for assessment also allowed appropriate educational media, assignments and assessments to be constructed and descriptors developed to ensure clarity across the curriculum, a factor deemed essential for both students and staff (Arnold 2002, Birden et al 2013, Birden et al 2014, Hawkins 2009, O'Sullivan et al 2012, Stern and Papadakis 2006, Warren et al 2014).

One of these assessment tools, the Assessment of Dental Student Professionalism System (ADSPS) was then piloted within an Outreach programme for senior dental students. The assessment was carried out in work-based placements in varied clinical situations within primary care. This use of the system in genuine primary care settings over a period of time suggests that it reflects the genuine performance of the students in clinical settings and was thus a robust setting for a pilot study, assessing the "does" section of Millers pyramid (1990).

Furthermore ADSPS was based on an appraisal meeting which allowed not only the students to demonstrate their accountability, but also ensured that the assessment was based on both the observable behaviours of the students over time and the reasoning behind these behaviours. This accords with the literature which warns against basing judgements of professionalism on observable behaviour alone (Ginsberg et al 2000, 2002, 2009) and also ensures the second order nature of professionalism (Verkerk et al 2007) is taken into consideration during the assessment.

The response of both students and staff was positive and students in particular stated that this improved feedback and thus played a role in making their Outreach placements more educational. The improvement in the quality of the feedback was also seen to produce an increase in student reflection and thus embraces another aspect recommended within the literature for professional development (Atkins and Murphy 1993, Boenink 2006).

Few instruments to assess professionalism found in the literature attempt to meet the criteria for an ideal test by demonstrating reliability or validity (Veloski 2005, Jha et al 2007). Moreover using the theoretical model of professionalism as a basis of the ADSPS assessment allowed it to be aligned to a clear construct thus enabled enable validation (Schurwith and van der Vleuten 2011b). The results of the pilot of ADSPS were promising in this respect and showed good internal reliability and validity.

The good internal reliability and validity shown by ADSPS suggest that basing an assessment system around the model developed in phase one of this research is a valuable approach to the assessment of professionalism within dental education. Furthermore it also infers the statistical validity of the model in addition to that of ADSPS.

The study was carried out in one School and for one cohort, furthermore the assessment was championed by the researcher who was fully committed to the project, thus the generalisability of the results cannot be confirmed. However the assessment was carried out in both a number of disparate geographic sites and in varied clinical situations within primary care settings which does suggest that this may be the case.

Predictive validity was not assessed; however the use of the system in genuine primary care settings over a period of time suggests that it might reflect the genuine performance of the students in clinical settings.

Comparing the assessment system with van der Vleuten's established model of the utility of an assessment (van der Vleuten 1996), the ADSPS shows good reliability, validity, educational impact, and acceptability, with cost in terms of time, being the only issue raised (Table 15, page 165).

Table 15. ADSPS compared with aspects of a good assessment as described by van der Vleuten (1996)

	ADSPS
Reliability	<ul style="list-style-type: none"> • Internal reliability, Cronbach's alpha = 0.95 • ICC 0.96 and 1 ($p < 0.005$)
Validity	<ul style="list-style-type: none"> • Criterion validity: All items correlated significantly with the global ratings (range $r_s = 0.32 - 0.59$, $p < 0.05$ with all but two items being $r_s > 0.4$.) • Construct validity: All hypothesized correlations were significant (all but one being $r_s > 0.5$, $p < 0.05$) • Qualitative data shows covered all areas of professionalism
Educational impact	Qualitative data indicates that it can <ul style="list-style-type: none"> • increased ability to provide specific feedback • increased student reflection • allowed students to explain observed behaviour and • confirmed professionalism as a second order competency
Acceptability	Qualitative data shows students very positive and staff generally positive
Cost	Not assessed but does take time

The study has demonstrated the good psychometric properties of the assessment and the model upon which it is based. Assessments of professionalism in the literature have shown great variability in the extent to which reliability and validity are examined (Lynch 2004), particularly when rating overall performance. Not only does the ADSPS have good reliability and validity but qualitative evaluation carried out to assess other aspects of its utility also demonstrated good levels of feasibility.

Moreover, when compared to the requirements of assessment systems for professionalism suggested within medical education (Hawkins et al 2009, Hodges et al 2011, O'Sullivan et al 2012) the ADSPS meets many of these criteria. The ADSPS is based on a definition and theoretical model produced from empirical evidence (Zijlstra-Shaw et al 2012). There is thus a framework for the assessment which was then panel tested. The system was integrated into the current curriculum and opportunities were

provided to assess professionalism in multiple contexts, by multiple assessors. The ADSPS was then evaluated (Table 16).

Table 16 ADSPS compared with aspects of an assessment system for professionalism (adapted from Hawkins et al 2009, Hodges et al 2011, and O'Sullivan et al 2012)

Aspect	ADSPS
Agree a definition of professionalism and base learning outcomes on this definition	Definition derived from qualitative research in first part of study, then mapped against curriculum to provide learning outcomes
Integrate professionalism across the whole curriculum (formal, informal and hidden)	Model derived from qualitative research in first part of study mapped against curriculum
Provide opportunities to assess professionalism in multiple contexts, by multiple assessors, longitudinally and triangulate the results	Assessment carried out in multiple centres, by multiple assessors over length of placement.
Provide clear statements of the purpose of each assessment	Used Miller's pyramid (1990) and Model mapped against curriculum to operationalise learning outcomes and appropriate assessments
Ensure that the programme is evaluated and improvements made based on the evaluations	Panel testing of curriculum and assessment tool carried out in previous section of study and qualitative and quantitative evaluation carried out

The study met all the original aims and objectives. In doing so it added to the body of knowledge in the area of both professionalism in dentistry and dental education by providing a definition and a theoretical model for professionalism in dentistry. This theoretical model enabled a programme of assessment of professionalism to be developed which has clear statements of purpose and clear targets, for both students and assessors. The assessment programme has good internal reliability and validity and suggests that basing an assessment system around the explicit theoretical model is a valuable educational tool.

Chapter 8

Conclusions and Recommendations

Chapter 8.

Conclusions and Recommendations

The aim of this study was to develop an instrument to assess professionalism within dentistry by identifying concepts of professionalism in dentistry and the domains within this construct, developing indicators of those domains and assembling, piloting and evaluating an assessment method for professionalism in dental undergraduate education

Professionalism emerged from the data as the manner in which one reflects on and reconciles different aspects of professional practice which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects will vary with and be appropriate to the context whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves.

This study is novel in so far as it is one of the first to explore professionalism in dentistry using conceptual and empirical data. The construct of professionalism has been operationalised in the form of a model which was used to form a framework for an assessment system within dental education which was in turn validated. The study is directly related to dentistry, is comprehensive and covers all the areas found within the literature on professionalism.

It also adds to understanding by providing a solid foundation for the implementation of a comprehensive assessment system for use in dental education.

8.1 Conclusions for research

- A novel definition of professionalism in dentistry based on current conceptions and empirical data was produced
- Professionalism is the manner in which one reflects on and reconciles different aspects of professional practice which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in

which work is carried out. The balance of the various aspects will vary with and be appropriate to the context whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves.

- Themes within the data include;
 - professionalism as a second order competence,
 - the expression of professionalism as dependent on context,
 - professionalism encompasses personal aspects which are both tacit and overt
 - and reflection as a necessary component,
- A theoretical model, produced from the findings and definition, was evaluated as part of an assessment programme and found to be both reliable and valid.
- Evaluation of an assessment tool based on the model (ADSPS) demonstrates excellent internal reliability and validity and suggests that basing an assessment system around the explicit theoretical model is a valuable educational tool
- The model enables professionalism to be broken into its constituent domains which can increase the specificity of feedback for students
- ADSPS was acceptable

8.2 Conclusions for practice

Using a theoretical model of professionalism within dental education is a valuable educational tool. The model and assessment system are valid, feasible and acceptable ways to assess professionalism. The advantages of the model include;

- it enables a pragmatic approach to be taken to the assessment of professionalism
- it enables a programme of assessment of professionalism to be developed which has clear statements of purpose and clear targets, for both students and assessors
- it enables targets to be set which can then be converted into discrete educational objectives,
- and allows appropriate educational media, assignments and assessments to be constructed and applied.

8.3 Recommendations for research

The model can be used to develop and then evaluate an assessment system for professionalism within dental education;

- within other Dental Schools
- within other types of curriculum e.g problem based learning
- within other cultures e.g. outside UK
- within postgraduate education

The application of the model to other professions may also be considered

8.4 Recommendations for practice

- ADSPS should be considered for implementation, albeit with some modifications to the current descriptors and assessment categories, based on the feedback from this evaluation
- Implementation should be accompanied by comprehensive continual evaluation and adaptation, which may include moving from a paper based system to an electronic one and lay input into the assessment, which could be evaluated using qualitative methods
- The model and assessment system frames the way to develop new educational interventions for professionalism. These should be considered
- Descriptors for different stages of learning should be developed based on the model
- Assessment programmes should be developed for use in all areas of the curriculum

References

References

- Abbott, A. (1988) *The System of Professions*. London, University of Chicago Press
- Allsop, J. (2006) Regaining Trust in Medicine Professional and State Strategies. *Current Sociology*. 54(4), 621–636
- American Board of Internal Medicine (1995) *ABIM Project Professionalism* Philadelphia, American Board of Internal Medicine
- American Dental Association Principles of Ethics and Code of Professional Conduct Revised January 2011 American Dental Association; 2011 available at http://www.ada.org/sections/about/pdfs/ada_code.pdf [Accessed 14th January 2011]
- American Educational Research Association, American Psychological Association, National Council on Measurement in Education (1999) *Standards for Educational and Psychological Testing*. Washington, DC, American Educational Research Association
- Arney, W.R. (1982) *Power and the Profession of Obstetrics* Chicago, University of Chicago Press
- Arnold, L. (2002) Assessing professional behaviour: Yesterday, Today, and Tomorrow. *Academic Medicine*. 77, 502-515
- Arnold, L., Shue, C.K., Kalishman, S., Prislun, M., Pohl, C., Pohl, H. and Stern, D.T. (2007) Can There Be a Single System for Peer Assessment of Professionalism among Medical Students? A Multi-Institutional Study. *Academic Medicine*. 82,578–586
- Arnold, L. and Stern, D.T. (2006) Content and Context of Peer Assessment in Stern D. T.(ed.) *Measuring Medical Professionalism* Oxford, University Press Oxford 175-194
- Askham J. & Chisholm A. (2006) *Patient-Centred Medical Professionalism: Towards an agenda for research and action* Oxford, Picker Institute
- Atkins, S. and Murphy, K. (1993) Reflection: a review of the literature. *Journal of Advanced Nursing*. 18(8), 1188-1192
- Aukes, L. (2008) *Personal Reflection in Medical Education* PhD University of Groningen
- Baker S. R. and Gibson B. G. (2014) Social oral epidemic(ology)² where next: one small step or one giant leap? *Community Dentistry and Oral Epidemiology*. doi 10.1111/cdoc.12118
- Bebeau, M.J., Rest, J.R. and Yamoore, C.M. (1985) Measuring dental students' ethical sensitivity. *Journal of Dental Education*. 49, 225-235
- Birden, H., Glass, N., Wilson, I., Harrison, M., Usherwood, T. and Nass, D. (2013) Teaching professionalism in medical education: A Best Evidence Medical Education (BEME) systematic review. BEME Guide No. 25. *Medical Teacher*. 35, e1252–e1266
- Birden, H., Glass, N., Wilson, I., Harrison, M., Usherwood, T. and Nass, D. (2014) Defining professionalism in Medical education: A systematic review. *Medical Teacher*. 36(1), 47-6

- Bledstein, B.J. (1976) *The Culture of Professionalism* New York, Norton
- Boenink, A.D. (2006) *Teaching and learning reflection on medical professionalism* PhD Free University of Amsterdam
- Boenink, A.D., Jonge, P., Small, K., Oderwald, A. and Tilburg, W. (2005) The effects of teaching medical professionalism by means of vignettes: an exploratory study. *Medical Teacher*. 27 (5), 429-432
- Bommer, M, Gratto, C., Gravander, J. And Tuttle, M. (1987) A Behavioral Model of Ethical and Unethical Decision Making. *Journal of Business Ethics*. 6, 265--280
- Boud, D., Keogh, R. and Walker, D. (1985) *Reflection: Turning Experience into Learning* London, Kegan Page
- Boon, K., and Turner, J, (2004) Ethical and professional conduct of medical students: review of current assessment measures and controversies. *Journal of Medical Ethics*. 30,221–226
- Boursicot, K. A. M., Roberts, T. E. and Burdick, W.P. (2007) Structured assessments of clinical competence *Understanding Medical Education* Edinburgh: Association for the Study of Medical Education
- Brennan, R.L. (2001) An Essay on the History and Future of Reliability from the Perspective of Replications. *Journal of Educational Measurement*. 38(4), 295-317
- British Medical Association (1995) *Core values for the medical profession in 21st century: Report of Conference*, London, British Medical Association
- Brown, G., Bull, J. and Pendlebury, M. (1997) *Assessing Student Learning in Higher Education* London and New York: Routledge
- Brown, G., Manogue, M. & Rohlin, M. (2002) Assessing attitudes in dental education: is it worthwhile?. *British Dental Journal*. 193, 703-707.
- Bryden P, Ginsburg S, Kurabi B, and Ahmed N. (2010) Professing professionalism: are we our own worst enemy? Faculty members experiences of teaching and evaluating professionalism in medical education at one school. *Academic Medicine*. 85(6), 125-34
- Bryman, A. (2008) *Social Research Methods* Oxford, Oxford University Press
- Bury, M. (1997) *Health and Illness in a changing society* London, Routledge
- Calman, K. (1994) The Profession of Medicine. *British Medical Journal*. 309, 1140
- Campbell, J.L., Richards, S.H., Dickens, A., Greco, M., Narayanan, A. and Brearley, S. (2008) Assessing the professional performance of UK doctors: an evaluation of the utility of the General Medical Council patient and colleague questionnaires. *Quality and Safety in Health Care*. 17, 187–193.
- Canadian Dental Association Code of Ethics August 1991, Addendum April 1997 available at http://www.cda-adc.ca/en/cda/about_cda/code_of_ethics/index.asp [Accessed 14th January 2011]

Carr-Saunders, A.M. and Wilson, P.A. (1933 reprinted 1964) *The Professions* London, Frank Cass & Co.

Chamberlain T.C., Catano V.M. and Cunningham D.P. (2005) Personality as a Predictor of Professional Behavior in Dental School: Comparisons with Dental Practitioners. *Journal of Dental Education*. 69 (11), 1222-1237

Chen, D.T., Mills, A.E. and Werhane, P.H. (2008) Tools for Tomorrow's Health Care System: A Systems-Informed Mental Model, Moral Imagination, and Physicians' Professionalism. *Academic Medicine* .83 (8), 723-32

Christie, C., Bowen, D., and Paarmann, C. (2007) Effectiveness of Faculty Training to Enhance Clinical Evaluation of Student Competence in Ethical Reasoning and Professionalism. *Journal of Dental Education*. 71(8), 1048-1057

Clauser, B.E. and Schuwirth, L.W.T. (2002) The Use of Computers in Assessment. In Norman, G. Van der Vleuten, C. & Newble, D. (eds.) *International Handbook of Research in Medical Education* Dordrecht, Kluwer Academic Publishers 757-792.

Cole, G. (2005) The definition of 'portfolio'. *Medical Education*. 39, 1140–1142.

Committee of Postgraduate Dental Deans and Directors (2006) *A Curriculum for UK Dental Foundation Programme Training* Committee of Postgraduate Dental Deans and Directors . Available at <http://www.copdend.org.uk/download/Dental%20Foundation%20Programme%20Curriculum.pdf> [Accessed 21st March 2009]

Cottrell, S., Diaz, S., Cather, A. and Shumway, J. (2006) Assessing medical student professionalism: An analysis of peer assessment. *Medical Education Online*. 11,8

Council of European Dentists (2007) *Code of ethics for dentists in the European Union*. Brussels: Council of European Dentists

Cowpe J, Plasschaert A, Harzer W, Vinkka-Puhakka H, Walmsley AD. *Profile and Competences for the European Dentist - update 2009* Association for Dental Education in Europe; Available at http://www.adee.org/cms/uploads/adee/TF_I_V2_September2009.pdf .[Accessed 28th February 2010]

Crossley, J. Humphris, G. and Jolly, B. (2002) Assessing health professionals. *Medical Education*. 36, 800–804

Crossley, J. and Jolly, B. (2012) Making sense of work-based assessment: ask the right questions, in the right way, about the right things of the right people Assessing health professionals. *Medical Education*. 46, 28–37

Cruess, R.L. and Cruess, S.R. (2006) Teaching professionalism: general principles. *Medical Teacher* .28(3), 205-208

Cruess, R., McIlroy, J.H., Cruess, S., Ginsburg, S. and Steinert, Y. (2006) The Professionalism Mini-Evaluation Exercise: A Preliminary Investigation. *Academic Medicine*. 81 (10 Suppl), S74–S78

- Cruess, S.R. and Cruess R.L. (1997) Professionalism must be taught. *British Medical Journal*. 315, 1674-1677
- Cruess, S.R. Cruess, R.L. and Steinert, Y. (2008) Role modelling – making the most of a powerful teaching strategy. *British Medical Journal*. 336,718-721
- Cusimano, M. D. (1996) Standard Setting in Medical Education. *Academic Medicine*. 71, S112-S120
- Dannefer, E.F., Henson, L.C., Bierer, S.B., Grady-Weliky, T.A., Meldrum, S., Nofziger, A.C., Barclay, C. and Epstein, R.M. (2005) Peer assessment of professional competence. *Medical Education*. 39, 713–722
- Denzin N. K. and Lincoln Y. S. (2000) *Handbook of Qualitative Research* London, Sage
- Dewey, J. (1933) *How we think* Boston MA, D.C. Heath & Co
- Dharamsi, S., Pratt, D.D., and MacEntee M.I. (2007) How Dentists Account for Social Responsibility: Economic Imperatives and Professional Obligations. *Journal of Dental Education*. 71(12), 1583-1592
- Dornan, T., Carroll, C. and Parboosingh, J. (2002) An electronic learning portfolio for reflective continuing professional development *Medical Education*. 36 (8), 767–9
- Downie, R.S. (1990) Professions and Professionalism. *Journal of Philosophy of Education*. 24(2), 147-159
- Downing, S.M. (2002) Assessment of Knowledge with Written Test Forms In Norman, G. Van der Vleuten, C. & Newble, D. (eds.) *International Handbook of Research in Medical Education* Dordrecht, Kluwer Academic Publishers 647-672.
- Downing SM (2003) Validity: on the meaningful interpretation of assessment data. *Medical Education*. 37,830-837
- Downing SM (2004) Reliability: on the reproducibility of assessment data. *Medical Education*. 38, 1006–1012
- Downing, S. M. and Haladyna, T.M. (2004) Validity threats: overcoming interference with proposed interpretations of assessment data. *Medical Education*. 38, 327-333
- Dowrick, C. (1999) *General Practice and Ethics* London, Routledge
- Driessen, E., van der Vleuten, C., Schuwirth, L., Van Tartwijk, J. and Vermunt, J. (2005) The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Medical Education*. 39, 214–220
- Driessen, E., Van Tartwijk, J. Van der Vleuten, C. and Wass, V. (2007) Portfolios in medical education: why do they meet with mixed success? A systematic review. *Medical Education*. 41, 1224–1233
- Dyer T.A., Owens J. and Robinson P.G. (2014) The Acceptability of Care Delegation in Skill-mix: The Salience of Trust. *Health Policy* 117, 170-178

- Eckles, R.E., Meslin, E.M., Gaffney, M. and Helft, P.R. (2005) Medical Ethics Education: Where Are We? Where Should We Be Going? A Review. *Academic Medicine*. 80, 1143–1152
- Epstein R. M. and Hundert E.M. (2002) Defining and Assessing Professional Competence. *Journal of the American Medical Association*. 287(2),226-235
- Eraut M. (1994) *Developing professional knowledge and competence* London, Falmer
- Erde, E. L. (2008) Professionalism's Facets: Ambiguity, Ambivalence, and Nostalgia. *Journal of Medicine and Philosophy*. 33, 6-26
- Evans, L. (2008) Professionalism, Professionality and the Development of Educational Professionals. *British Journal of Educational Studies*. 56, 20-38
- Evetts, J. (2003) The Sociological Analysis of Professionalism: Occupational Change in the Modern World. *International Sociology*. 18, 395-415
- Federation Dentaire International (1997) *International Principles Of Ethics For The Dental Profession.*, Seoul, Federation Dentaire International
- Ferrell, O.C. & Gresham, L.G. (1985) A Contingency Framework for Understanding Ethical Decision Making in Marketing. *The Journal of Marketing*. 49(3), 87-96
- Ferrell, O.C., Gresham, L.G. and Fraedrich, J. A. (1989) Synthesis of Ethical Decision Models for Marketing. *Journal of Macromarketing*. 9, 55-64
- Flanagan J. and Clarke K. (2007) Beyond a Code of Professional Ethics: A Holistic Model of Ethical Decision-Making for Accountants. *ABACUS* .43(4),488-518
- Freidson, E. (1970) *Profession of Medicine; a study of the sociology of applied knowledge* Chicago, University of Chicago Press
- Freidson, E. (2001) *Professionalism The Third Logic* Cambridge, Polity Press
- Fryer-Edwards, K., Pinsky, L.E. and Robins, L. (2006) The use of Portfolios to Assess Professionalism In Stern, D.T. (ed.) *Measuring Medical Professionalism* Oxford, Oxford University Press 213-234
- Gabe, J., Bury, M. and Elston, M.A. (2004) *Key Concepts in Medical Sociology* London, Sage publications
- General Dental Council (2001) *Maintaining Standards* London, The General Dental Council
- General Dental Council (2002) *The First Five Years, second edition*, London, The General Dental Council
- General Dental Council (2005) *Standards for Dental Professionals* London, The General Dental Council
- General Dental Council (2008) *The First Five Years, third edition (interim)*, London, The General Dental Council

General Dental Council (2010) *Student Fitness to Practice* London, General Dental Council

General Dental Council (2011) Outcomes for Registration draft approved at Education Committee on 4 May 2011 and was noted at Council on 20 May 2011 London: The General Dental Council 2010 Available at: <http://www.gdc-uk.org/Newsandpublications/Publications/Publications/GDC%20Learning%20Outcomes.pdf> [Accessed 5th May 2014]

General Dental Council (2013) *Standards for the Dental team* London, General Dental Council

General Medical Council (2006a) *Duties of a Doctor* London, General Medical Council

General Medical Council (2006b) *Good Medical Practice* London, General Medical Council

General Medical Council (2009) *Tomorrows Doctors* London, General Medical Council

Gibbs, J.C. and Widaman, K.F. (1982) *Social Intelligence: Measuring the development of Sociomoral Reflection* Eaglewood Cliffs NJ, Prentice-Hall

Ginsburg, S., Regehr, G., Hatala, R., Mcnaughton, N., Frohna, A., Hodges, B., Lingard, L. and Stern, D. (2000) Context, Conflict, and Resolution: A New Conceptual Framework for Evaluating Professionalism. *Academic Medicine*.75(10 Suppl), S74–S78.

Ginsburg, S. Regehr, G. Stern, D. & Lingard, L. (2002) The Anatomy of the Professional Lapse: Bridging the Gap between Traditional Frameworks and Students' Perceptions. *Academic Medicine*. 77,516–522

Ginsburg, S, Regehr G., and Lingard, L. (2004) Basing the evaluation of professionalism on observable behaviors: a cautionary tale. *Academic Medicine*. 79, S1–4

Ginsburg, S., Kachan, N. and Lingard, L. (2005) Before the white coat: perceptions of professional lapses in the pre-clerkship. *Medical Education*. 39, 12–19

Ginsburg S, Regehr, G. and Mylopoulos, M. (2009) From behaviours to attributions: further concerns regarding the evaluation of professionalism. *Medical Education*. 43, 414–425

Goldie, J. (2013) Assessment of professionalism: A consolidation of current thinking. *Medical Teacher*.35, e952-e956

Goldie, J., Dowie, A., Cotton, P. and Morrison, J. (2007) Teaching professionalism in the early years of a medical curriculum: a qualitative study. *Medical Education*. 41, 610–617

Gordon, J. (2003) Assessing students' personal and professional development using portfolios and interviews. *Medical Education*. 37, 335–340

Govaerts, M.J.B., Schuwirth, L.W. T., van der Vleuten, C. P. M. and Muijtjens, A. M. M. (2011) Workplace-based assessment: effects of rater expertise. *Advances in Health Sciences Education*. 16,151–165

- Green, M., Zick, A. and Makoul, G. (2009) Defining Professionalism From the Perspective of Patients, Physicians, and Nurses. *Academic Medicine*. 84, 566–573
- Greenwood, E. (1957) "Attributes of a Profession" *Social Work* II, 45-50.
- Gronlund, N.E. (1976) *Measurement and Evaluation in Teaching* 3rd edition New York, Macmillan Publishing Co Inc
- Hafferty FW (1998) Beyond Curriculum Reform: Confronting Medicine's Hidden Curriculum. *Academic Medicine*. 73(4), 403-407
- Hafferty FW and Castellani B (2009) A Sociological Framing of medicine's modern-day Professionalism Movement. *Medical Education*. 43, 826-828
- Hafferty FW, and Castellani B. (2010) The Increasing Complexities of Professionalism. *Academic Medicine*. 85(2), 288-301
- Hafferty FW and Franks R (1994) The Hidden Curriculum, Ethics Teaching, and the Structure of Medical Education. *Academic Medicine*. 69(11), 861-871
- Halpin, G., Sigmond, G. and Halpin, G. (1983) Minimum Competency Standards Set by Three Divergent Groups of Raters Using Three Judgmental Procedures: Implications for Validity. *Educational and Psychological Measurement*. 43(1), 185 – 196
- Hambleton, R.K. and Powell, S. (1983) A Framework for Viewing the Process of Standard Setting. *Evaluation and the Health Professions*. 6 (1), 3-24
- Harrington, S. (1997) A Test of a Person – Issue Contingent Model of Ethical Decision Making in Organizations *Journal of Business Ethics* 16, 363–375.
- Haskell, T.L. (ed.) (1984) *The Authority of Experts* Bloomington, Indiana University press
- Hawkins, R.E., Katsufraakis, P.J., Holtman, M.C. and Clauser, B.E. (2009) Assessment of medical professionalism: Who, what, when, where, how, and . . .why?. *Medical Teacher* 31, 348–361
- Hébert, P.C., Meslin, E.M. and Dunn, E.V. (1992) Measuring the ethical sensitivity of medical students: a study at the University of Toronto. *Journal of Medical Ethics*. 18, 142-147
- Hilton S.R. (2004) Medical Professionalism: how can we encourage it in our students?. *The Clinical Teacher*. 1(2), 69-73
- Hilton, S.R. and Slotnick, H.B. (2005) Proto-professionalism: how professionalisation occurs across the continuum of medical education. *Medical Education*. 39, 58–65
- Hodges, B.D., Ginsburg, S., Cruess, R., Cruess, S., Delpont, R., Hafferty, F., Ho M-J., Holmboe, E., Holtman, M., Ohbu, S., Rees, C., Ten Cate, O., Tsugawa, Y., van Mook, W., Wass, V., Wilkinson, T. and Wade, W. (2011) Assessment of professionalism: Recommendations from the Ottawa 2010 Conference. *Medical Teacher*. 33, 354–363
- Hunt, S.D. and Vitell, S. (1986) A General Theory of Marketing Ethics. *Journal of Macromarketing* . 6(5), 5-16

- Illich, I. (1976 reprint 2002) *Limits to Medicine Medical Nemesis - The Expropriation of Health* London, Marion Boyers Publishers
- Illich, I. (ed.) (1977 reprinted 2005) *Disabling Professions* London, Marion Boyers Publishers
- Inui, T.S. (2003) *Flag in the Wind: Educating for Professionalism in Medicine* Washington DC, Association of American Medical Colleges
- Irvine D. and Hafferty F.(2011) Every patient should have a good doctor:In Bridgewater B, Cooper G, Livesey S & Kinsman R on behalf of the Society for Cardiothoracic Surgery in Great Britain & Ireland. *Maintaining Patients' Trust: Modern Medical Professionalism* Henley-on-Thames, Dendrite Clinical Systems Ltd 64-70
- Irvine D. (1997) The performance of doctors. I: Professionalism and self-regulation in a changing world. *British Medical Journal*. 314 (7093), 1540-1542
- Jha, V., Bekker, H. L, Duffy, S.R.G. and Roberts,T. E. (2006) Perceptions of professionalism in medicine: a qualitative study. *Medical Education*. 40, 1027–1036
- Jha, V., Bekker, H. L, Duffy, S.R.G. and Roberts,T. E. (2007) A systematic review of studies assessing and facilitating attitudes towards professionalism in medicine. *Medical Education*. 41,822-829
- Johnson, T.J. (1972) *Professions and Power* London, Macmillan Press
- Johnstone, A. (2004) *Effective Practice in Objective assessment LTSN Physical Sciences Practice Guide* Hull, Higher Education Academy LTSN Physical Sciences Centre
- Jones, T.M. (1991) Ethical Decision Making by Individuals in Organizations: An Issue-Contingent Model. *The Academy of Management Review* .16(2), 366-395
- Kane, M.T. (2001) Concerns in Validity Theory *Journal of Educational Measurement*. 38(4), 319-342
- King's Fund (2007) *Professional regulation – briefing* London, King's Fund
- Knight, P.T.(2000) The value of a programme-wide approach to assessment. *Assessment and Evaluation in Higher Education*. 25(3), 237-251
- Kohlberg L. (1984) *Essays on Moral Development vol 2 The Psychology of Moral Development* San Francisco, Harper and Row
- Kolb D.A. (1984) *Experiential learning : experience as the source of learning and development* Englewood Cliffs, N.J, London , Prentice-Hall
- Korthagen F.A.J. Kessels, J., Koster, B., Lagerwerf, B. and Wubbels, T (2001) *Linking Practice and Theory the Pedagogy of Realistic Teacher Education* Mahwah New Jersey, London, Lawrence Erlbaum Associates
- Kultgen, J. (1988) *Ethics and Professionalism* Philadelphia, University of Pennsylvania Press

- Larson, M.S. (1977) *The Rise of Professionalism: A Sociological Analysis* London, University of California Press
- Levenson, R., Dewar, S. and Shepherd, S. (2008) *Understanding doctors harnessing professionalism* London, King's Fund
- Lockyer, J. (2003) Multisource Feedback in the Assessment of Physician Competencies. *The Journal of Continuing Education in the Health Professions* .23, 4-12
- Lowry, S. (1993) Medical Education: Assessment of students. *British Medical Journal*. 306(6869), 51-54
- Lynch, D.C., Surdyk, P.M. and Eiser, A.R. (2004) Assessing professionalism: a review of the literature. *Medical Teacher*. 26(4), 366–373
- Macdonald, K.M. (1995) *The Sociology of the Professions* London, Thousand Oaks, New Delhi, Sage Publications
- Masella, R.S. (2007)Renewing Professionalism in Dental Education: Overcoming the Market Environment. *Journal of Dental Education*. 70(2),205-216
- Mathers, N.J., Challis, M.C., Howe, A.C. and Field, N.J. (1999) Portfolios in continuing medical education – effective and efficient?. *Medical Education*. 33 (7), 521–30
- Mazor, K.M., Canavan, C., Farrell, M., Margolis, M. J. and Clauser, B.E. (2008) Collecting Validity Evidence for an Assessment of Professionalism: Findings from Think-Aloud Interviews. *Academic Medicine*. 83(10 Suppl),S9–S12
- Mazor, K.M., Zanetti, M.L., Alper, E.J., Hatem, D., Barrett, S.V., Meterko,V., Gammon,W. and Pugnaire, M.P. (2007) Assessing professionalism in the context of an objective structured clinical examination: an in depth study of the rating process. *Medical Education*. 41,331-340
- McCready, T. (2007) Portfolios and the assessment of competence in nursing: A literature review .*International Journal of Nursing Studies*. 44, 143–151
- Messick, S. (1994) The Interplay of Evidence and Consequences in the Validation of Performance Assessments. *Educational Researcher*, 23(2),13-23
- Miller, G.E. (1990) The Assessment of Clinical Skills/Competence/Performance. *Academic Medicine*. 65(9 Suppl), S63–S67
- Millerson, G. (1964) *The Qualifying Associations* London, Routledge and Kegan Paul Ltd
- Mislevy, R.J. (1996) Test Theory Reconceived. *Journal of Educational Measurement*. 33(4), 379-416
- Moon, J.A. (1999) *Reflection in Learning and Personal Development Theory and Practice* London, New York: Routledge Francis
- Morihara, S.K., Jackson, D.S. and Chun, M.B.J. (2013) Making the professionalism curriculum for undergraduate medical education more relevant. *Medical Teacher*. 35 (11), 908-914

- Monrouxe, L.V., Rees, C.E. and Hu, W. (2011) Differences in medical Students' explicit discourses of professionalism: acting, representing, becoming. *Medical Education*. 45, 585-602
- Muir F, Scott M, McConville K, Watson K, Behbehani K and Sukkar F (2014) Taking the learning beyond the individual: how reflection informs change in practice. *International Journal Of Medical Education*. 5, 24-30
- Murphy, E., Dingwall, R., Greatbatch, D., Parker, S., and Watson, P. (1998) Qualitative research methods in health technology assessment: a review of the literature. *Health Technology Assessment* 2(16)
- Murray. E., Gruppen, L., Catton, P., Hays, R. and Woollicroft, J.O. (2000) The Accountability of Clinical Education: its Definition and Assessment. *Medical Education*. 34, 871-879
- Nash, D.A. (2007) On ethics in the profession of dentistry and dental education. *European Journal of Dental Education*. 11, 64–74
- Nath, C., Schmidt, R., and Gunel, E. (2006) Perceptions of Professionalism Vary Most with Educational Rank and Age. *Journal of Dental Education*. 70(8), 825-834
- Nevo B (1985) Face validity revisited. *Journal of Educational measurement*. 22, 287-93
- Norcini, J.J. (2003) Setting standards on educational tests. *Medical Education*. 37, 464–469
- Norcini, J.J. (2006) Faculty Observation of Student Professional Behaviour In Stern, D.T. (ed.) *Measuring Medical Professionalism*. Oxford, Oxford University Press 147-158
- Norcinic J. & Guille (2002) "Combining Tests and Setting Standards" In Norman, G. Van der Vleuten, C. & Newble, D. (eds.) *International Handbook of Research in Medical Education*.. Dordrecht, Kluwer Academic Publishers 647-672
- Norman, G. Van der Vleuten, C. & Newble, D. (eds.) (2002) *International Handbook of Research in Medical Education* Dordrecht, Kluwer Academic Publishers
- O'Sullivan, H., van Mook, W., Fewtrell, R. and Wass, V. (2012) Integrating professionalism into the curriculum: AMEE Guide No. 61. *Medical Teacher*. 34, e64–e77
- Oxford English Dictionaries (1993) *The New Shorter Oxford English Dictionary* Oxford, Clarendon Press
- Ozar, D.T. and Sokol, D.J. (2002) *Dental Ethics at Chairsides, Professional Principles and Practical Applications* Washington DC, Georgetown University Press
- Pangaro, L. and Ten Cate, O. (2013) Framework for learner assessment in medicine: AMEE Guide 78. *Medical Teacher*. 35, e1197-e1210
- Papadakis, M.A., Loeser, H., and Healy, K. (2001) Early Detection and Evaluation of Professionalism Deficiencies in Medical Students: One School's Approach. *Academic Medicine*. 76, 1100–1106.
- Parsons, T. (1951) *The Social System* London, Routledge and Kegan Paul Ltd.

- Passi, V., Doug, M., Peile, E., Thistlethwaite, J. and Johnson, N. (2010) Developing medical professionalism in future doctors: a systematic review. *International Journal of Medical Education*. 1,19-29
- Petrusa, E. R. (2002) Clinical Performance Assessments In Norman, G. Van der Vleuten, C. & Newble, D. (eds.) *International Handbook of Research in Medical Education* Dordrecht, Kluwer Academic Publishers 673-710
- Pfadenhauer, M. (2006) Crisis or Decline? Problems of Legitimation and Loss of Trust in Modern Professionalism. *Current Sociology*. 54(4), 565–578
- Polanyi, M (1967). *The Tacit Dimension* Reprinted University of Chicago press 2009 New York: Anchor Books
- Pope, C., Ziebland, S. and Mays, N. (2000) Qualitative research in health care: Analysing qualitative data. *British Medical Journal*. 320,114-116
- Price, J., Price, D., Williams, G. and Hoffenberg, R. (1998) Changes in medical student attitudes as they progress through a medical course. *Journal of Medical Ethics*. 24, 110-117
- Quaintance, J.L., Arnold, L. and Thompson, G.S . (2008) Development of an Instrument to Measure the Climate of Professionalism in a Clinical Teaching Environment. *Academic Medicine*. 83(10), S5-S8
- Quality Assurance Agency for Higher Education 2012 Understanding Assessment 2nd edition The Quality Assurance Agency for Higher Education available at <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/understanding-assessment-second-edition.pdf> [Accessed 5th May 2014]
- Reed, D.A., West, C.P., Mueller, P.S., Ficalora, R.D., Engstler, G.J. and Beckman, T.J. (2008) Behaviors of Highly Professional Resident Physicians. *Journal of the American Medical Association*. 300(11), 1326 -1333
- Rees, C. (2005) 'Portfolio' definitions: do we need a wider debate?. *Medical Education*. 39, 1140–1142
- Rees, C. and Shepherd, M. (2005a) Students' and assessors' attitudes towards students' self-assessment of their personal and professional behaviours. *Medical Education*. 39, 30–39
- Rees, C. and Shepherd, M. 2005(b) The acceptability of 360-degree judgements as a method of assessing undergraduate medical students' personal and professional behaviours. *Medical Education*. 39, 49–57
- Regehr G., MacRae H., Reznick R.K. and Szalay D. (1998) Comparing the Psychometric Properties of Checklists and Global Rating Scales for Assessing Performance an an OSCE-Format Examination. *Academic Medicine*. 73(9), 993-997
- Rennie, S.C. and Crosby, J.R. (2002) Students' perceptions of whistle blowing: implications for self-regulation. A questionnaire and focus group survey. *Medical Education*. 36, 173-179

- Rest J.R. (1979) *Development in Judging Moral Issues* Minneapolis, University of Minnesota press
- Rest, J.R. (1984) Research on Moral Development: Implications for Training Counselling Psychologists. *The Counselling Psychologist*. 12, 19-29
- Rest, J. R. (1986) *Moral development: Advances in research and theory*. New York, Praeger
- Ritchie J. And Lewis J. (eds) (2003) *Qualitative Research Practice* London, Sage Publications
- Robins, L.S., Braddock, C.H. and Fryer-Edwards, K.A. (2002) Using the American Board of Internal Medicine's "Elements of Professionalism" for Undergraduate Ethics Education. *Academic Medicine*. 77,523–531
- Roche, W.P., Scheetz, A.P., Dane, F.C., Parish, D.C. and O'Shea, J.T. (2003) Medical Students' Attitudes in a PBL Curriculum: Trust, Altruism, and Cynicism. *Academic Medicine*. 78,398–402
- Romagnano, L. (2001) The Myth of Objectivity in Mathematics Assessment. *Mathematics Teacher*. 91(1), 31-45
- Rosen, R. and Dewar, S. (2004) *On being a doctor; redefining medical professionalism for better patient care* London, King's Fund
- Royal College of Physicians and Surgeons of Canada (2006) *The CanMEDS Physician Competency Framework* Ottawa, The Royal College of Physicians and Surgeons of Canada
- Royal College of Physicians of London (2005) *Doctors in society: medical professionalism in a changing world. Report of a Working Party of the Royal College of Physicians of London* London, Royal College of Physicians of London
- Scambler, G.(ed.) (1997) *Sociology as applied to Medicine* Edinburgh, W.B.Saunders
- Schon, D. (1983) *The Reflective Practitioner How Professional Think in Action*. New York, Basic Books
- Schuwirth L.W.T. and van der Vleuten, C.P.M. (2004) Changing education, changing assessment, changing research? *Medical Education*. 38, 805–812
- Schuwirth, L.W.T. and van der Vleuten C.P.M. (2006) *How to design a useful test: the principles of assessment* Edinburgh, Association for the Study of Medical Education
- Schuwirth L.W.T. and van der Vleuten C.P.M. (2011a) Programmatic assessment: From assessment of learning to assessment for learning. *Medical Teacher* 33, 478–485
- Schuwirth L.W.T. and van der Vleuten C.P.M. (2011b) General overview of the theories used in assessment: AMEE Guide 57. *Medical Teacher* 33,783-797
- Shaw, D. (2009) Ethics, professionalism and fitness to practise: three concepts, not one. *British Dental Journal*. 207 (2), 59–62

- Shepherd, L.A. (2000) The Role of Assessment in a Learning Culture. *Educational Researcher*. 29(7), 4–14
- Sisson, K. and Newton, J. (2007) The attitudes of dental students towards socially acceptable and unacceptable group working practices. *European Journal of Dental Education*. 11, 160–167
- Smith M, Lennon M. A. and Robinson P. G (2010) Students' clinical experience on outreach placements. *European Journal of Dental Education*. 14, 7–11
- Sox , H.C. (2007)The Ethical Foundations of Professionalism*A Sociologic History. *Chest*. 131, 1532–1540
- Stark, R., Korenstein, D., and Karani, R., (2008) Impact of a 360-degree Professionalism Assessment on Faculty Comfort and Skills in Feedback Delivery .*Journal of General Internal Medicine*. 23(7),969–72
- Stern, D. T. (ed.) (2006) *Measuring Medical Professionalism* Oxford, Oxford University Press
- Stern, D.T., Frohna, A.Z. and Gruppen, L.P. (2005) The prediction of professional behaviour. *Medical Education*. 39, 75–82
- Stern, D.T. and Papadakis, M. (2006) The Developing Physician - Becoming a Professional. *The New England Journal of Medicine*. 355(17), 1794-1799
- Stewart, M. and Roter, D. (1989) *Communicating with medical patients* London, Sage publications
- Streiner D.L. and Norman G.R. (2008) *Health measurement Scales a Practical Guide to their Development and Use* Oxford, Oxford University Press
- Svensson, L.G. (2006) New Porfessionalism, Trust and Competence: Some conceptual remarks and empirical data. *Current Sociology*. 54, 579-593
- Szasz, T.S. and Hollander, M.H. (1956) A contribution to the philosophy of medicine: the basic models of the doctor patient relationship. *Archives of Internal Medicine*. 97, 589-92
- Thistlethwaite, J. and Spencer, J. (2008) *Professionalism in Medicine* Oxford, Radcliffe Publishing Ltd.
- Thomas, PA, Gebo, K.A. and Hellman, D.B. (1999) A pilot study of Peer Review in Residency Training. *Journal of General Internal Medicine*. 14, 551-554
- Thrush, C.R., Spollen, J.J., Tariq, S.G., Williams, K. and Shorey II, J.M. (2011) Evidence for validity of a survey to measure the learning environment for professionalism. *Medical Teacher*. 33, e683–e688
- Trathen, A, and Gallagher, J.E. (2009) Dental professionalism: definitions and debate. *British Dental Journal*. 206(5), 249-253
- Trevino, L.K. (1986) Ethical Decision Making in Organizations: A Person-Situation Interactionist Model. *The Academy of Management Review*. 11(3), 601-617

UKCAT Consortium (2011) *The UK Clinical Aptitude Test 2011* Available at <http://www.ukcat.ac.uk/pages/details.aspx?page=non-CognitiveAnalysis> [Accessed 14th January 2011]

Van de Camp, K., Vernooij-Dassen, M., Grol, R. and Bottema, B. (2004) How to conceptualise Professionalism: a qualitative study. *Medical Teacher*. 6(8), 696-702.

Van de Camp, K., Vernooij-Dassen, M., Grol, R. and Bottema, B. (2006) Professionalism in general practice: development of an instrument to assess professional behaviour in general practitioner trainees. *Medical Education*. 40, 43–50

Van der Vleuten CPM. (1996) The Assessment of Professional Competence: Developments, Research and Practical Implications. *Advances in Health Sciences Education*. 1, 41-67

Van der Vleuten, C.P.M. and Schuwirth, L.W.T. (2005) Assessing professional competence: from methods to programmes. *Medical Education*. 39, 309–317

Van Luijk, S.J., Smeets, J.G.E., Smits, J., Wolfhagen, I. and Perquin, M.L.F. (2000) Assessing professional behaviour and the role of academic advice at the Maastricht Medical School. *Medical Teacher*. 22(2), 168-172

Van Luijk, S.J. et.al. (2002) *Eindrapport van het Projectteam Consilium Abeundi ingesteld door het DMW* Utrecht, Vereniging van Samenwerkende Nederlands Universiteiten

Van Mook, W.N.K.A., De Grave, W.S., Huijssen-Huisman, E., De Witt-Luth, M., Dolmans, D.H.J.M., Muijtjens, A.M.M., Schuwirth, L.W.T. & Van der Vleuten, C.P.M. (2007) Factors inhibiting assessment of students' professional behaviour in the tutorial group during problem-based learning. *Medical Education*. 41, 849–856

Van Mook, W.N.K.A., de Grave, W.S., Wass, V., O'Sullivan, H., Zwaveling, J.H., Schuwirth, L.W.T. and van der Vleuten, C.P.M. (2009a) Professionalism: Evolution of the Concept. *European Journal of Internal Medicine*. 20: e81–e84

Van Mook, W.N.K.A., van Luijk, S.J., O'Sullivan, H., Wass, V., Zwaveling, J.H., Schuwirth, L.W. T. and van der Vleuten, C.P.M. (2009b) The concepts of professionalism and professional behaviour: Conflicts in both definition and learning outcomes. *European Journal of Internal Medicine*. 20, e85–e89

Van Mook, W.N.K.A., van Luijk, S.J., O'Sullivan, H., Wass, V., Schuwirth, L.W.T. and van der Vleuten, C.P.M. (2009c) General considerations regarding assessment of professional behaviour. *European Journal of Internal Medicine*. 20, e90–e95

Van Mook, W.N.K.A., de Grave, W.S., van Luijk, S.J., O'Sullivan, H., Wass, V., Schuwirth, L.W.T. and van der Vleuten C.P.M. (2009d) Training and learning professionalism in the medical school curriculum: Current considerations. *European Journal of Internal Medicine*. 20, e96–e100

Van Mook, W.N.K.A., van Luijk, S.J., de Grave, W.S., O'Sullivan, H., Wass, V. Schuwirth, L.W.T. and van der Vleuten C.P.M. (2009e) Teaching and learning professional behaviour in practice. *European Journal of Internal Medicine*. 20, e105–e111

Van Mook WNKA, Gorter SL, de Grave WS, van Luijk SJ, O'Sullivan H, Wass V, Schuwirth LW, van der Vleuten CPM. (2009f) Professionalism beyond medical school: an educational continuum? *European Journal of Internal Medicine*. 20, e148–e152

Van Mook, W.N.K.A., Gorter, S.L., O'Sullivan, H., Wass, V., Zwaveling, J.H., Schuwirth, L.W.T. and van der Vleuten, C.P.M. (2009g) Approaches to professional behaviour assessment: Tools in the professionalism toolkit. *European Journal of Internal Medicine*. 20, e153–e157

Van Mook, W.N.K.A. (2010) Teaching and assessing professional behaviour: an overview and a Dutch perspective. Centre for Excellence in Developing Professionalism symposium held in Liverpool

Van Rosendaal, G. M. A., and Jennett, P. A., (1992) Resistance to Peer Evaluation in an Internal Medicine Residency. *Academic Medicine*. 67(1), 63

Van Zanten, M., Boulet, JR., Norcini, J.J. and McKinley, D.M. (2005) Using a standardised patient assessment to measure professional attributes. *Medical Education* .39, 20–29

Veloski, J. (ed.) (2003) *Compendium on Measuring Professionalism in Medicine* Philadelphia, American Board of Internal Medicine Foundation

Veloski J. J., Fields S.K., James R.N., Boex R. and Blank L.L., (2005) Measuring Professionalism: A Review of Studies with Instruments Reported in the Literature between 1982 and 2002. *Academic Medicine*. 80,366–370

Verkerk, M.A., de Bree, M. and Jaspers, F. (2005) Reflectieve professionalisering. Naar een invulling van het CCMS-competentiegebied 'Professionalisering'. *Tijdschrift voor Medisch Onderwijs*. 24, 162-167

Verkerk, M. A., de Bree M. J. and Mourits, M.J.E. (2007) Reflective professionalism: interpreting CanMEDS' "professionalism". *Journal of Medical Ethics* .33, 663-666

Wagner P., Hendrich J., Moseley G. and Hudson V. (2007) Defining medical professionalism: a qualitative study. *Medical Education*. 41, 288–294

Warren, A.E., Allen, V.M., Bergin, F., Hazelton, L., Alexiadis-Brown, P., Lightfoot, K., McSweeney, J., Singleton, J.F., Sargeant, J. and Mann, K. (2014) Understanding, teaching and assessing the elements of the CanMEDS Professional Role: Canadian Program Directors' views. *Medical Teacher*. 36, 390–402

Wass, V., McGibbon, D. And van der Vleuten, C.P.M. (2001) Composite undergraduate clinical examinations: how should the components be combined to maximize reliability? *Medical Education*. 35, 326-330

Welie, J.V.M.(2004a) Is Dentistry a Profession? Part 1. Professionalism Defined. *Journal of the Canadian Dental Association*. 70(8),529–32

Welie, J.V.M.(2004b) Is Dentistry a Profession? Part 2. The Hallmarks of Professionalism. *Journal of the Canadian Dental Association*. 70(9), 599–602

Welie, J.V.M.(2004c) Is Dentistry a Profession? Part 3.Future Challenges. *Journal of the Canadian Dental Association*. 70(10), 675–8

- Whitehead, C, Martin, D, Fernandez, N, Younker, M, Kouz, R, Frank, J, and Boucher, A. (2011) *Integration of CanMEDS Expectations and Outcomes* Members of the FMEC PG consortium available at https://www.afmc.ca/pdf/fmec/15_Whitehead_CanMEDS.pdf [Accessed 11th May 2014]
- Wright, S.M. Kern, D.E. Kolodner, K. Howard, D.M. and Brancati, F.L. (1998) Attributes of Excellent Attending-Physician Role Models. *New England Journal of Medicine*. 339, 1986-93
- Wojtczak, A, and Schwarz M.R. (2000) Minimum Essential Requirements and Standards in Medical Education. *Medical Teacher*. 22(6), 555-559
- Wood, D. (2007) *Formative assessment Understanding Medical Education* Edinburgh, Association for the Study of Medical Education
- Yorke, M., Bridges, P. and Harvey, W. (2000) Mark Distributions and Marking Practices in UK Higher Education: Some Challenging Issues. *Active Learning in Higher Education*. 1(1), 7-27
- Zijlstra-Shaw, S., Kropmans, T.J.B. and Tams, J. (2005) Assessment of professional behaviour - a comparison of self-assessment by first year dental students and assessment by staff. *British Dental Journal*. 198, 165–171

Appendix 1



School
Of
Clinical
Dentistry.

Draft * **Strategy for the Assessment of Professionalism within the Undergraduate Curriculum for the School of Clinical Dentistry, University of Sheffield**

Sandra Zijlstra-Shaw (Clinical Teacher , Academic Unit of Restorative Dentistry)

Trudie E. Roberts (Co-Supervisor)

Peter G. Robinson (Supervisor, Professor of Dental Public Health)

*referred to as the Draft Statement for administrative purposes within the School of Clinical Dentistry, University of Sheffield

1	Introduction	2
2	Principles of Assessment of Professionalism	4
3	Methods of Assessment of Professionalism for BDS students Year 1	6
4	Methods of Assessment of Professionalism for BDS students Year 2	7
5	Methods of Assessment of Professionalism for BDS students Year 3	9
6	Methods of Assessment of Professionalism for BDS students Year 4 and 5	11
7	Appendices	
	Appendix 1 Marking Schemes	14
	Appendix 2 Evidence of Development of Professionalism Portfolio	20
	Appendix 3 Staffing implications and Future developments	24
	Appendix 4 Educational Aims and Outcomes; Model of professionalism in dentistry combined with Miller's pyramid	26
	Appendix 5 Descriptors of Professionalism	27
	Appendix 6 Assessment of professionalism process	32
	Appendix 7 Examples of theory questions	33
	Appendix 8 Summary of Assessment of Professionalism by Year of Study	35

Introduction

Professionalism is a broad competency needed by dentists to act effectively and efficiently and is seen as a central part of both undergraduate and postgraduate curricula. The Association for Dental Education in Europe describes professionalism as one of its domains of competence required to practice dentistry and thus implies that it should be an essential component of the dental school curriculum. Professionalism is one of the four domains within the General Dental Council (GDC) "Preparing for Practice" learning outcomes required for registration. Thus professionalism should be at the heart of the undergraduate curriculum and assessment of professionalism should occur throughout the programme.

Professionalism reflects social values and thus a first step in the creation of a programme of assessment of professionalism is to agree a definition and operationalisation of the construct.

Recent research defined professionalism as the manner in which one reflects on all internal and external factors, achieving a balance between them which is situation appropriate, and which demonstrates acceptance of professional responsibility and accountability by being able to justify the actions to the patient, the profession, the society in which they work and themselves. This is then manifested as the manner in which dental practice is carried out.

This research also produced the following conceptual model

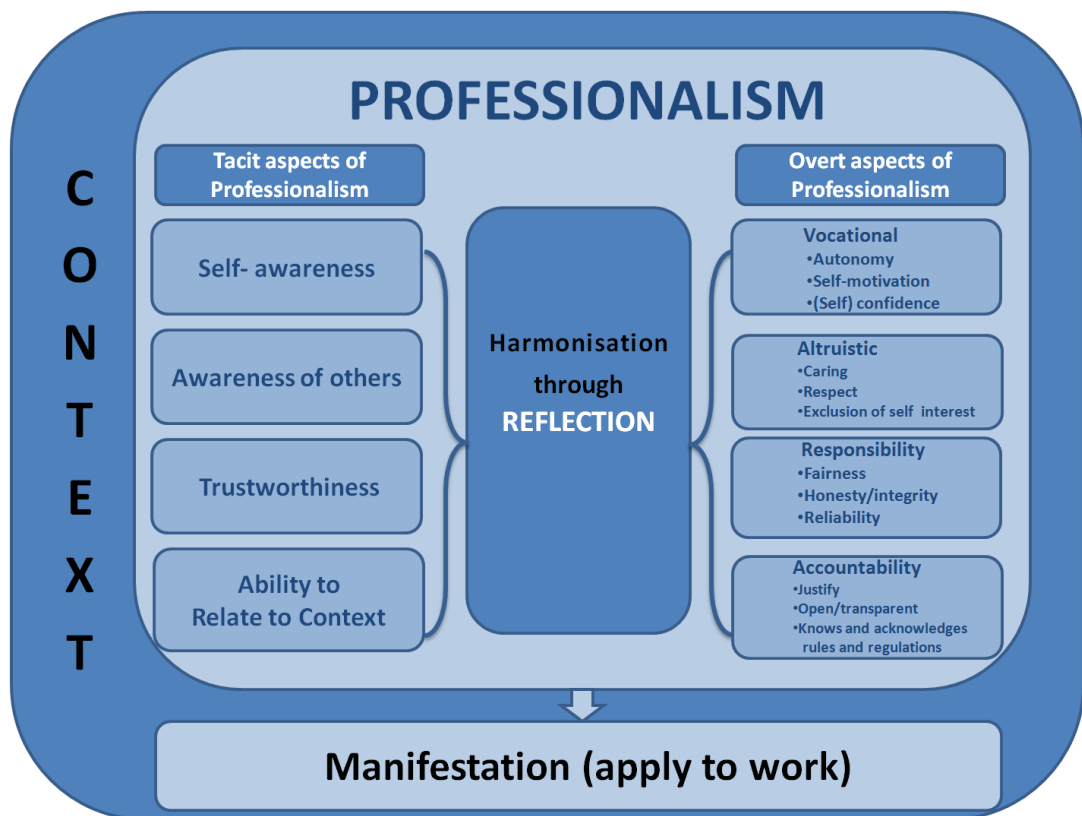


Figure 1 Model of Professionalism

One commonly used framework for the evaluation of an assessment measure is the conceptual model of clinical competence devised by Miller(1990). This has four levels, “knows”, “knows how”, “shows how” and “does”. Miller developed this concept to act as a guide for the suitability of differing assessment methods. He uses the lower layers to differentiate between knowledge and skills and the top two stages to differentiate between the testing of students in situations where they are aware of being tested and those where they are not.

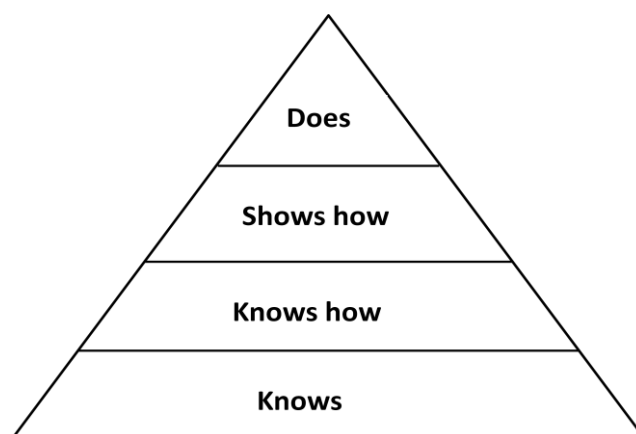


Figure 2 Miller's pyramid

Thus by mapping the model of the construct of professionalism in dentistry to that suggested by Miller, an assessment strategy has been produced that covers both the breadth and depth of the domains within the construct and produces the aims of an assessment system suitable for use within an undergraduate curriculum (Appendix 4). This strategy recognises that whilst most aspects of professionalism are assessed in the upper half of the pyramid, i.e. "Shows how" and "Does" levels, some elements e.g. knowledge and understanding of regulations are assessed at the "Knows" and "Knows how" levels.

Finally these aims have been used to produce objectives suitable for each phase of the undergraduate curriculum and incorporated into the current curriculum of the School of Clinical Dentistry, University of Sheffield.

Principles of Assessment of Professionalism

A good assessment programme can help students focus their learning, identify individual strengths and weaknesses, provide an opportunity for improvement, highlight deficiencies in the content or delivery of the course, and in the case of health sciences education, protect the public against incompetent graduates (Van der Vleuten 1996).

Staff and students need to be aware that professionalism is manifest in everything they do and that the G.D.C. requires students to demonstrate professionalism at all times from the beginning of their training.

Professionalism is variable, context and individual-based and includes both normative and ideological aspects. Most studies on the assessment of professionalism recommend systematic assessment, the inclusion of many different assessors, longitudinal assessment over time and assessment in different settings. Therefore the teaching, learning and assessment of professionalism should be delivered as a programme, based on clear aims and objectives and embedded within the curriculum as a whole.

Within this document educational aims and objectives are described along with descriptors of typical examples of acceptable and unacceptable behaviours (appendix 5). Certain behaviours can be, and often are, used as surrogate measures for professionalism. However this is subjective and open to interpretation, and thus professionalism should not be assessed on behaviour alone, particularly within a learning environment where student development is essential. Thus the aim of the programme is to ensure that students become aware of their behaviour and its effects on those around them and are then able to modify this where necessary to prevent future adverse consequences. In order to achieve this, students who do not initially demonstrate an acceptable level of professionalism will be counselled on areas of unacceptable professionalism and will subsequently be expected to demonstrate improvement to an acceptable level.

It is also proposed that a Professionalism Committee be set up. This should be chaired by the Director of Student Affairs and be dedicated to ensuring appropriate standards of assessment of professionalism are adhered to, both commending individuals who show outstanding professionalism and ensuring that the appropriate levels of coaching

and remediation are offered to those who require this. To this end a reporting system for occasional lapses by students would also be put in place. An alternative option would be to ask Progress Committee to adopt this function.

Recommendations for the assessment of professionalism generally stress the following aspects (Arnold 2002, van Mook et al 2009, O'Sullivan et al 2012);

- Assessment should begin early as this helps identify the personal traits required to be professional
- Multiple assessment methods are needed
- Assessment should be carried out on multiple occasions
- Assessment should be carried out by multiple assessors
- Longitudinal assessment is required as the assessment of patterns of behaviour is crucial, furthermore students develop professionalism over time

To assist the development of professionalism over time, multiple, mainly formative, assessments occur within this strategy. However lack of engagement with this formative process may well demonstrate a lack of professionalism and this aspect only may therefore contribute to the summative process. Other assessments are specifically summative, and these are stated as such within the text. Finally some aspects may be either formatively or summatively assessed depending on context.

The ethos of this whole system is to enable students to develop professionalism in a supportive environment, providing targeted additional tuition where needed. However as at the present time, serious breaches of GDC and University of Sheffield Regulations or CCHD Guidelines should be referred directly to Fitness to Practice Committee. An overview of the envisaged system is found in appendix 6.

METHODS OF ASSESSMENT OF PROFESSIONALISM FOR BDS STUDENTS

PART A (1ST YEAR)

Aims and Objectives

Aim: To introduce the importance of being professional

Objectives:

At the end of this year students should:

1. Be familiar with the knowledge of the theoretical basis for professionalism
2. Understand the importance of “Student Fitness to Practice” (GDC April 2008)
3. Understand the importance and relevance of University of Sheffield regulations and relevant CCDH regulations and codes of practice
4. Be able to begin their own professional development.

(See Appendix 5 - descriptors)

Formative Assessment

Evidence of Commitment

Evidence of commitment via participation will be used to assess students’ professionalism; in particular, lack of this evidence may be interpreted as a lack of professionalism. Examples of this include;

- failure to attend regularly
- failure to perform adequately the work of the course
- failure to present written work at the appointed times

These and other instances will generate a professionalism report (See Appendix 3 - descriptors).

e-Portfolio

This assessment is to be completed by April of the 1st Year and will cover the following theme objectives:

- Complete the baseline for a personal development plan

Failure to satisfactorily complete the e-portfolio will generate a professionalism report

Introduction to Clinical and Preventive skills - Professionalism Assessment

During these courses candidates will be assessed on their commitment and objectives 1-3.

Each candidate will be required to demonstrate a satisfactory level of professionalism and an overall result of acceptable (Pass) or unacceptable (Fail) will be awarded.

Where a candidate does not demonstrate a minimum of acceptable level of professionalism in any semester, they will be referred to the Dental School Professional Behaviour Committee.

Failure to Pass Professionalism

Candidates who do not demonstrate an acceptable level of professionalism will be counselled on areas of unacceptable professionalism and will be expected to demonstrate an acceptable level by the end of May (Appendix 4 Assessment Process)

Candidates who do not demonstrate an acceptable level of Professionalism by the end of May will be referred to the Dental School Progress Committee.

Summative Assessment

Appropriate MCQ's SSAQ's within DEN 103/4 as per Blueprinting

Examples of these are to be found in appendix 7

PART B (2ND YEAR)

Aims and Objectives

Aim:

To help students develop an understanding of the role and responsibilities of being a dental professional and demonstrate professionalism in both clinical and non-clinical environments

Objectives:

In addition to the objectives achieved in the previous year, at the end of this year students should:

1. Develop an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks
2. Be familiar with the needs of patients, their carers and other members of the dental team

3. Understand the need to instil trust and be trustworthy
4. Understand the need for honesty, integrity, responsibility and reliability when carrying out professional tasks
5. Develop an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning

(See Appendix 5 - descriptors)

Formative Assessment

Evidence of Commitment

Evidence of commitment via participation will be used to assess students' professionalism; in particular, lack of this evidence may be interpreted as a lack of professionalism. Examples of this include;

- failure to attend regularly
- failure to perform adequately the work of the course
- failure to present written work at the appointed times

These and other instances will generate a professionalism report (See Appendix 5 - descriptors).

Evidence of Reflection

Reflection is an important facet of professionalism, students must therefore provide evidence of their ability to reflect on the treatment needs of patients and their own abilities to meet these needs. Examples of areas where this can be demonstrated include the Patient Profile written for the Complete Denture course in DEN203 and the critical appraisal written for the Pulpal Disease course in DEN 204.

Should these be unacceptable they may generate a professionalism report (See Appendix 5 - descriptors).

e-Portfolio

This assessment is to be completed by July of the 2nd Year and will cover the following theme objectives:

- Demonstrate the commitment to life-long learning by compiling a personal development plan which incorporates reflection on the aims achieved within the plan completed for 1st BDS.
- Demonstrate the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning
- Demonstrate responsibility and accountability by providing appropriate examples of good practice

Failure to satisfactorily complete the e-portfolio will generate a professionalism report.

Summative Assessment part 1

Basic Clinical Skills - PROFESSIONALISM

During these courses candidates will be assessed on their professionalism and understanding of the appropriate rules and regulations.

Each candidate will be required to demonstrate an acceptable level of professionalism (see descriptors Appendix 5) and an overall result of acceptable (Pass) or unacceptable (Fail) will be awarded. Where a candidate does not demonstrate a minimum of acceptable level of professionalism in any semester, they will be referred to the Dental School Professional Behaviour Committee.

Failure to Pass Professionalism

Candidates who do not demonstrate an acceptable level of professionalism at the first sitting will be counselled on areas of unacceptable professionalism and will be expected to demonstrate improvement to an acceptable level by the end of May (Appendix 6 Assessment Process)

Candidates who do not demonstrate an acceptable level of Professionalism by the end of May will be referred to the Dental School Progress Committee.

Summative Assessment part 2

Clinical rotations - PROFESSIONALISM

Assessment

Each candidate will be required to demonstrate an acceptable level of professionalism (see descriptors Appendix 5) and an overall result of acceptable (Pass) or unacceptable (Fail) will be awarded. Where a candidate does not demonstrate a minimum of acceptable level of professionalism, they will be referred to the Dental School Professional Behaviour Committee.

Failure to Pass Professionalism

Candidates who do not demonstrate an acceptable level of professionalism at the first sitting will be counselled on areas of unacceptable professionalism and will be expected to demonstrate improvement to an acceptable level by the end of July (Appendix 6 Assessment Process).

Candidates who do not demonstrate an acceptable level of Professionalism by the end of July will be referred to the Dental School Progress Committee.

PART C/D (3RD YEAR)

Aims and Objectives

Aim: Further develop an understanding of the role and responsibility of being a dental professional and demonstrate professionalism in both clinical and non-clinical environments

Objectives:

In addition to the objectives achieved in the previous years, at the end of this year students should:

1. Develop an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks
2. Be familiar with the needs of patients, their carers where appropriate and other members of the dental team
3. Understand the need to instil trust and be trustworthy
4. Understand the need for honesty, integrity, responsibility and reliability when carrying out professional tasks

5. Understands the need to be able to account for and explain his/her actions and decisions with openness and transparency
6. Develop an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning

(See Appendix 5 - descriptors)

Formative Assessment

Evidence of Commitment

Students should be aware that evidence of commitment via participation will be used to assess their professionalism; in particular, lack of this evidence may be interpreted as a lack of professionalism. Examples of this include;

- failure to attend regularly
- failure to perform adequately the work of the course
- failure to present written work (with the exception of assignments which are assessed summatively) at the appointed times
- failure to participate fully and timely in the Ortho wiki

These and other instances will generate a professionalism report.

Evidence of Reflection

Reflection is seen as an important facet of professionalism, it is therefore important that students provide evidence of their ability to reflect on the treatment needs of patients and their own abilities to meet these needs. Examples of areas where this can be demonstrated include the Patient Profile written for the Complete Denture course in DEN305/6

Should this be unacceptable a professionalism report may be generated.

Summative Assessment

Professionalism – Clinical Courses

Each candidate will be required to show acceptable levels of professionalism and behaviour. Candidates are assessed for professionalism during each of the clinical rotations. Occasional instances of reportable behaviour will also be recorded and candidates given appropriate feedback. Advice and guidance will be given to a candidate whose professionalism is assessed as unacceptable early in the clinical courses. This provides the opportunity for the candidate to improve their performance. A final assessment of a candidate's professionalism and behaviour will take place at the end of the clinical courses. (Appendix 6 Assessment Process)

Failure to Pass Professionalism

A candidate who does not satisfy the requirements for the course and who is not permitted to sit the Part C/D examinations will be deemed to have failed that examination.

e-Portfolio

This assessment is to be completed by July of the 3rd Year and will cover the following theme objectives:

- Demonstrate the commitment to life-long learning by compiling a personal development plan
- Demonstrate the role of reflection in relation to the student's own actions and choices and be able to apply this to their patient treatment and their learning
- Demonstrate responsibility and accountability by providing appropriate examples of good practice

Each candidate will be required to complete the e-portfolio and show satisfactory levels of professionalism. Advice and guidance will be given to a candidate who is assessed as unsatisfactory early in the course. This provides the opportunity for the candidate to improve their performance. A final assessment of a candidate's professionalism as demonstrated within the e-portfolio will take place at the end of the course. Candidates who do not satisfactorily complete the e-portfolio satisfactorily will be referred to the Professional Behaviour Committee.

Failure to Pass Professionalism

If a candidate fails to satisfy the requirements for professionalism and complete the e-portfolio they will not be permitted to proceed further on the BDS programme, and will be reviewed by the Dental School Progress Committee. Candidates may be required to take leave of absence and return the following year to repeat the whole of the third year of study. Alternatively candidates may be given the opportunity to transfer to the BSc (DENP) course after successful completion of the theoretical component of DEN203 and DEN204. A candidate who transfers to the BSc course will not be permitted to re-enter the BDS programme at a later date.

PART E (4TH AND 5TH YEARS)

Aims and Objectives

Aim: Demonstrate professionalism in both clinical and non-clinical environments by demonstrating the ability to reflect on all internal and external factors, achieving a balance between them which is situation appropriate, and which demonstrates acceptance of professional responsibility and accountability by being able to justify the actions to the patient, the profession, the society in which they work and themselves.

Objectives:

In addition to the objectives achieved in the previous years, at the end of this year students should:

1. Demonstrate an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks
2. Demonstrate an awareness of the needs of patients, their carers where appropriate and other members of the dental team, including any limitations which arise when carrying out professional tasks
3. Demonstrate an understanding of the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks, including putting patients' interests first and acting to protect them
4. Demonstrate both trustworthiness and the ability to attain the trust of others, when carrying out professional tasks
5. Demonstrate an understanding of the need for honesty, integrity, responsibility and reliability when carrying out professional tasks
6. Demonstrate an understanding of the effect of context on the manner of carrying out professional tasks
7. Demonstrate an understanding of the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks
8. Demonstrate an understanding of the need to be able to account for and explain his/her actions and decisions with openness and transparency

9. Demonstrate an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning

(See Appendix 5 - descriptors)

Formative Assessment

Evidence of Commitment

Students should be aware that evidence of commitment via participation will be used to assess their professionalism; in particular, lack of this evidence may be interpreted as a lack of professionalism. Examples of this include;

- failure to attend regularly
- failure to perform adequately the work of the course
- failure to present written work (with the exception of assignments which are assessed summatively) at the appointed times
- failure to participate fully and timely in the Dental materials presentations and Periodontology Poster Peer review

These and other instances will generate a professionalism report.

Evidence of Reflection

Reflection is seen as an important facet of professionalism, it is therefore important that students provide evidence of their ability to reflect on the treatment needs of patients and their own abilities to meet these needs. Examples of areas where this can be demonstrated include the Periodontology Poster, Elective and Outreach projects.

Should this be unacceptable a professionalism report may be generated.

Evidence of Consideration

Consideration and the awareness of the needs of others are seen as important facets of professionalism, it is therefore important that students provide evidence of their ability in this area. Examples of areas where this can be demonstrated include; Periodontology posters, Outreach project, Dental Materials presentations, Dental Public Health presentations, Teamwork project etc.

Should this be unacceptable a professionalism report may be generated.

Summative Assessment

Professionalism – Clinical Courses

Each candidate will be required to show acceptable levels of professionalism and behaviour. Candidates are assessed for professionalism during each of the clinical rotations. Occasional instances of reportable behaviour will also be recorded and candidates given appropriate feedback. Advice and guidance will be given to a candidate who is assessed as unacceptable early in the clinical courses. This provides the opportunity for the candidate to improve their performance. A final assessment of a candidate's professionalism and behaviour will take place at the end of the clinical courses (Appendix 6 Assessment Process).

Professionalism – DPU and Outreach

Each candidate will be required to show acceptable levels of professionalism and behaviour. Candidates will be assessed on their professionalism as part of the Clinical Appraisal procedure.

The clinical appraisal procedure will need to occur both early on and at the completion of an Outreach placement. Each student should complete a self-assessment form relating to their own clinical performance. This would have a similar format to the Foundation training Dental Evaluation of Performance (D-EP) Assessment Tool but be aimed at global assessments of performance rather than one instance of observation. There would be an additional summary of professionalism assessment (see marking schemes). Both the student and the supervising clinician would complete similar forms and the appraisal would consist of a discussion of professional performance based on these forms. This will result in a combined result which would be used to ensure that students receive appropriate feedback.

Occasional instances of reportable behaviour will also be recorded and candidates given appropriate feedback. Advice and guidance will be given to a candidate who is

assessed as unacceptable early in the clinical courses. This provides the opportunity for the candidate to improve their performance (Appendix 6 Assessment Process).

As part of the remediation process candidates can be required to complete a specific Development of Professionalism Portfolio (see Appendix 1 Marking Schemes).

Portfolio of Evidence of Development of Professionalism

(for students requiring additional education in this area)

This assessment will take the form of a portfolio of specific evidence of development of professionalism. When required by the Dental School Professionalism Committee, it is to be completed by May of the 5th Year and will cover the following theme objectives:

- Demonstrate an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks
- Demonstrate an awareness of the needs of patients, their carers where appropriate and other members of the dental team, including any limitations which arise when carrying out professional tasks
- Demonstrate an understanding of the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks, including putting patients' interests first and acting to protect them
- Demonstrate both trustworthy and the ability to attain the trust of others, when carrying out professional tasks
- Demonstrates an understanding of the need for honesty, integrity, responsibility and reliability when carrying out professional tasks
- Demonstrates an understanding of the effect of context on the manner of carrying out professional tasks
- Demonstrates an understanding of the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks
- Demonstrates an understanding of the rules, regulations and guidelines pertaining to the practice of dentistry
- Demonstrates an understanding of the need to be able to account for and explain his/her actions and decisions with openness and transparency
- Demonstrates an understanding of the role of reflection in relation to the student's own actions and choices and be able to apply this to their learning

Each candidate who is required to complete the Evidence of Development of Professionalism Portfolio must subsequently show satisfactory levels of professionalism. Advice and guidance will be given to a candidate and this provides the opportunity for the candidate to improve their performance. A final assessment of a candidate's professionalism as demonstrated within this portfolio will take place at the end of the course. Failure to satisfactorily complete the portfolio is deemed unsatisfactory.

Failure to Pass Professionalism

A candidate who does not satisfy the requirements of professionalism and behaviour for the course and who is not permitted to sit the Part E examinations will be deemed to have failed that examination and a result of 'NC' (not completed) will be recorded for DEN503 and DEN504.

If a candidate fails to satisfy the requirements for professionalism and complete the e-portfolio they will not be permitted to proceed further on the BDS programme, and will be reviewed by the Dental School Progress Committee. Candidates may be required to take leave of absence and return the following year to repeat the whole of the fifth year of study. Alternatively candidates may be given the opportunity to transfer to the BSc (DEN?) course. A candidate who transfers to the BSc course will not be permitted to re-enter the BDS programme at a later date.

Appendix 1 - MARKING SCHEMES

Professionalism assessment for clinical rotations (School)

Professionalism record at the end of a rotation (School)

Professionalism assessment for clinical appraisal (Outreach/DPU) (Student self-assessment)

Professionalism assessment for clinical appraisal (Outreach/DPU) (Staff assessment)

Professionalism assessment for clinical appraisal (Outreach/DPU) (agreed Staff/Student assessment)

PROFESSIONALISM ASSESSMENT FOR CLINICAL ROTATIONS (SCHOOL)

Student Surname		Student First Name		
	LEVEL ATTAINED			REMEDIAL ADVICE AND COMMENTS
	Acceptable	Reportable	Unacceptable	
Communication				
Communicates well with patient and dental team				
Professionalism				
Considerate of others				
Able to reflect on own actions				
Demonstrates respect for tutor (by, for example, following tutor instructions)				
Demonstrates commitment and motivation (by, for example, good attendance and punctuality)				
Demonstrates understanding of regulations (by, for example, good personal hygiene and dressing appropriately)				
Management and Leadership				
Is prepared for the teaching session				
Is organised and efficient in approach				
Follows cross-infection procedures				
Time management				
Working within a team and leading as appropriate				
Quality of record keeping				
Date completed	Name of Member of Staff			
	Staff Signature			

Professionalism record at the end of a rotation

Student Name			
Mark	Definition	Please tick	
Outstanding	Excellent professional attitude, patient management skills and personal organisation		
Acceptable	Satisfactory professional attitude, patient management skills and personal organisation		
Reports	Generally satisfactory professional attitude, patient management skills and personal organisation, but student would benefit from coaching in specific area(s)		
Unacceptable	Unsatisfactory professional attitude, patient management skills or personal organisation		
<i>Staff Comments</i>			
<i>Student Comments</i>			
Staff Signature		Date	
Student Signature		Date	

**PROFESSIONALISM ASSESSMENT FOR CLINICAL APPRAISAL
(OUTREACH/DPU)**

Development of Professionalism - Student self- assessment						
Student name:		Level attained*			Comments and evidence	Not applicable/ Unable to assess
		Acceptable	Reportable	Unacceptable		
Member of staff:						
Do you think you demonstrate adequate and appropriate;						
Commitment, including the appropriate degree of autonomy, confidence and motivation?						
Consideration of others, including a caring attitude and respect for those around them?						
Responsibility, including reliability, fairness?						
Trustworthiness, including honesty and integrity?						
Do you demonstrate an understanding of						
Your own abilities?						
The needs of others around them including patients and the dental team?						
The need to instil trust?						
The ability to relate to context including the need for flexibility?						
Date completed		Name of Member of Staff				
		Staff Signature				

* See appendix 5 - descriptors

Development of Professionalism - Staff assessment						
Student name:		Level attained*			Comments and evidence	Not applicable/ Unable to assess
		Acceptable	Reportable	Unacceptable		
Member of staff:						
Did the student demonstrate adequate and appropriate;						
Commitment, including the appropriate degree of autonomy, confidence and motivation?						
Consideration of others, including a caring attitude and respect for those around them?						
Responsibility, including reliability, fairness?						
Trustworthiness, including honesty and integrity?						
Did the student demonstrate an understanding of						
Their own abilities?						
The needs of others around them including patients and the dental team?						
The need to instil trust?						
The ability to relate to context including the need for flexibility?						
Date completed		Name of Member of Staff				
		Staff Signature				

* See appendix 5 - descriptors

Development of Professionalism – Agreed Staff/student assessment					
Student name:	Level attained*			Advice and comments	Not applicable/ Unable to assess
	Acceptable	Reportable	Unacceptable		
Member of staff:					
Did the student demonstrate adequate and appropriate;					
Commitment, including the appropriate degree of autonomy, confidence and motivation?					
Consideration of others, including a caring attitude and respect for those around them?					
Responsibility, including reliability, fairness?					
Trustworthiness, including honesty and integrity?					
Did the student demonstrate an understanding of					
Their own abilities?					
The needs of others around them including patients and the dental team?					
The need to instil trust?					
The ability to relate to context including the need for flexibility?					
Could the student account for/explain his/her actions/decisions?					
With openness and transparency?					
With due regard for rules, regulations and guidelines?					
Did this explanation demonstrate reflection and a reasonable awareness of, and balance between the choices available?					
Able to reflect on own actions/choices					
Reflection demonstrated awareness of choices					
Reflection demonstrated balance between choices					
Did the student manifest his/her reflection appropriately?					
With respect to clinical skills					
With respect to communication					
With respect to management and organisation skills					
Overall the student demonstrated Professionalism				Overall the student did not demonstrate Professionalism	
Date completed	Staff signature				
	Students signature				

* See appendix 5 - descriptors

Appendix2 - Evidence of Development of Professionalism Portfolio

(for students requiring additional education in this area)

You are required to complete the following on-line portfolio between (date 1) and (date 2) You can do this by recording details of your developing professionalism, written in a similar fashion to a weblog. Please record the best examples you can think of. You should do this as you go along, i.e. do not leave this until just before the deadline and then try and fill it in the night before. You will be allowed to make improvements, change evidence etc. if better examples come along, by saving them as a draft version before you submit them.

Please note you are expected to be able to fill out all the sections of this portfolio by (date 2). These can be of things you have done, things you have seen or any situation which has increased your awareness of your developing professionalism. Remember, exaggeration, making things up etc can be deemed unprofessional

You are required to complete both sections of the portfolio in each of the following areas;

- Self awareness; this includes, for example, the role you played in respect to the situation, including demonstrating your own limitations when carrying out professional tasks
- Awareness of others; this includes, for example, the needs of patients, their carers where appropriate and other members of the dental team
- Trustworthiness; this includes, for example, the need to be both trustworthy and to attain the trust of others, when carrying out professional tasks
- Ability to relate to Context; this includes, for example, understanding of the effect of context on the manner of carrying out professional tasks
- Commitment; this includes, for example, the need for and limitations of autonomy, commitment and motivation, and confidence
- Consideration; this includes, for example, the need for consideration of and respect for others, and where appropriate the exclusion of self interest

- Responsibility; this includes, for example, the need for honesty, integrity, responsibility and reliability when carrying out professional tasks
- Accountability; this includes, for example, the knowledge of rules, regulations and guidelines pertaining to the practice of dentistry and understands the need to be able to account for and explain his/her actions and decisions with openness and transparency

An example of the assessment and criteria is given for “Awareness of others” all aspects are processed using the same format and then summarised on the final assessment form.

“Please relate an example of your experience of “Awareness of others”. This includes, for example, the needs of patients, their carers where appropriate and other members of the dental team

In the above example, to what extent did the student demonstrate “Awareness of others”?					
Understands Awareness of others	Can apply Awareness of others	Demonstrates Awareness of others	Is aware of others i.e. applies an understanding of this awareness without prompts	Unable to assess	Reason unable to assess
Please rate the evidence provided by the student of their “Awareness of other”					
Unequivocal	Strong	Acceptable	Weak, but acceptable	Unacceptable	Unable to assess

“Please explain the relationship of this example to your development of professionalism.”

Did this explanation demonstrate reflection and a reasonable awareness of, and balance between the choices available?				
Able to reflect on own actions/choices	Yes	No	Unable to assess	Reason unable to assess
Reflection demonstrated awareness of choices	Yes	No	Unable to assess	Reason unable to assess
Reflection demonstrated balance between choices	Yes	No	Unable to assess	Reason unable to assess
Did the student manifest his/her reflection appropriately?				
With respect to clinical skills	Yes	No	Unable to assess	Reason unable to assess
With respect to communication	Yes	No	Unable to assess	Reason unable to assess
With respect to management and organisation skills	Yes	No	Unable to assess	Reason unable to assess

Evidence of Development of Professionalism – Final assessment					
Student name:	Level attained			Advice and comments	Not applicable/ Unable to assess
	Acceptable	Reportable	Unacceptable		
Member of staff:					
Did the student demonstrate adequate and appropriate;					
Commitment, including the appropriate degree of autonomy, confidence and motivation?					
Consideration of others, including a caring attitude and respect for those around them?					
Responsibility, including reliability, fairness?					
Trustworthiness, including honesty and integrity?					
Did the student demonstrate an understanding of					
Their own abilities?					
The needs of others around them including patients and the dental team?					
The need to instil trust?					
The ability to relate to context including the need for flexibility?					
Could the student account for/explain his/her actions/decisions?					
With openness and transparency?					
With due regard for rules, regulations and guidelines?					
Did this explanation demonstrate reflection and a reasonable awareness of, and balance between the choices available?					
Able to reflect on own actions/choices					
Reflection demonstrated awareness of choices					
Reflection demonstrated balance between choices					
Did the student manifest his/her reflection appropriately?					
With respect to clinical skills					
With respect to communication					
With respect to management and organisation skills					
Overall the student demonstrated Professionalism				Overall the student did not demonstrate Professionalism	

Scoring the Evidence of Development of Professionalism Portfolio

The main aim of this portfolio is to ensure that students can function well in all aspects of professionalism. To do this a student needs to be able to show some development of an understanding of the combined aspects of professionalism and demonstrate professional behaviours in everyday practice.

This means that ideally the portfolio should produce a profile of the development of the student's professionalism based on qualitative criteria, producing saturation i.e. all areas should be covered at a satisfactory level, rather than a numerical quantitative score. As it is envisaged that this portfolio will be completed as an e-portfolio the achievement profiles can be arranged as "Drop-down" boxes in the tutors' version which the student only has access to once the portfolio is assessed. The scales within each section of the "Drop-down" assessment areas are primarily formative and to this end mentoring of the students would be provided. However engagement with this process is considered essential, particularly for the group of students which would require this additional education, therefore this aspect would become summative once the portfolio was completed and a summary of this would be returned to the Professionalism Committee (Appendix 6 Assessment process). Students will need to be informed of this before beginning this assessment.

Areas which remained as "unacceptable" or "unable to assess" after feedback had been given by the mentor would be deemed a fail. All other cases this would be a pass. The level at which this occurred (understands, can apply, demonstrates, does) can be varied and should be stipulated beforehand by the Professionalism Committee. For example 3rd BDS students would be expected to perform at the "can apply" or "demonstrates" level, whilst 5th BDS students should achieve the "does" level.

Areas of reflection which receive a positive grade (Yes) would be deemed a pass. Those areas of reflection which receive a negative grade (No) would be deemed a fail. Instances deemed "unable to assess" would be deemed a fail, when this is assessed as demonstrating failure to engage with the process and show some development.

To ensure appropriate standards are maintained across this process it is suggested that in all cases where the portfolio is to be used summatively, it is assessed by both the student's mentor and a second mentor appointed by the Professionalism Committee. In cases where the result is satisfactory, a recommendation that this is the

case should be made to Progress Committee and the student allowed to progress. In cases where the result is unsatisfactory a further review by all members of the Professionalism Committee should be made and the results of this combined assessment along with recommendation for the student's future progression will be made to Progress Committee. Examples of recommendation in cases when the student demonstrates failure include a recommendation for repeating parts of the programme or a recommendation that the student be offered an exit degree which is non-registerable for professional purposes.

A possible future development, once there are a number of portfolios available to allow standard setting, is to move towards a more quantitative approach. However this would allow compensation between aspects of professionalism e.g. a student may score highly on "commitment" but poorly on "consideration" and then be able to pass, which may not be acceptable.

Appendix 3 - Staffing implications and Future developments

Descriptors have been drawn up of acceptable and unacceptable patient management and professional conduct as observed by staff on clinics and in the skills laboratory (see appendix 5). Descriptors have also been drawn up for evidence of reflection and consideration in written work. Staff and students will require training in these areas and this may result in a small additional workload. The provision of professionalism assessment associated with participation such as attendance and timely delivery of assignments will also necessitate staff training and may also result in a small additional workload.

Staff will need training in the clinical appraisal assessments proposed for Outreach and DPU. A form of clinical appraisal already occurs in some placements and seems to fit in appropriately with the staff workload in these placements. If the pilot is successful this would formalise a procedure which was already occurring on an informal basis. It is envisaged that these assessments would take up about 15 minutes of staff time per rotation per student.

It is envisaged that a Professionalism Committee be formed which would formalise and assist the work of the Director of Students Affairs. Unlike Progress Committee which is seen as a disciplinary body, the Professionalism Committee's main duty will be to ensure that students who require further support in this area receive such support. Thus reports from formative assessments can be coordinated and processed by this Committee to ensure that students receive appropriate help and feedback.

The School administrator and/or her deputy would provide the administrative support for this committee, which will increase their workload. The advantage of a specific Professionalism Committee is that it can consist of a small (4-6) number of members of staff with a specific interest in this aspect of student education and that half can be clinical staff with the other half non-clinical staff. This echoes the make-up of the GDC. The other advantage is that many students will only need a body to whom they can give an account of their actions or one which can provide them with extra help in this area, rather than a disciplinary body (see appendix 4 Assessment process). An additional suggestion is that this committee also becomes responsible for awarding prizes in outstanding professionalism. This might encourage staff to be more realistic in their assessments rather than having the perception that if they report students they are

reporting them to Progress Committee and therefore failing them. The main disadvantage is that it is a separate committee. It is envisaged that this committee sit once a semester.

The system also requires that extra support be provided by a “Professional development mentor/coach”, who would meet with students who are referred to them by the Professionalism Committee. These would require additional training, however some members of staff may well already have skills in this area (e.g. have previously attended counselling or coaching courses) and thus they would need to be identified and asked if they are willing to participate in this area of education.

The role of the “Professional development mentor/coach” would need defining. In addition to assessing and providing feedback on specific areas of professionalism, they could also provide feedback on the personal development plan section of the e-portfolio, as is currently the case with personal tutors. Once a student was seen to be in need of extra coaching through the development of professionalism portfolio they would also be expected to meet with the student on a minimum of two occasions and provide the formative assessment and feedback for the development of professionalism portfolio (or appropriate section) which would subsequently also need to be incorporated into the student’s personal development plan. This would result in an additional workload for these tutors. The personal tutors would also need training in the expectation and assessment of professionalism to enable them to coach/mentor students in this area. This could be done as part of the regular staff training.

It is envisaged that summative assessments will be double marked with at least one of the assessors being a registered dentist as this would ensure that they had an understanding of GDC expectations and regulations with regard to dental practice. This would further increase staff workload, by about 45 minutes per full portfolio assessment.

Should students, having received individually tailored education and support in this area, still be unable to progress satisfactorily then the Professionalism Committee will be able to provide evidence to either Progress Committee or as Fitness to Practice case, depending on the degree of their concern.

Future developments

The current School marking scheme for professionalism and patient management has a three point scale, unsatisfactory, satisfactory and outstanding. A four point scale, unacceptable, reportable, i.e. generally satisfactory but needs improvement in a specific (specified) area, acceptable and outstanding (or alternatively a 6 point Likert scale, as presently used within Foundation training, could be used) would increase the ability of staff to provide feedback without the suggestion that it is remedial advice, which is currently the only option. Once again descriptors would need to be drawn up and staff training provided in this area.

The evidence provided by the students could be more easily triangulated with the clinical logbooks, clinical case reports, basic, intermediate and advanced skills reports, elective project, outreach project, teamwork project DPU project and audit project, should these be converted to an online medium.

Appendix 4 - Educational Aims and Outcomes;
Model of professionalism in dentistry combined with Miller's pyramid

Aspect	Knows	Knows how	Shows how	Does
Self awareness role of self, including own limitations when carrying out professional tasks	Understands Self awareness	Can apply Self awareness	Demonstrates Self awareness	Is self aware i.e. applies an understanding of self awareness without prompts
Awareness of others the needs of others, including any limitations when carrying out professional tasks	Understands awareness of others	Can apply awareness of others	Demonstrates awareness of others	Is aware of others
Trustworthiness the need to be both trustworthy and to attain the trust of others, when carrying out professional tasks	Understands trustworthiness	Can apply trustworthiness	Demonstrates trustworthiness	Is trustworthy
Relationship to context the effect of context on the manner of carrying out professional tasks	Understands relationship to context	Can apply relationship to context	Demonstrates an understanding of relationship to context	Automatically applies an understanding of relationship to context
Vocational the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks	Understands the vocational aspects of professionalism	Can apply the vocational aspects of professionalism	Demonstrates the vocational aspects of professionalism	Automatically applies the vocational aspects of professionalism
Altruism the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks	Understands the altruistic aspects of professionalism	Can apply the altruistic aspects of professionalism	Demonstrates the altruistic aspects of professionalism	Automatically applies the altruistic aspects of professionalism
Responsibility the need for honesty, integrity, responsibility and reliability when carrying out professional tasks	Understands responsibility	Can apply the understanding of responsibility	Demonstrates responsibility	Is responsible
Accountability the knowledge of rules, regulations and guidelines pertaining to the practice of dentistry and understands the need to be able to account for and explain his/her actions and decisions with openness and transparency	Understands professional accountability	Can apply the understanding of professional accountability	Demonstrates professional accountability	Is accountable
Reflection to be able to reflect on own his/her own actions and choices, which demonstrates an awareness of the choices available within that context and be able to demonstrate that an appropriate balance has been made between the choices and the need to subsequently apply this to the professional tasks carried out.	Understands reflection as an aspect of professionalism	Can apply the understanding of reflection	Demonstrates reflection	Is reflective

Appendix 5 - Descriptors of Professionalism

The aim of these descriptors is to help both staff and students visualise acceptable, reportable and unacceptable levels of professionalism. They will not cover every eventuality. They are based on the principal that students will need to learn and therefore should not be penalised for making a single error, but should receive feedback to help prevent them making this error repeatedly. However these lapses should be reported because they may occur repeatedly, but appear as single lapses as they occur in many different situations e.g in differing clinics, lectures and skills laboratory etc.

The descriptors change over time and become more complex as students are expected to develop their professionalism longitudinally throughout the course so that what is expected of them increases from 1st BDS to 5th BDS.

1st BDS students

Facet	Descriptor	Educational Medium	Objective
Self awareness	Completes PDP correctly following digital prompting= acceptable Completes PDP following prompting on multiple occasions = reportable PDP incomplete = unacceptable	Personal development plan	4
Awareness of others	Recognises the perspective of others around them = acceptable Single lapse in recognition of perspective of others = reportable Persistent inability to recognise perspective of other = unacceptable This is often demonstrated as consideration of others (see below) but the student may not be aware that their behaviour needs to be tailored to the needs of those around them. Feedback should be tailored accordingly.	Interaction with academic and support staff	1
Trustworthiness	Original, critical and well referenced=acceptable 1x unoriginal, signs of plagiarism=reportable >1x unoriginal, signs of plagiarism = unacceptable	Written work	1,2 and 3
Ability to relate to context	Attends clinical/laboratory sessions suitably attired = acceptable Attends clinical/laboratory sessions inappropriately attired on one occasion = reportable Attends clinical/laboratory sessions inappropriately attired on >1 occasion = unacceptable	Dress code	3
Commitment	Punctual or late on one occasion only = acceptable <2x authorised absence = acceptable >2x authorised absence=reportable	Attendance at lectures,	3

	2x late= reportable >2x late = unacceptable Unauthorised absence=unacceptable	practicals etc	
Consideration	Demonstrates respect and acts without discrimination = acceptable Single demonstration of disrespect or discrimination = reportable Multiple instances of disrespect or discrimination = unacceptable	Interaction with academic and support staff	1
Responsibility	Hand in on time =acceptable Late = unacceptable	Hands in practical write up/logbooks paperwork etc on time	3
Accountability	Abides by rules and regulations = acceptable Minor infringement on no more than 1 occasion = reportable Major infringement or frequent minor infringements = unacceptable NB serious infringements require reporting to Fitness to Practice	Curriculum	2 and 3

Descriptors Professionalism 2nd BDS students

Facet	Descriptor	Educational Medium	Objective
Self awareness	Completes PDP correctly following digital prompting= acceptable Completes PDP following prompting on multiple occasions = reportable PDP incomplete = unacceptable Asks for help appropriately = acceptable Occasionally requires intervention to alleviate hesitance or overconfidence = reportable Persistently requires intervention to alleviate hesitance or overconfidence or requires intervention to protect patient = unacceptable	Personal development plan Clinical conduct	1
Awareness of others	Recognises the perspective of others around them = acceptable Single lapse in recognition of perspective of others = reportable Persistent inability to recognise perspective of other = unacceptable Describes the needs of their patient appropriately = acceptable Breaches confidentiality, ignores needs of patient etc= unacceptable This is often demonstrated as consideration of others (see below) but the student may not be aware that their behaviour needs to be tailored to the needs of those around them. Feedback should be tailored accordingly.	Interaction with academic, clinical, hospital and support staff, patients and peers Patient Profile DEN203	2
Trustworthiness	Original, critical and well referenced=acceptable 1x unoriginal, signs of plagiarism=reportable >1x unoriginal, signs of plagiarism = unacceptable Demonstrates conduct which is likely to	Written work Clinical conduct	From yr1

	instil trust = acceptable Breaches of trust or patient confidentiality, dishonest including about errors = unacceptable		
Ability to relate to context	Attends clinical/laboratory sessions suitably attired = acceptable Attends clinical/laboratory sessions inappropriately attired on one occasion = reportable Attends clinical/laboratory sessions inappropriately attired on >1 occasion = unacceptable	Dress code	From yr 1
Commitment	Punctual or late on one occasion only = acceptable <2x authorised absence = acceptable >2x authorised absence=reportable 2x late= reportable >2x late = unacceptable Unauthorised absence=unacceptable	Attendance at lectures, practicals, clinics etc	From yr 1
Consideration	Demonstrates respect and acts without discrimination = acceptable Single demonstration of disrespect or discrimination = reportable Multiple instances of disrespect or discrimination = unacceptable	Interaction with academic, clinical, hospital and support staff, patients and peers	From yr1. 3 and 4
Responsibility	Hand in on time =acceptable Late = unacceptable Is prepared for clinics = acceptable Is occasionally underprepared for clinic = reportable Persistently underprepared for clinic = unacceptable	Hands in essay/patient profiles etc on time Preparation for clinics	From yr 1. 4
Accountability	Abides by rules and regulations = acceptable Minor infringement on no more than 2 occasions = reportable Major infringement or frequent minor infringements = unacceptable NB serious infringements require reporting to Fitness to Practice	Curriculum	From yr 1
Reflection	Demonstrates analysis and critical thinking, evidence of learning, and evidence of planning for future = acceptable Complete but little evidence of analysis, evidence of learning or future planning = reportable Incomplete, entirely descriptive, no evidence of analysis or learning = unacceptable	Personal development plan Patient Profile DEN203 Critical Appraisal Pulpal Disease	5

Descriptors Professionalism 3rd BDS students

Facet	Descriptor	Educational Medium	Objective
Self awareness	<p>Completes PDP correctly following digital prompting= acceptable Completes PDP following prompting on multiple occasions = reportable PDP incomplete = unacceptable</p> <p>Asks for help appropriately = acceptable Occasionally requires intervention to alleviate hesitance or overconfidence = reportable Persistently requires intervention to alleviate hesitance or overconfidence or requires intervention to protect patient = unacceptable</p>	<p>Personal development plan</p> <p>Clinical conduct</p>	1
Awareness of others	<p>Describes the needs of their patient appropriately = acceptable Breaches confidentiality, ignores needs of patient etc= unacceptable Demonstrates the ability to work in a group particularly in a timely manner = acceptable Occasional delay causing others inconvenience = reportable Persistent delay in participation or no evidence of active participation = unacceptable</p> <p>This is often demonstrated as consideration of others (see below) but the student may not be aware that their behaviour needs to be tailored to the needs of those around them. Feedback should be tailored accordingly.</p>	<p>Patient Profile Den 305/6</p> <p>Ortho -Wiki</p>	2
Trustworthiness	<p>Original, critical and well referenced=acceptable 1x unoriginal, signs of plagiarism=reportable >1x unoriginal, signs of plagiarism = unacceptable</p> <p>Demonstrates conduct which is likely to instil trust = acceptable Breaches of trust or patient confidentiality, dishonest including about errors = unacceptable</p>	<p>Written work</p> <p>Clinical conduct</p>	3
Ability to relate to context	<p>Attends clinical/laboratory sessions suitably attired = acceptable Attends clinical/laboratory sessions inappropriately attired on one occasion = reportable Attends clinical/laboratory sessions inappropriately attired on >1 occasion = unacceptable</p> <p>Demonstrates flexibility in clinical situations when required = acceptable Needs disproportionate amount of tutor support to cope with changes in clinical circumstances = reportable Totally inflexible, is confused by changes in circumstances = unacceptable</p>	<p>Dress code</p> <p>Clinical conduct</p>	1,2,3,4
Commitment and confidence Commitment and confidence	<p>Punctual, or <2x Authorised absence = acceptable >2x authorised absences or <2xlate =reportable Unauthorised absence=unacceptable</p> <p>Demonstrates awareness of professional boundaries = acceptable Occasional minor breach of professional boundaries = reportable Persistently oversteps professional boundaries = unacceptable</p>	<p>Attendance at lectures, practicals, clinics etc</p> <p>Attitude to learning, particularly in clinical setting</p>	<p>4</p> <p>4</p>
Consideration	<p>Demonstrates respect and acts without discrimination = acceptable Single demonstration of disrespect or discrimination = reportable Multiple instances of disrespect or discrimination = unacceptable</p>	<p>Interaction with patients, academic, clinical, hospital and support staff and peers</p>	2
Responsibility	<p>Hand in on time =acceptable Late = unacceptable</p>	<p>Hands in RPD practical work, patient profile etc</p>	4

	Is prepared for clinics = acceptable Is occasionally underprepared for clinic = reportable Persistently underprepared for clinic = unacceptable	on time Preparation for clinics	
Accountability	Abides by rules and regulations = acceptable Minor infringement on no more than 2 occasions = reportable Major infringement or frequent minor infringements = unacceptable	Curriculum, particularly clinical areas	From yr 1. 5
Reflection	Demonstrates analysis and critical thinking, evidence of learning, and evidence of planning for future = acceptable Complete but little evidence of analysis, evidence of learning or future planning = reportable Incomplete, entirely descriptive, no evidence of analysis or learning = unacceptable	Personal development plan Patient Profile Den 305/6	6

Descriptors Professionalism 4th/5th BDS students

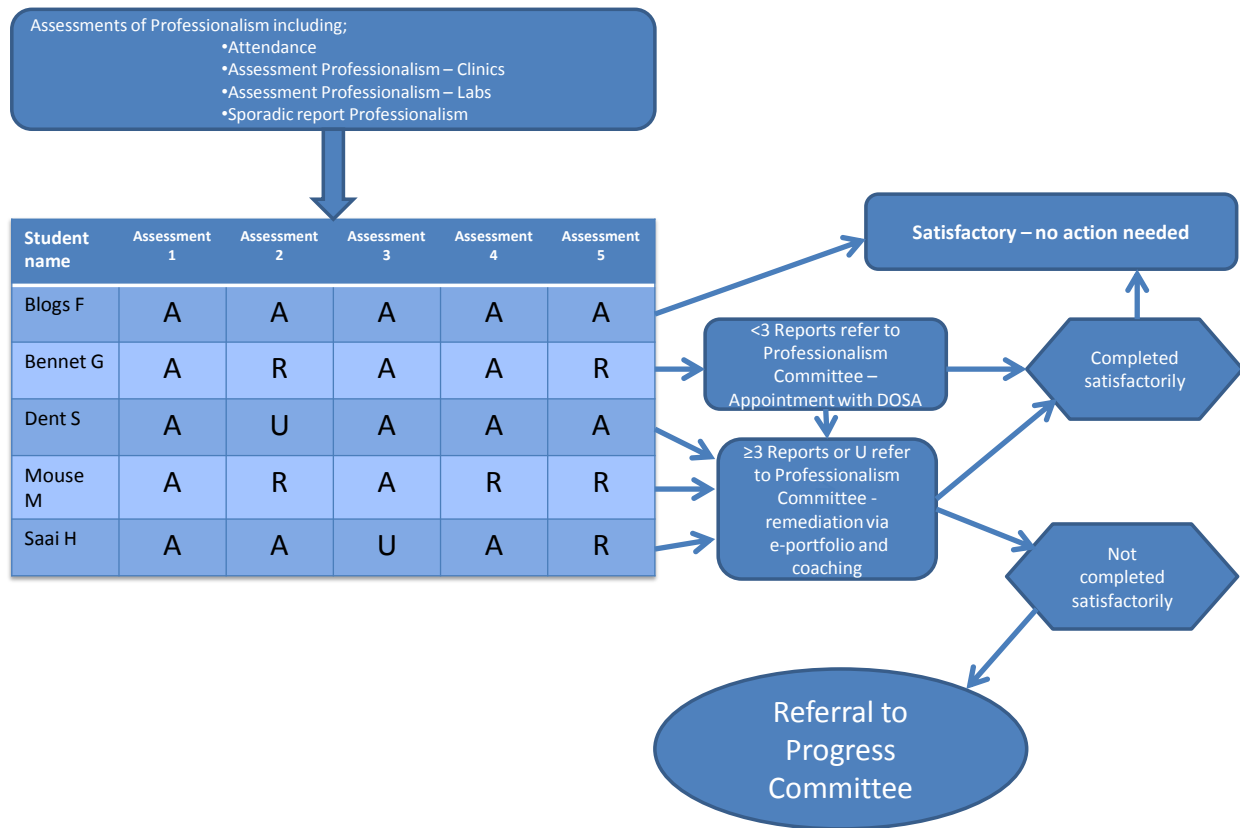
All facets will also be assessed during clinical appraisal which will take place in DPU and Outreach placements. In addition the following will apply;

Facet	Descriptor	Educational Medium	Objective
Self awareness	Completes PDP correctly following digital prompting= acceptable Completes PDP following prompting on multiple occasions = reportable PDP incomplete = unacceptable Asks for help appropriately = acceptable Occasionally requires intervention to alleviate hesitance or overconfidence = reportable Persistently requires intervention to alleviate hesitance or overconfidence or requires intervention to protect patient = unacceptable	Personal development plan Clinical conduct	1
Awareness of others	Describes the needs of their patient appropriately = acceptable Breaches confidentiality, ignores needs of patient etc= unacceptable Demonstrates the ability to work in a group particularly in a timely manner = acceptable Occasional delay causing others inconvenience = reportable Persistent delay in participation or no evidence of active participation = unacceptable This is often demonstrated as consideration of others (see below) but the student may not be aware that their behaviour needs to be tailored to the needs of those around them. Feedback should be tailored accordingly.	Periodontology posters, Outreach project Dental materials presentations/DPH presentations/teamwork project	2
Trustworthiness	Original, critical and well referenced=acceptable 1x unoriginal, signs of plagiarism=reportable >1x unoriginal, signs of plagiarism = unacceptable Demonstrates conduct which is likely to instil trust = acceptable Breaches of trust or patient confidentiality, dishonest including about errors = unacceptable	Written work Clinical conduct	4
Ability to relate to	Attends clinical/laboratory sessions suitably attired = acceptable Attends clinical/laboratory sessions inappropriately attired on one occasion = reportable	Dress code	6

context	Attends clinical/laboratory sessions inappropriately attired on >1 occasion = unacceptable Demonstrates flexibility in clinical situations when required = acceptable Needs disproportionate amount of tutor support to cope with changes in clinical circumstances = reportable Totally inflexible, is confused by changes in circumstances = unacceptable	Clinical conduct Outreach project	
Commitment and confidence	Punctual, or <2x Authorised absence = acceptable >2x authorised absences or <2x late = reportable Unauthorised absence = unacceptable Demonstrates awareness of professional boundaries = acceptable Occasional minor breach of professional boundaries = reportable Persistently oversteps professional boundaries = unacceptable	Attendance at lectures, practicals, clinics etc Attitude to learning, clinical setting, perio poster, outreach project, DPH presentations etc	7
Consideration	Demonstrates respect and acts without discrimination = acceptable Single demonstration of disrespect or discrimination = reportable Multiple instances of disrespect or discrimination = unacceptable	Interaction with patients, academic, clinical, hospital and support staff and peers	3
Responsibility	Hand in on time = acceptable Late = unacceptable Is prepared for clinics = acceptable Is occasionally underprepared for clinic = reportable Persistently underprepared for clinic = unacceptable	Hands in elective, outreach project, DPU project etc on time Preparation for clinics	5
Accountability	Abides by rules and regulations = acceptable Minor infringement on no more than 2 occasions = reportable Major infringement or frequent minor infringements = unacceptable	Audit project, Curriculum, particularly clinical areas	From yr 1. 8
Reflection	Demonstrates analysis and critical thinking, evidence of learning, and evidence of planning for future = acceptable Complete but little evidence of analysis, evidence of learning or future planning = reportable Incomplete, entirely descriptive, no evidence of analysis or learning = unacceptable	Personal development plan Elective project, Outreach project	9

Appendix 6

Assessment of professionalism process



Examples of remediation;

- 1-3 BDS can be partial professional development e-portfolio – mainly formative
- 4-5 BDS full professional development e-portfolio compulsory and summative

Appendix 7 – examples of theory questions

These are integrated into the written examinations within the corresponding theme(s) where this theoretical aspect of education is given to the students.

Multiple Choice questions

1. **According to the General Dental Council students need to follow the guidance in “Fitness to Practice”;**
 - a. During and before their education and training*
 - b. Only when they are on clinics
 - c. Only after graduation
 - d. From the time they are registered with the GDC

2. **The General Dental Council do not include the following in their “Principles of professional behaviour”**
 - a. Putting patients’ interests first and acting to protect them
 - b. Protecting the confidentiality of patients’ information
 - c. Maintaining autonomy*
 - d. Co-operating with other members of the dental team and other healthcare colleagues in the interests of patients

Short Answer Question Importance of being professional

According to the ADEE and the GDC, professionalism is a broad competency needed to practice dentistry. It is defined as the body of qualities or features characteristic of a profession.

a) Name 4 features characteristic of a profession? (4 marks)

Having a systematic body of knowledge
Professional authority and credibility
Regulation and control of members
A professional code of ethics
Having a culture of values, norms, and symbols

b) Which document produced by the GDC in 2010 describes the types of professional behaviour expected of dental students? (1 mark)

Student Fitness to practice

**c) List 5 of the principles of professional behaviour expected by the G.D.C.?
(5 marks)**

Putting Patients' interests first and acting to protect them
 Respecting patients' dignity and choices
 Protecting the confidentiality of patients' information
 Co-operating with other members of the dental team and other healthcare colleagues in the interests of patient
 Maintaining professional knowledge and competence
 Being trustworthy

Integrated Short Answer Question Teamwork/Professionalism

a) Which of the following members of the dental team must be registered with the GDC? (7 Marks)

Dentist	yes
Dental therapist	yes
Dental hygienist	yes
Dental nurse	yes
Dental technician	yes
Oral health educator	no
Dental receptionist	no

b) From the guidance issued to dental students by the GDC on fitness to practice list 3 of the 7 components of professional behaviour regarding *putting patients' interests first and acting to protect them* which students must observe? (3 Marks)

Any three from the following:

- 1) Respect patients and treat them with dignity at all times
- 2) Be aware of ethical issues in their professional behaviour with patients
- 3) Be open and honest when dealing with patients or anyone close to them
- 4) Make sure that pts have consented to a student being involved in their treatment
- 5) Make sure they are clearly identified as students
- 6) Dress in an appropriate and professional way and be aware that pts will respond to their appearance, presentation and personal hygiene.
- 7) Make sure that they follow 'Principles of patient consent and Principles of patient confidentiality

Appendix 8 - Summary of Assessment of Professionalism by Year of study

Objective	Educational medium	Assessment
Year 1		
1.Be familiar with the knowledge of the theoretical basis for professionalism	Lectures	MCQ's SSAQ's within DEN 103/4 as per Blueprinting
2.Understand the importance of "Student Fitness to Practice" (GDC April 2008)	Lectures Introduction to Clinical and Preventive skills courses	MCQ's SSAQ's within DEN 103/4 as per Blueprinting Professionalism assessment
3.Understand the importance and relevance of University of Sheffield regulations and relevant CCDH regulations and codes of practice	Lectures Introduction to Clinical and Preventive skills courses Course participation	MCQ's SSAQ's within DEN 103/4 as per Blueprinting Professionalism assessment Commitment via attendance
4. Be able to begin their own professional development.	e-portfolio	e-portfolio
Year 2		
1. Develop an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks	Clinical course	e-portfolio
2. Be familiar with the needs of patients, their carers and other members of the dental team	Clinical course	e-portfolio
3. Understand the need to instil trust and be trustworthy	Clinical course	e-portfolio
4. Understand the need for honesty, integrity, responsibility and reliability when carrying out professional tasks	Clinical course Course participation	e-portfolio Commitment via attendance
5. Develop an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning	Complete denture course Basic clinical skills including pulpal diseases Clinical course	Patient profile DEN 203 Pulpal Disease critical appraisal DEN 204 e-portfolio
Year 3		
1. Develop an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks	Clinical course	e-portfolio
2. Be familiar with the needs of patients, their carers where appropriate and other members of the dental team	Clinical course	e-portfolio
3. Understand the need to instil trust and be trustworthy	Clinical course Course participation	e-portfolio Commitment via attendance and timely participation in eg Ortho Wiki
4. Understand the need for honesty, integrity, responsibility and reliability when carrying out professional tasks	Clinical course Course	e-portfolio Commitment via attendance and timely participation in eg Ortho Wiki without plagiarism etc
5. Understands the need to be able to account for and explain his/her actions and decisions with openness and transparency	Complete denture course Intermediate clinical skills including advancedpulpal diseases Clinical course	Patient profile DEN 305/6 Advanced Pulpal Disease critical appraisal DEN 305/6 e-portfolio

6. Develop an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning	Complete denture course Intermediate clinical skills including advanced pulpal diseases Clinical course	Patient profile DEN 305/6 Advanced Pulpal Disease critical appraisal DEN 305/6 e-portfolio
Years 4 and 5		
1. Demonstrate an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks	Clinical course DPU and Outreach	e-portfolio Clinical appraisal
2. Demonstrate an awareness of the needs of patients, their carers where appropriate and other members of the dental team, including any limitations which arise when carrying out professional tasks	Clinical course DPU and Outreach	e-portfolio Clinical appraisal
3. Demonstrate an understanding of the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks, including putting patients' interests first and acting to protect them	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Timely and considerate participation in e.g. Periodontology posters, Outreach project, Dental Materials presentations, Dental Public Health presentations, Teamwork project etc.
4. Demonstrate both trustworthiness and the ability to attain the trust of others, when carrying out professional tasks	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Participation without plagiarism e.g in Dental materials project, Periodontology Patient Poster, Outreach and Elective projects etc.
5. Demonstrate an understanding of the need for honesty, integrity, responsibility and reliability when carrying out professional tasks	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Commitment via attendance and timely participation in eg Dental materials project, Periodontology Patient Poster without plagiarism etc
6. Demonstrate an understanding of the effect of context on the manner of carrying out professional tasks	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Demonstrated within e.g Elective, Outreach and Dental Public Health projects
7. Demonstrate an understanding of the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Demonstrated within e.g Elective, Outreach and Dental Public Health projects
8. Demonstrate an understanding of the need to be able to account for and explain his/her actions and decisions with openness and transparency	Clinical course DPU and Outreach Course participation	e-portfolio Clinical appraisal Demonstrated within e.g Elective, Outreach

		and Dental Public Health projects
9. Demonstrate an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning	Clinical course DPU and Outreach Course participation including	e-portfolio Clinical appraisal Periodontology Poster, Elective and Outreach projects



School
Of
Clinical
Dentistry.

Draft*
**Strategy for the Assessment of Professionalism
within the Outreach programme, School of
Clinical Dentistry, University of Sheffield**

Sandra Zijlstra-Shaw (Clinical Teacher , Academic Unit of Restorative Dentistry)

Trudie E. Roberts (Co-Supervisor)

Peter G. Robinson (Supervisor, Professor of Dental Public Health)

*referred to as the Draft Statement for administrative purposes within the School of Clinical Dentistry, University of Sheffield

1	Introduction	2
2	Principles of Assessment of Professionalism	3
3	Aims and Objectives	5
4	Method of Assessment of Professionalism for BDS students in Outreach	6
5	Marking Scheme (including copies of the forms)	7
7	Appendices	
	Appendix 1 Educational Aims and Outcomes; Model of professionalism in dentistry combined with Miller's pyramid	10
	Appendix 2 Appendix 2 - Descriptors Professionalism 4th/5th BDS students	11

Introduction

Professionalism is a broad competency needed by dentists to act effectively and efficiently and is seen as a central part of both undergraduate and postgraduate curricula. The Association for Dental Education in Europe describes professionalism as one of its domains of competence required to practice dentistry and thus implies that it should be an essential component of the dental school curriculum. Professionalism is one of the four domains within the General Dental Council (GDC) "Preparing for Practice" learning outcomes required for registration. Thus professionalism should be at the heart of the undergraduate curriculum and assessment of professionalism should occur throughout the programme.

Professionalism reflects social values and thus a first step in the creation of a programme of assessment of professionalism is to agree a definition and operationalisation of the construct.

Recent research defined professionalism as the manner in which one reflects on and reconciles different aspects of professional practice which demonstrates acceptance of professional responsibility and accountability. It is manifested in the manner in which work is carried out. The balance of the various aspects will vary with and be appropriate to the context whilst accountability means that the professional is expected to be able to justify his/her actions to the patient, the profession, the society in which they work and themselves.

This research also produced the following conceptual model



Figure 1 Model of Professionalism

One commonly used framework for the evaluation of an assessment measure is the conceptual model of clinical competence devised by Miller(1990). This has four levels, “knows”, “knows how”, “shows how” and “does”. Miller developed this concept to act as a guide for the suitability of differing assessment methods. He uses the lower layers to differentiate between knowledge and skills and the top two stages to differentiate between the testing of students in situations where they are aware of being tested and those where they are not.

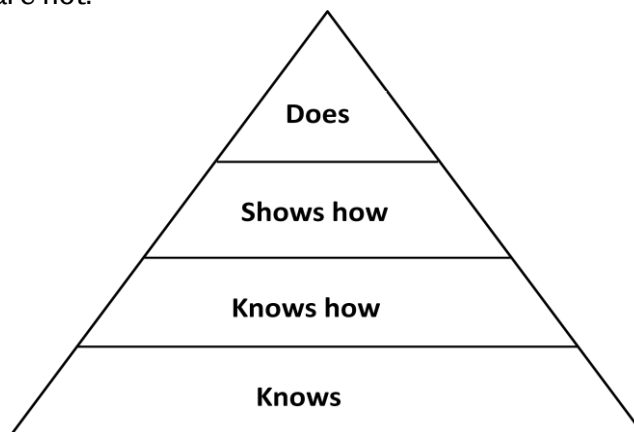


Figure 2 Miller's pyramid

Thus by mapping the model of the construct of professionalism in dentistry to that suggested by Miller, an assessment strategy has been produced that covers both the breadth and depth of the domains within the construct and produces the aims of an assessment system suitable for use within an undergraduate curriculum (Appendix 1). This strategy recognises that whilst most aspects of professionalism are assessed in the upper half of the pyramid, i.e. “Shows how” and “Does” levels, some elements e.g. knowledge and understanding of regulations are assessed at the “Knows” and “Knows how” levels.

Finally these aims have been used to produce objectives suitable for each phase of the undergraduate curriculum and incorporated into the current curriculum of the School of Clinical Dentistry, University of Sheffield (see page 5, for those relating to years 4 and 5).

Principles of Assessment of Professionalism

A good assessment programme can help students focus their learning, identify individual strengths and weaknesses, provide an opportunity for improvement, highlight deficiencies in the content or delivery of the course, and in the case of health sciences education, protect the public against incompetent graduates (Van der Vleuten 1996).

Staff and students need to be aware that professionalism is manifest in everything they do and that the G.D.C. requires students to demonstrate professionalism at all times from the beginning of their training.

Professionalism is variable, context and individual-based and includes both normative and ideological aspects. Most studies on the assessment of professionalism recommend systematic assessment, the inclusion of many different assessors, longitudinal assessment over time and assessment in different settings. Therefore the

teaching, learning and assessment of professionalism should be delivered as a programme, based on clear aims and objectives and embedded within the curriculum as a whole.

Within this document educational aims and objectives are described along with descriptors of typical examples of acceptable and unacceptable behaviours (appendix 2). Certain behaviours can be, and often are, used as surrogate measures for professionalism. However this is subjective and open to interpretation, and thus professionalism should not be assessed on behaviour alone, particularly within a learning environment where student development is essential. Thus the aim of the programme is to ensure that students become aware of their behaviour and its effects on those around them and are then able to modify this where necessary to prevent future adverse consequences. In order to achieve this, students who do not initially demonstrate an acceptable level of professionalism will be counselled on areas of unacceptable professionalism and will subsequently be expected to demonstrate improvement to an acceptable level.

It is also proposed that a Professionalism Panel be set up. This should be chaired by the Director of Student Affairs and be dedicated to ensuring appropriate standards of assessment of professionalism are adhered to, both commending individuals who show outstanding professionalism and ensuring that the appropriate levels of coaching and remediation are offered to those who require this. To this end a reporting system for occasional lapses by students would also be put in place. An alternative option would be to ask Progress Committee to adopt this function.

Recommendations for the assessment of professionalism generally stress the following aspects (Arnold 2002, van Mook et al 2009, O'Sullivan et al 2012);

- Assessment should begin early as this helps identify the personal traits required to be professional
- Multiple assessment methods are needed
- Assessment should be carried out on multiple occasions
- Assessment should be carried out by multiple assessors
- Longitudinal assessment is required as the assessment of patterns of behaviour is crucial, furthermore students develop professionalism over time

To assist the development of professionalism over time, multiple, mainly formative, assessments occur within this strategy. However lack of engagement with this formative process may well demonstrate a lack of professionalism and this aspect only may therefore contribute to the summative process. Other assessments are specifically summative, and these are stated as such within the text. Finally some aspects may be either formatively or summatively assessed depending on context.

The ethos of this whole system is to enable students to develop professionalism in a supportive environment, providing targeted additional tuition where needed. However, as at the present time, serious breaches of GDC and University of Sheffield Regulations or CCHD Guidelines should be referred directly to Fitness to Practice Committee.

Aims and Objectives for Professionalism

The suggested Aim and Objectives for 4th and 5th year dental students are;

Aim: Demonstrate professionalism in both clinical and non-clinical environments by demonstrating the ability to reflect on all internal and external factors, achieving a balance between them which is situation appropriate, and which demonstrates acceptance of professional responsibility and accountability by being able to justify the actions to the patient, the profession, the society in which they work and themselves.

Objectives:

In addition to the objectives achieved in the previous years, at the end of this year students should:

10. Demonstrate an understanding of the role of self-awareness including student's own limitations when carrying out professional tasks
11. Demonstrate an awareness of the needs of patients, their carers where appropriate and other members of the dental team, including any limitations which arise when carrying out professional tasks
12. Demonstrate an understanding of the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks, including putting patients' interests first and acting to protect them
13. Demonstrate both trustworthiness and the ability to attain the trust of others, when carrying out professional tasks
14. Demonstrate an understanding of the need for honesty, integrity, responsibility and reliability when carrying out professional tasks
15. Demonstrate an understanding of the effect of context on the manner of carrying out professional tasks
16. Demonstrate an understanding of the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks
17. Demonstrate an understanding of the need to be able to account for and explain his/her actions and decisions with openness and transparency
18. Demonstrate an understanding of the role of reflection in relation to the student's own actions and performance and be able to apply this to their learning

Professionalism –Outreach

Each candidate will be required to show acceptable levels of professionalism and behaviour. Candidates will be assessed on their professionalism as part of a Clinical Appraisal procedure.

The clinical appraisal procedure will need to occur at the completion of an Outreach placement; however it may also be advisable to complete a baseline assessment early on and may be useful as a means of discussion if problems arise. Each student should complete a self-assessment form relating to their own clinical performance. This would have a similar format to the Foundation training Dental Evaluation of Performance (D-EP) Assessment Tool but be aimed at global assessments of performance rather than one instance of observation. There would be an additional summary of professionalism assessment (see marking schemes). Both the student and the supervising clinician would complete similar forms and the appraisal would consist of a discussion of professional performance based on these forms. This will result in a combined result which would be used to ensure that students receive appropriate feedback.

During the trialling of these forms assessment will be formative ONLY and the current system of assessment and referral to Dental School Progress Committee is to be maintained. Serious misconduct, as at the present time, will always need referral through the usual University regulations to Fitness to Practice.

Scoring the Development of Professionalism Assessment

The main aim of this assessment is to ensure that students can function well in all aspects of professionalism. To do this a student needs to be able to show some development of an understanding of the combined aspects of professionalism and demonstrate professional behaviours in everyday practice. Furthermore the student will progress onto Foundation training and thus needs to become familiar with the assessment methods and techniques used as they progress. To this end both the assessment scoring scheme and an appraisal system, similar to that used in Foundation Training, is incorporated into this assessment scheme.

To evaluate the student's performance during their rotation, please indicate on a six point scale what you consider to be their ability at this point in time.

Very Unsatisfactory **1** **2** **3** **4** **5** **6** **Very Satisfactory**

Note: It is expected that most of the judgements will fall in the middle of the range (3, 4) if satisfactory.

The point of this assessment is that the student is judged in relation to what you would expect from a student at that stage of their education i.e. you would judge 4th years by what you would expect of 4th years to attain and 5th years by what you would expect of final year students to attain.

Thus student whose professionalism falls below expectations would score 1-2, those who just meet expectations 3, those who definitely meet expectations 4 and those above expectations 5 or 6.

(See Appendix 2 - descriptors)

Development of Professionalism – Student self- assessment			
Student name:	Grade attained (see descriptors)	Comments and evidence	Not applicable/ Unable to assess
Member of staff:			
Did the student demonstrate adequate and appropriate;			
Commitment, including the appropriate degree of autonomy, confidence and motivation?			
Consideration of others, including a caring attitude and respect for those around them?			
Responsibility, including reliability, fairness?			
Trustworthiness, including honesty and integrity?			
Did the student demonstrate an understanding of			
Their own abilities?			
The needs of others around them including patients and the dental team?			
The need to instil trust?			
The ability to relate to context including the need for flexibility?			
Date completed		Name of Member of Staff	
		Student Signature	

Development of Professionalism - Staff assessment			
Student name:	Grade attained (see descriptors)	Comments and evidence	Not applicable/ Unable to assess
Member of staff:			
Did the student demonstrate adequate and appropriate;			
Commitment, including the appropriate degree of autonomy, confidence and motivation?			
Consideration of others, including a caring attitude and respect for those around them?			
Responsibility, including reliability, fairness?			
Trustworthiness, including honesty and integrity?			
Did the student demonstrate an understanding of			
Their own abilities?			
The needs of others around them including patients and the dental team?			
The need to instil trust?			
The ability to relate to context including the need for flexibility?			
Date completed		Name of Member of Staff	
		Staff Signature	

Development of Professionalism – Agreed Staff/student assessment			
Student name:	Grade attained (see descriptors)	Advice and comments	Not applicable/ Unable to assess
Member of staff:			
Did the student demonstrate adequate and appropriate;			
Commitment, including the appropriate degree of autonomy, confidence and motivation?			
Consideration of others, including a caring attitude and respect for those around them?			
Responsibility, including reliability, fairness?			
Trustworthiness, including honesty and integrity?			
Did the student demonstrate an understanding of			
Their own abilities?			
The needs of others around them including patients and the dental team?			
The need to instil trust?			
The ability to relate to context including the need for flexibility?			
Could the student account for/explain his/her actions/decisions?			
With openness and transparency?			
With due regard for rules, regulations and guidelines?			
Did this explanation demonstrate reflection and a reasonable awareness of, and balance between the choices available?			
Able to reflect on own actions/choices			
Reflection demonstrated awareness of choices			
Reflection demonstrated balance between choices			
Did the student manifest his/her reflection appropriately?			
With respect to clinical skills			
With respect to communication			
With respect to management and organisation skills			
Overall the student demonstrated Professionalism		Overall the student did not demonstrate Professionalism	
Date completed		Staff signature	
		Students signature	

Appendix 1 - Educational Aims and Outcomes;
Model of professionalism in dentistry combined with Miller's pyramid

Aspect	Knows	Knows how	Shows how	Does
Self awareness role of self, including own limitations when carrying out professional tasks	Understands Self awareness	Can apply Self awareness	Demonstrates Self awareness	Is self aware i.e. applies an understanding of self awareness without prompts
Awareness of others the needs of others, including any limitations when carrying out professional tasks	Understands awareness of others	Can apply awareness of others	Demonstrates awareness of others	Is aware of others
Trustworthiness the need to be both trustworthy and to attain the trust of others, when carrying out professional tasks	Understands trustworthiness	Can apply trustworthiness	Demonstrates trustworthiness	Is trustworthy
Relationship to context the effect of context on the manner of carrying out professional tasks	Understands relationship to context	Can apply relationship to context	Demonstrates an understanding of relationship to context	Automatically applies an understanding of relationship to context
Vocational the need for and limitations of autonomy, commitment and motivation, and confidence when carrying out professional tasks	Understands the vocational aspects of professionalism	Can apply the vocational aspects of professionalism	Demonstrates the vocational aspects of professionalism	Automatically applies the vocational aspects of professionalism
Altruism the need for consideration of and respect for others, and where appropriate the exclusion of self interest when carrying out professional tasks	Understands the altruistic aspects of professionalism	Can apply the altruistic aspects of professionalism	Demonstrates the altruistic aspects of professionalism	Automatically applies the altruistic aspects of professionalism
Responsibility the need for honesty, integrity, responsibility and reliability when carrying out professional tasks	Understands responsibility	Can apply the understanding of responsibility	Demonstrates responsibility	Is responsible
Accountability the knowledge of rules, regulations and guidelines pertaining to the practice of dentistry and understands the need to be able to account for and explain his/her actions and decisions with openness and transparency	Understands professional accountability	Can apply the understanding of professional accountability	Demonstrates professional accountability	Is accountable
Reflection to be able to reflect on own his/her own actions and choices, which demonstrates an awareness of the choices available within that context and be able to demonstrate that an appropriate balance has been made between the choices and the need to subsequently apply this to the professional tasks carried out.	Understands reflection as an aspect of professionalism	Can apply the understanding of reflection	Demonstrates reflection	Is reflective

Appendix 2 - Descriptors Professionalism 4th/5th BDS students

All facets will also be assessed during clinical appraisal which will take place in Outreach placements. These descriptors are recommendations and should be used in conjunction with the tutors' experience and with respect to the context.

Facet	Descriptor	Educational Medium	Objective
Self awareness	Asks for help appropriately = (4) Occasionally requires intervention to alleviate hesitance or overconfidence = just meet expectations (3) Persistently requires intervention to alleviate hesitance or overconfidence or requires intervention to protect patient = below expectations (1-2)	Clinical conduct	1
Awareness of others	Describes the needs of their patient appropriately = meets expectations (4) Breaches confidentiality, ignores needs of patient etc= below expectations (1-2) Works exceptionally well as a member of the team = above expectation (5-6) Demonstrates the ability to work in a group particularly in a timely manner = meets expectations (4) Occasional delay causing others inconvenience =just meets expectations (3) Persistent delay in participation or no evidence of active participation = below expectations (1-2) This is often demonstrated as consideration of others (see below) but the student may not be aware that their behaviour needs to be tailored to the needs of those around them. Feedback should be tailored accordingly.	Clinical conduct	2
Trustworthiness	Demonstrates conduct which is likely to instil trust = meets expectations (4) Breaches of trust or patient confidentiality, dishonest including about errors = below expectations (1-2)	Clinical conduct	4
Ability to relate to context	Attends clinical sessions suitably attired = meets expectations (4) Attends clinical sessions inappropriately attired on one occasion = just meet expectations (3) Attends clinical sessions inappropriately attired on >1 occasion = below expectations (1-2) Always demonstrates flexibility in clinical situations appropriately = above expectations (5-6) Demonstrates flexibility in clinical situations when required = meets expectations (4) Needs disproportionate amount of tutor support to cope with changes in clinical circumstances = just meet expectations (3) Totally inflexible, is confused by changes in circumstances = below expectations (1-2)	Dress code Clinical conduct	6
Commitment and confidence	Punctual, or <2x Authorised absence = meets expectations (4) >2x authorised absences or <2xlate =just meets expectations (3) Unauthorised absence=below expectations (1-2) Demonstrates awareness of professional boundaries = meets expectations (4) Occasional minor breach of professional boundaries = just meets expectations (3) Persistently oversteps professional boundaries = below expectations (1-2)	Attendance Attitude to learning	7
Consideration	Always demonstrates respect and consideration at an above average level = above expectation (5-6) Demonstrates respect and acts without discrimination = meets expectations (4) Single demonstration of disrespect or discrimination = just meets expectations (3) Multiple instances of disrespect or discrimination = below expectations (1-2)	Interaction with patients, academic, clinical, hospital and support staff and peers	3
Responsibility	Is always well prepared for clinics = above expectation (5-6) Is prepared for clinics = meets expectations (4) Is occasionally underprepared for clinic = just meets expectations (3)	Preparation for clinics	5

	Persistently underprepared for clinic = below expectations (1-2)		
Accountability	Abides by rules and regulations = meets expectations (4) Minor infringement on no more than 2 occasions = just meets expectations (3) Major infringement or frequent minor infringements = below expectations (1-2)	Clinical conduct	From yr 1. 8
Reflection	Always demonstrates analysis and critical thinking, evidence of learning, and evidence of planning for future at above average level = above expectations (5-6) Demonstrates analysis and critical thinking, evidence of learning, and evidence of planning for future = meets expectations (4) Complete but little evidence of analysis, evidence of learning or future planning = just meets expectations (3) Incomplete, entirely descriptive, no evidence of analysis or learning = below expectations (1-2)	General conduct	9

Appendix 2



Consent Documentation

Participant Consent Form

Title of Project: Professionalism in Dentistry

Name of Researcher: S.Zijlstra-Shaw

Participant Identification Number for this project:

Please initial box

- | | |
|---|---|
| 1. I confirm that I have read and understand the information sheet dated November 2009 for the above project and have had the opportunity to ask questions. | <input style="width: 50px; height: 30px;" type="checkbox"/> |
| 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. Should I wish to withdraw I will contact the researcher on 0114 271 7931 or e-mail, s.zijlstra-shaw@sheffield.ac.uk | <input style="width: 50px; height: 30px;" type="checkbox"/> |
| 3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses. | <input style="width: 50px; height: 30px;" type="checkbox"/> |
| 4. I agree to take part in the above research project and to the recording of the interview. | <input style="width: 50px; height: 30px;" type="checkbox"/> |

Name of Participant (or legal representative)	Date	Signature

Name of person taking consent (if different from lead researcher) <i>To be signed and dated in presence of the participant</i>	Date	Signature

Lead Researcher <i>To be signed and dated in presence of the participant</i>	Date	Signature

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the information sheet and any other written information provided to the participants. A copy for the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Information Sheet

Professionalism in Dentistry

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this

What is the project's purpose?

The aim of this research project is to identify concepts of professionalism in dentistry and the domains within this construct in order to be able to use this information in the future to develop a system to assess professionalism within dentistry.

Why have I been chosen?

Participants in this study are selected from dental professionals and patient groups who are interest in professionalism by their leading role and participation in the current system of General Dental Council or N.H.S. regulation or in the education of dental students.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time. You do not have to give a reason.

If you would like to take part but are unable to sign a consent form your consent can be given verbally and this will then be recorded and the recording kept separate from the data recorded during the interview to ensure the interview data remained anonymous.

What will happen to me if I take part?

If you agree to participate the researcher will contact you to arrange an interview.

Interviews will be carried out at a time and place most convenient to you, the participant, and they will last approximately one hour. Brief notes may be made during the interview and digital recording of all the interviews will be carried out.

Once the data are collected, transcribed and analysed a report of the identified domains and their relationship to professionalism in dentistry will be written. This will then be sent to all the participants for further comment, should they wish to add to the report.

The interview will be semi-structured following an interview guide and the data collected will be transcribed and then analysed by looking for ideas relevant to professionalism in dentistry.

Will I be recorded, and how will the recorded media be used?

The audio recordings made during this research will be used only for analysis and for illustration in conference presentations and lectures. No other use will

be made of them without your written permission, and no one outside the project will be allowed access to the original recordings.

All digital media will be stored on a password protected computer and backed up on a separate password protected computer. The password will only be known by the researcher. Participants will not be identifiable from either the recordings or the transcriptions of the interviews and all data will be fully anonymised before publication in any medium. The original recordings will be destroyed three years after completion of the project.

What do I have to do?

You will not be expected to do any work in preparation for the interview – we are not testing what you know. The researcher will ask for your views during the interview all we want to know is what you think about professionalism as it relates to dentistry.

What are the possible disadvantages and risks of taking part?

Other than the time taken to be involved, there are no obvious disadvantages or risks of taking part.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will produce a model of professionalism in dentistry which may eventually improve assessment of this area.

What happens if the research study stops earlier than expected?

If this occurs participants will be informed of the reason for the study stopping.

What if something goes wrong?

If you are unhappy about something that happens during the interview or focus group and you wish to make a complaint, in the first instance you should contact the researcher or the research supervisor (contact details below). If you feel that your complaint is not handled to your satisfaction then you should contact the University's Registrar and Secretary (contact details below).

Similarly, if something happens later as a result of participating in the research that you are not happy about, you should also make a complaint using the same process.

Will my taking part in this project be kept confidential?

Yes. All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications.

What will happen to the results of the research project?

The results of the study will be part of a report which it is hoped will be published in a dental research journal. As stated already, you will not be identified in the report. Once published, the researcher will be happy to provide copies of the report for you.

The data collected during the course of this project might be used for subsequent research into a method of assessing professionalism in dentistry.

Who is organising and funding the research?

The research is being organised by the researcher on behalf of the School of Clinical Dentistry, University of Sheffield and is funded by the University.

Who has ethically reviewed the project?

This project has been ethically approved by the School of Health and Related Research, which operates the University's ethics review procedure. The purpose of the ethics review process is to ensure that the rights, safety and interests of research participants are protected.

Contact for further information

If you would like any other information about this research project then you should contact either the researcher (Sandra Zijlstra-Shaw) or the project supervisor (Professor Peter G Robinson) at the addresses provided below.

Thank you very much for taking time to read this. Thank you also and if you agree to take part. You will be provided the opportunity to sign a consent form if you wish to be a participant. You will also be given a copy of this information sheet and the consent form for your records.

Researcher:

Mrs. Sandra Zijlstra-Shaw
University Clinical teacher
Academic Unit of Restorative Dentistry
School of Clinical Dentistry
Claremont Crescent
Sheffield
S10 2TA

Telephone: 0114 271 7932

Fax: 0114 226 5484

Email: s.zijlstra-shaw@sheffield.ac.uk

Project Supervisor:

Prof. Peter G Robinson
Professor of Dental Public Health
Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield
S10 2TA

Telephone: 0114 271 7885

Fax: 0114 271 7843

Email: peter.g.robinson@sheffield.ac.uk

Registrar and Secretary

The University of Sheffield
Firth Court
Western Bank
Sheffield
S10 2TN

Telephone: 0114 222 2000



The
University
Of
Sheffield.

Appendix 2

Cheryl Oliver
Ethics Committee Administrator

Regent Court
30 Regent Street
Sheffield S1 4DA
Telephone: +44 (0) 114 2220871
Fax: +44 (0) 114 272 4095 (non confidential)
Email: c.a.oliver@sheffield.ac.uk

Our ref: /CAO

10 December 09

Sandra Zijlstra-Shaw
Dental School

Dear Sandra

Professionalism in Dentistry

Thank you for submitting the above research project for approval by the SchARR Research Ethics Committee. On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that the project was approved.

If during the course of the project you need to deviate significantly from the documents you submitted for review, please inform me since written approval will be required.

Yours sincerely

Cheryl Oliver
Ethics Committee Administrator

Information Sheet

Professionalism in Dentistry: development of an instrument to evaluate professionalism in dentistry

You are invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the project's purpose?

The aim of this research project is to development of an instrument to assess professionalism in dentistry

Why have I been chosen?

Participants in this study are selected from members of staff and dental students participating in the undergraduate curriculum at the School of Clinical Dentistry, University of Sheffield

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time. You do not have to give a reason. However, if you decide you would like to withdraw from the study please let the researcher know so that she can delete your name from their contact list. This will prevent you from being contacted about the research in the future.

What will happen to me if I take part?

If you agree to participate the researcher will contact you to arrange to take consent. You will then be asked to participate in a focus group discussion where you will be asked for your opinion on a system of assessment of professionalism, you may also be asked to take part in the assessment process at a later date. These assessment will not be used to determine student progress, however if you would like some feedback based on the assessments you may ask for this.

What do I have to do?

If you would like to take part, simply:

- Sign both copies of the '**consent form**' and return one of these to the researcher (or via email) within **two weeks**.
- You should keep the other signed copy of your consent form and this information sheet for your own records.
- The researcher will then contact you and arrange a mutually convenient time to meet with you to explain the project in more detail.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will produce a system of assessment of professionalism in dentistry which may eventually improve assessment of this area.

What are the possible disadvantages and risks of taking part?

Other than the time taken to be involved, there are no obvious disadvantages or risks of taking part.

What happens if the research study stops earlier than expected?

If this is occurs participants will be informed of the reason for the study stopping.

What if something goes wrong?

If you are unhappy about something that happens during the research and you wish to make a complaint, in the first instance you should contact the researcher or the research supervisor (contact details below). If you feel that your complaint is not handled to your satisfaction then you should contact the University's Registrar and Secretary (contact details below).

Similarly, if something happens later as a result of participating in the research that you are not happy about, you should also make a complaint using the same process.

Will my taking part in this project be kept confidential?

Yes. All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications.

Any digital media will be stored on a password protected computer and backed up on a separate password protected computer. The password will only be known by the researcher. Participants will not be identifiable

What will happen to the results of the research project?

The results of the study will be part of a report which it is hoped will be published in a dental research journal. As stated already, you will not be identified in the report.

Once published, the researcher will be happy to provide copies of the report for you.

The data collected during the course of this project might be used for subsequent research into methods of assessing professionalism in dentistry.

Who is organising and funding the research?

The research is being organised by the researcher on behalf of the School of Clinical Dentistry, University of Sheffield and is funded by the University.

Who has ethically reviewed the project?

This project has been ethically approved by the School of Clinical Dentistry, which operates the University's ethics review procedure. The purpose of the ethics review process is to ensure that the rights, safety and interests of research participants are protected.

Contact for further information

If you would like any other information about this research project then you should contact either the researcher (Sandra Zijlstra-Shaw) or the project supervisor (Professor Peter G Robinson) at the addresses provided below.

Thank you very much for taking time to read this.

Researcher:

Mrs. Sandra Zijlstra-Shaw
University Clinical teacher
Academic Unit of Restorative Dentistry
School of Clinical Dentistry
Claremont Crescent
Sheffield
S10 2TA

Telephone: 0114 271 7932

Fax: 0114 226 5484

Email: s.zijlstra-shaw@sheffield.ac.uk

Project Supervisor:

Prof. Peter G Robinson
Professor of Dental Public Health
Academic Unit of Dental Public Health
School of Clinical Dentistry
Claremont Crescent
Sheffield
S10 2TA

Telephone: 0114 271 7885

Fax: 0114 271 7843

Email: peter.g.robinson@sheffield.ac.uk

Registrar and Secretary The University of Sheffield Firth Court Western Bank Sheffield S10 2TN

Telephone: 0114 222 2000

Participant Consent Form

Title of Research Project: Professionalism in dentistry: development of an instrument to evaluate professionalism in dentistry

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated October 2012 explaining the above research project and I have had the opportunity to ask questions about the project.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.
3. I understand that the research team will keep my responses strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that I will not be identified or identifiable in the report or reports that result from the research.
4. I agree for the data collected from me to be used in future research
5. I agree to take part in the above research project.

Name of Participant _____ Date _____ Signature _____

Name of person taking consent _____ Date _____ Signature _____

Lead Researcher _____ Date _____ Signature _____

Copies:

Please sign both copies of this consent form.

You will need to keep **one copy** of this consent form for your own records and **return one copy** to the researcher (details below)

Sandra Zijlstra-Shaw, Academic Unit of Restorative Dentistry, School of Clinical Dentistry, Claremont Crescent, Sheffield. S10 2TA. Tel: 0114 271 7932 Email: s.zijlstra-shaw@sheffield.ac.uk

ETHICS REVIEWER'S COMMENTS FORM

This form is for use when ethically reviewing a research ethics application form.

1. Name of Ethics Reviewer:	Paul Speight
------------------------------------	--------------

2. Research Project Title:	Evaluation of assessment of professionalism
3. Principal Investigator (or Supervisor):	Sandra Zijlstra Shaw
4. Academic Department / School:	School of Clinical Dentistry

5. I confirm that I do not have a conflict of interest with the project application
--

6. I confirm that, in my judgment, the application should:			
Be approved:	Be approved with <i>suggested</i> amendments in '7' below:	and/or	Be approved providing <i>requirements</i> specified in '8' below are met:
X			NOT be approved for the reason(s) given in '9' below:

7. Approved with the following suggested, optional amendments (i.e. it is left to the discretion of the applicant whether or not to accept the amendments and, if accepted, the ethics reviewers do not need to see the amendments):

8. Approved providing the following, compulsory requirements are met (i.e. the ethics reviewers need to see the required changes):

9. Not approved for the following reason(s):

10. Date of Ethics Review: 5 November 2012

ETHICS REVIEWER'S COMMENTS FORM

This form is for use when ethically reviewing a research ethics application form.

1. Name of Ethics Reviewer:	Keith Hunter
------------------------------------	--------------

2. Research Project Title:	Professionalism in dentistry: development of an instrument to evaluate professionalism in dentistry
3. Principal Investigator (or Supervisor):	Sandra Zijlstra-Shaw/ Professor Peter G. Robinson
4. Academic Department / School:	Academic Unit of Dental Public Health

5. I confirm that I do not have a conflict of interest with the project application
--

6. I confirm that, in my judgment, the application should:			
Be approved:	Be approved with <i>suggested</i> amendments in '7' below:	and/or	Be approved providing <i>requirements</i> specified in '8' below are met:
	X		<u>NOT</u> be approved for the reason(s) given in '9' below:

7. Approved with the following suggested, optional amendments (i.e. it is left to the discretion of the applicant whether or not to accept the amendments and, if accepted, the ethics reviewers do not need to see the amendments):
Outline of plans of process is un-professional behaviour is identified during the project.

8. Approved providing the following, compulsory requirements are met (i.e. the ethics reviewers need to see the required changes):

9. Not approved for the following reason(s):
10. Date of Ethics Review: 8 Nov 2012

Appendix 3



Interview Guides

Interview Guide 1

Qualitative study to identify domains within professionalism in dentistry

Research aims to explore

- Definitions of professionalism in dentistry
- Experience of professionalism in dentistry
- Image of a professional within dentistry
- Ways to encourage professionalism in dentistry

1. Introduction

1.1 Introduction and information sheet

The researcher introduces herself and states the aim of the project which is to identify domains associated with professionalism in dentistry. She then ensures that the participant has a copy of the information sheet and understands the scope of the research.

1.2 Consent

The researcher then ensures that the ethics protocol is followed and that consent has been given and the consent form signed.

The researcher then reminds the participant that they can withdraw at any time and confirms the permission to record the interview.

2. Background

2.1 Participant identification

The participant is identified using a pre-arranged code and the date and time of recording is noted.

2.2 Participants position with respect to dentistry

- Interest in dentistry
- Length of involvement with dentistry
- Employment status and details where relevant

3. Definition of professionalism in dentistry

- How would they define professionalism in dentistry
- How would they explain professionalism in dentistry to someone else
- What would they see as the key features of professionalism in dentistry

Explore in a neutral manner factors involved in professionalism related to dentistry which have previously been encountered in the literature .e.g. altruism, autonomy, accountability, trust, integrity, compassion etc.

4. Experience of professionalism in dentistry

- How would they explain what constitutes good practice within dentistry
- What examples of good practice can they think of in relation to dentistry
- How do they think this demonstrates professionalism

Thinking of the most recent experience connected with dentistry, can they outline any examples of professionalism they came across

Ask about alternative viewpoints e.g. dentists about other staff or patients, patients about dentists etc.

5. Image of a professional within dentistry

- What sort of person would they like to see as a dentist,
- What sort of personal attributes would they associate with a good dentist
- Do dentists have to behave professionally only when at work or should this extend beyond working hours

6. Ways to encourage professionalism in dentistry

- How do they think professionalism amongst dentists can be encouraged
- What aspects would they like to see improve
- What aspects, if any, would they like to see discouraged

7. Further material

- Are there any different or further aspects which should have been noted?
- Are there any different or further dimensions which should have been noted?

8. Closure

The researcher thanks the participant for their time and help and explains that they may have a copy of the report on the construct when it becomes available. She then ascertains if the participant would like a copy of this report and confirms the details of where this can be sent.

Interview Guides 2

Development and evaluation of an assessment system for dental professionalism within an undergraduate curriculum

Focus group questions –Staff Stakeholders

1. Do they think that assessment of professionalism is important and what reasons do they have for thinking this?
2. Do they agree with the ethos of the document and what reasons do they have for thinking this.
3. Do they think the Aims and Objectives are appropriate for each year, if not how would they change them? What do they think of the mapping process, (see appendix 8 page 35)?
4. Are the descriptors appropriate?
5. Are the measures to support and reward students appropriate? Would they like to see anything else in place?
6. What do they think of the type and amount of assessment recommended? Is it adequate/appropriate? Will it take up too much or too little time? Will it reward and support students appropriately? Does it cover student education appropriately or is there anything missing? Do they think that it will help underperforming students?

LOOKING AT INDIVIDUAL MARKING SCHEMES

1. Are clinical marking schemes appropriate? How would they change them? Is the scoring system adequate, or should it be changed? If so should it become numerical like FT or do we need to change the wording? (p15,16)
2. What do they think of the assessment forms? Is the scoring system adequate, or should it be changed? If so should it become numerical like FT or do we need to change the wording? Do they think it will be easy to fill out the form? How much time do they think it will take? (p17)
3. What do they think of the appraisal system? Do they think Outreach is a good place to start or not? and what reasons do they have for thinking this.
4. Do they think that mentoring and portfolio system would be useful for students needing extra support? Or should it be extended to all?

LOOKING AT PROPOSED ADMINISTRATION

1. Do they think the system as laid out in the document is realistic?
2. Do they think the proposed Professionalism Committee is a good idea or not (p.4, appendix 3 page 24 and appendix 6 page 32) and what reasons do they have for thinking this?
3. Do they think it is reasonable and practical, from a staffing point of view to appoint mentors?

In summary

1. Have we discussed everything they would change?
2. Is there anything they would add?
3. Is there anything they would remove?

Focus group questions -students

7. Do the students think that assessment of professionalism is important and what reasons do they have for thinking this?
8. Do they agree with the ethos of the document and what reasons do they have for thinking this.
9. Do they think the Aims and Objectives are appropriate for each year, if not how would they change them? What do they think of the mapping process, (see appendix 8)?
10. Are the descriptors appropriate?
11. Are the measures to support and reward students appropriate? Would they like to see anything else in place?
12. What do they think of the type and amount of assessment recommended? Is it adequate/appropriate? Will it take up too much or too little time? Will it reward and support students appropriately? Does it cover their education appropriately or is there anything missing? Do they think that it will help underperforming students?

LOOKING AT INDIVIDUAL MARKING SCHEMES

5. Are clinical marking schemes appropriate? How would they change them? Is the scoring system adequate, or should it be changed? If so should it become numerical like FT or do we need to change the wording? (p15,16)
6. What do they think of the self assessment forms? Is the scoring system adequate, or should it be changed? If so should it become numerical like FT or do we need to change the wording? Do they think it will be easy to fill out the form? How much time do they think it will take? (p17)
7. What do they think of the appraisal system? Do they think Outreach is a good place to start or not? and what reasons do they have for thinking this.
8. Do they think that mentoring and portfolio system would be useful for students needing extra support?

In summary

1. Have we discussed everything they would change?
2. Is there anything they would add?
3. Is there anything they would remove?

Appendix 4



Articles published in relation to thesis

Appendix 4.

Publications and Presentations of this work

Much of the work described in this thesis has already been published in the peer-reviewed literature. Other parts have already been presented at scientific conferences.

Portions of the study have been published as:

- Zijlstra-Shaw S, Roberts TE and Robinson PG. (2012) Assessing Professionalism within Dental Education; the need for a definition *European Journal of Dental Education* 16(1):e128-36
- Zijlstra-Shaw S, Roberts TE and Robinson PG. (2013) Perceptions of Professionalism in Dentistry - a Qualitative Study *British Dental Journal* 215 E18 1-6

Portions been presented at:

- Zijlstra-Shaw S, Roberts TE and Robinson PG. (2011) Assessment of professionalism in dental education: British Society for Oral and Dental Research Annual Meeting, held in Sheffield
- Zijlstra-Shaw S, Roberts TE and Robinson PG. (2012) Dental Professionalism - a conceptual model: Association for Dental Education in Europe Annual Meeting, held in Lyon
- S. Zijlstra-Shaw (2013) Association for the Study of Medical Education Professionalism and Professional Identity Conference, held in Birmingham
- Zijlstra-Shaw S, Roberts TE and Robinson PG. (2014) Using a Theoretical Model to develop an Assessment System for Professionalism: Association for Dental Education in Europe Annual Meeting, held in Riga
- Zijlstra-Shaw S., Roberts T.E. and Robinson P.G. (2014) Validation of an assessment system for professionalism amongst dental students: International Association for Dental Research, Pan European Region Congress, held in Dubrovnik