How medical students demonstrate their professionalism when reflecting on experience

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OBJECTIVES This paper aims to examine the discourses used by students in a formal assessment of their ability to demonstrate professional values when reflecting on their experiences.

METHODS We carried out a discourse analysis of 50 randomly selected essays from a summative assessment undertaken by all five year groups of students in one UK medical school.

RESULTS Students were able to identify a wealth of relevant examples and to articulate key principles of professional practice. They were also able to critique behaviours and draw appropriate conclusions for their own intended professional development. Detailed textual analysis provided linguistic clues to the depth of apparent reflection: recurrent use of rhetorical language with minimal use of first-person reflections, lack of analysis of underlying factors, and simplistic views of solutions may all indicate students whose ability to learn by reflection on experience needs further development. There were also areas in which cohorts as a whole appeared to have a limited grasp of the important professional issues being addressed.

CONCLUSIONS Assessing written reflections is a useful way of making students link their experiences with professional development. The detailed analysis of language usage may help to refine marking criteria, and to detect students and course components where reflective learning competencies are not being achieved.

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INTRODUCTION

In order to achieve effective applied learning that delivers agreed outcomes, reformers of medical education have encouraged a change from didactic instructional methods followed by 'on-the-job' apprenticeship placements, towards integrated interactive methods and structured placements.[1] Another driver of change has been the need to ensure that medical students develop appropriate professional values and attitudes to underpin their services to the public.[2] This is deemed particularly important in the light of various scandals[3] and in the knowledge of how many doctors succumb to the high demands of a stressful profession.[4] Developing skills of self-awareness through the ability to externalise and resolve personal and interpersonal dilemmas,[5] coupled with a strong sense of the moral codes with which doctors must comply,[2] should give graduates the essential tools to deal with inevitable professional challenges and stressors.

Medical education research and professional policy documents[6] have highlighted a number of key issues: the key attributes of professionalism;[7] the importance of the learning environment on the development of professionalism in students;[8] the potential for recommended values to be undermined by the 'hidden curriculum' of daily practice,[9] and a debate on how to learn and assess professionalism.[10] This is a highly complex field in which the persona[11] of the student is at the centre of the debate because it is through the student's own experiences that he or she begins to understand what it means to act as a professional. Medical educators in the UK are given clear guidance by their regulatory body as to the ways in which the professionalism and fitness to practise of students will be judged,[12] but each school has to decide what methods it will use to moderate students' attitudes towards a 'socialised subjectivity'[13] that can serve appropriate professional judgements and behaviours.

Much of the recent pedagogical debate has focused on the need to integrate codes of practice with effective learning;[14] one common method of doing so concerns the use of reflection on experience to underpin professional development.[15] Various models of portfolio-based learning[16] – encouraging learners to retain material related to assessments, clinical work and their own reactions to workplace experiences – have been recommended for professional development. The assumption is that these personal experiences and memories may provide useful sources for reflective learning, especially if students are required to learn reflective skills by structuring their thoughts into a written product or utilising these in an individual or group discussion. By this kind of approach, it is hoped that students will develop the ability to bring personal experience 'under critical control by developing greater awareness of how it is used, and re-examining taken for granted assumptions'.[9] However, there are few examples in the literature of detailed evaluation of how students utilise such opportunities, nor of how these insights into professional dilemmas can be assessed.

Educational context of the study

The educational approach adopted at the new medical school[17] at the University of East Anglia (UEA) in Norwich, UK includes a summative assessment based on students' reflections on experiences that relate to various key professional challenges. This occurs for each year of the course and the themes are matched to core professional topics as set out by the General Medical Council (GMC). Core details of the assessment are shown in Table 1. Formal teaching on professionalism occurs through lectures and seminars, and there are interactive debates in ethics and law seminars, as well as within problem-based learning (PBL) small groups (which occur in tandem with clinical contact throughout the course). Students are encouraged to review any experiences on which they want guidance with their personal tutors, with whom they can also discuss their essays and written feedback from markers.

This model has gone through several modifications over the first 7 years of the UEA MB/BS programme, but has stood the test of time and was approved as part of the course accreditation by the GMC. Pass rates are generally high (over 90% at first sit) and anecdotally many tutors are impressed by the students' ability to empathise and analyse. However, there is also debate among both students and staff as to how 'deep' the learning is, and whether the value of reflective thinking might be outweighed by students developing a formulaic approach to the assessed report.[18] In addition, there are areas of any medical curriculum in which students may be particularly prone to societal pressures[19] and in which reflective reports may reveal unexpected tensions around professional practice or demonstrate unmet learning needs (C Phillips, University of Canberra, personal communication 2008). We therefore decided to undertake a detailed analysis of the content of a sample of portfolio reports in order to

Table 1 University of East Anglia MB/BS portfolio report

Descriptor	Details
Year of course	1–5
Timing and status	Summative assessment, submitted after Easter vacation
Topics	Year 1 – Learning from experience
	Year 2 – Working in groups
	Year 3 – The doctor–patient relationship
	Year 4 – Impacts of sociodemographic and cultural diversity
	Year 5 – Becoming a doctor
Format	Year – specific questions altered annually, released after Christmas; 1500–2000 words; maximum five references
	The need to give examples from experience and to derive learning points specified in detailed instructions
	Submitted electronically
	Pass/fail/distinction grades
Guidance	Supported by Intranet notes, examples and frequently asked questions (FAQs) sheet
(see also Table 2)	Students can seek advice and obtain feedback from personal tutors
Marking criteria*	Uses examples relevant to this year's report topic
	Uses the portfolio to demonstrate how he or she is setting, progressing and achieving goals appropriate to his or her current and future professional practice
	Relates his or her learning to values and attitudes that are appropriate to good medical practice
	Shows ability to reflect on self and others honestly and thoroughly
	Conveys his or her reflections in a well-structured and well-argued presentation, using appropriate references

* These are on the mark sheets used by staff and seen by students. Training materials have a more detailed format with operational descriptors for markers, as well as examples of pass/fail/distinction

analyse their appropriate use for professional development and to clarify indicators of deep (rather than superficial[20]) reflective learning.

METHODS

This study explores how medical students re-construct their experiences to demonstrate their ability to understand what it means to be professional. We assumed[21] that students who were asked to submit a formal assessment referenced to a professional code of conduct would use language actively to construct a position which they thought would be acceptable to the examiner, and therefore chose discourse analysis as the most appropriate methodological approach for this research question because we wished to explicitly focus on how students use words to negotiate an acceptable social position.[22] Our approach to the texts was primarily focused on this social construction rather than on linguistic or structural devices.[23] Similarly, we assumed that students would only tell a story which they thought would be acceptable within the culture and expectations of medicine and thus their discourses would be attempts to interpret what it means to be 'professional', and the 'self' they revealed would be the 'self' which they perceived as acceptable in future doctors. From this we cannot draw any conclusions about students' personal beliefs and attitudes, but can analyse how they apply relevant propositional knowledge and concepts to their own professional development[24] and the extent to which they use some of the abstract discourses of medicine as reference points. Finally, we assumed that the way in which the students chose and justified their insights and conclusions was highly relevant to their ability to work with their experiences for reflective learning, and that the discourses they used would reveal their perceptions of professionalism and its demands.[25] We also assumed that the events witnessed were true for the student: there was no attempt made by the markers to verify or triangulate accounts.[26]

Ethical guidance on the use of assessment data for this purpose was sought from the UEA Faculty of

*Table 2 Summary of guidance given to students to complete this assignment**

Consider
What are the issues for *you* relating to this year's theme?
Looking back over your experiences to date (in MB/BS or outside), are there any particular issues and experiences that relate to your reflection on this topic?
Are there any past goals or learning needs that you have picked up this year in relation to the area under discussion?
Choose three examples of situations you have been in in which you could learn something about this theme
Describe the setting (e.g. clinical, PBL group) while maintaining anonymity
Describe briefly and factually what actually happened
Reflect on why you think it happened (factors influencing people's behaviour, other people's perspectives…)
Summarise your conclusions as to what you would want to be different if this happened again, and why you think this matters
Summarise the links between the examples and any other relevant experiences
Show what this taught you about [*portfolio topic for specific year*]
Relate this to yourself – your own strengths or weaknesses, how you are developing yourself as a doctor
Conclude by showing how you propose to build on this in year(s) ahead
General advice
General Medical Council: the GMC has published guidance for medical students Although you should be referring to other literature that sheds light on your particular dilemmas, as well as that produced by the GMC, we do expect that students will use GMC publications as a key source. However – we DON'T give marks for a general reference that does not apply to what you have written – so page or section numbers should be used to show which part of a document you have read and related to your own examples
You may want to debate what is expected of doctors and the tensions in the 'system'. This is fine! Most professional problems do not show either ourselves or others at our best. The usual rules of confidentiality and objectivity apply. The main thing is to understand how practice can be improved, or good practice maintained, and to take on board issues you would need to address to become a better doctor in the longer term
Choosing examples: consider specific experiences that you have had, that you noted or remember in the context of the theme – probably relating to patients, staff and peers. Say what happened, what your part or perspective was, *what* you learned from the experience, *how* you learned from it. The process of writing itself can help reflection
What I have learned: this section should take things up a level of analysis. What do your learning points from the different examples actually mean? Can you make more sense of them through other material (e.g. literature, lectures, feedback you have received or given, other experiences…)? It helps to arrive at a few core concepts or points so that you can set yourself some aims around these

* Generic cross-cohort components only, 2007/2008 instructions refer

Health Ethics Committee; it was suggested that scripts should be anonymised and on this basis agreement was given to proceed. All portfolio reports submitted at first sit by students for the academic year 2007/2008 were sent by a course administrator to the first author, labelled only by year of study and by a unique numeric identifier. No data were therefore available on student sociodemographics (age, sex or race) or the pass/fail status of scripts. The guidance given to students, which will influence what they submit, is shown in Table 2.

The total number of submitted reports from all 5 years of students was 678. A pragmatic sample of 50 was agreed to be likely to give a wide range of student examples: 10 from each year represented a minimum for analysing specific topic-based issues, and 50 across all years were required to show discourses common to most students. Sampling was random: every 10th script from the computerised list of files for each year was chosen. The primary analysis was undertaken by the first author using NVivo software (QSR International Pty Ltd, Doncaster, Vic, Australia) with no prior coding frame; this involved several cycles of comparison, until a draft framework was finalised. The other authors were given the outline coding frames to use on selected scripts in order to verify the accuracy and coverage of the coding and derivative classification: more than 80% of their independent coding

headings overlapped, and no codes and categories caused disagreement or needed major changes. A final analysis was then conducted by the first author and re-confirmed by the other authors.

RESULTS

A full coding frame is shown in Table 3. The data fall into five broad categories:

1. 'facts': the examples given; the settings in which they occurred; whether they relate to patient contact or other interpersonal interactions, and the immediate consequences;
2. understanding: students' attempts to analyse trigger factors, choices and possible outcomes, including for themselves; their own and others' expectations, and how they might resolve difficulties;
3. student perspectives: their self-perceptions, their own uncertainties, beliefs and concerns;
4. judgements: on what actions they should take and on how they needed to change and develop, and
5. ideals: rhetorical statements about what should occur; aspirations; resolutions, and goals for future practice.

Although we had not primarily set out to perform a linguistic analysis, certain linguistic devices were noted in the first phase of formal coding and this led to an exploration through coding that yielded some very relevant findings for assessment. Detailed examples are given for each heading.

Facts

Some of the content areas are consequences of the rubric of assessment. For example, citing professional principles and relevant literature are specified marking criteria (Table 1). The 10 documents addressing patient safety issues consisted of the Year 5 sample in which this was the topic focus; the assessment requirement to apply learning to future development probably explains the extensive codings on 'ideal' behaviours. The fact that the commonest source of issues chosen across all years is the clinical setting, most often involving patient contact, suggests that students perceive the most important contributors and challenges to their professional development to come from this context, although there is evidence that peer group and interpersonal conflicts are also a common focus for reflection and attempts at self-development.

Table 3 Coding frame and instances

Heading	Nodes	Documents coded under this heading
Facts	Issues and examples	47
	Settings	50
	Peer (PBL) learning group	20
	Clinical setting/patient contact	39
	Other (outside clinical)	5
Understanding	Emotional triggers	33
	Risk to patients	22
	Personal expectations	30
	Expectations of others	24
	Taking responsibility	26
Perspectives	Personal beliefs	5
	Personal context	24
	Self-perceptions	42
	Perceptions from others	18
	Student uncertainty/'conflicted'	50
Judgements	Action	36
	Change-development	40
Ideals	Aspirations	35
	Resolutions	44
	Future practice	39
Reference points	Refers to MBBS staff	23
	Refers to MBBS teaching	29
	Refers to NHS staff	34
	Tutor guidance (various backgrounds)	14
	Cites professional principle	46
	Other referenced literature	50
Topic areas (often as per year theme)	Teamwork (positive/ negative)	28
	Patient-centred practice	11
	Gender/race/power	40
	Patient safety	36
	Other	See other codes
Language	Reflective comment	30
	Rhetoric	50
	'Strong words'	48

PBL = problem-based learning; NHS = National Health Service

Understanding

Students appear to be willing to make judgements and to take actions and responsibility to resolve problems, although these codings were often linked with conditional language, in which students presented themselves as suitably cautious and avoiding overconfidence. Most show strong evidence of understanding the extent to which the writer's own expectations (and those of others) are very influential on outcomes of any interpersonal interaction:

'Her description was completely removed from what I had originally seen in front of me, reminding me that you have to see a patient as an individual before you can really connect.' (Year 4 student)

'I felt uncomfortable to share my weaknesses because I considered one of my strengths to be my ability to research a topic, so admitting I was having difficulties meant challenging this belief.' (Year 2 student)

Student perspectives

It is interesting that the majority of students openly expressed uncertainty, conflict and emotion even in this context of a summative assessment (all scripts had at least one coding of 'uncertain/conflicted' and there were 110 instances coded under these two codes alone). The emotional struggles (code 'emotional triggers') of many students give real insights into the demands and privileges of medical training:

'The apparent fragility is terrifying; what the illness has done to the person seems such a violation. We shuffle about finding chairs, trying not to knock the drip poles or the patients. It seems such a hideous intrusion, but he says he doesn't mind.' (Year 1 student)

'I completely lost it. I did not remember what I had asked or what to say next. It was incredibly embarrassing and demoralising.' (Year 2 student)

'I was already shocked by the comments, considering no-one had ever mentioned, nor hinted this. I felt I let myself down for not looking at the effects of my actions.' (Year 4 student)

'I felt honoured that she valued my opinions and we had provided some information and reassurance. This made me realise for the first time, how much patients trust what we say, and therefore how important it is to get it right.' (Year 5 student)

Relatively few students addressed how they sought support for such feelings, although this may reflect limitations on word length rather than contemporary isolation: some were explicit about seeking tutor help (code: ' tutor guidance') or peer support (code: 'expectations of others'):

'The patient had died following a stroke. I lost the ability to speak to anybody and felt emotionally unstable for a short period of time. My GP [general practice] tutor took me into a room and spoke to me after breaking the news. She offered me support and made me realise that it is a common occurrence in medicine...' (Year 1 student)

Judgements and ideals

Although most issues were associated with descriptions of negative emotions such as uncertainty, upset and anxiety, students appeared able to draw clear conclusions and to differentiate bad from good practice (although very few students described bad practice by staff in their examples). When examining whether they or others had acted professionally, they used an appropriate range of options, including consulting tutors and inviting feedback from others. Almost all their stated views were consonant with professional outcomes of the MB/BS course:

'I do not feel that it is ethically justifiable to offer one patient a treatment that would not normally be offered to another patient based solely on the basis that they are better informed…' (Year 3 student)

In terms of justifying their views, students frequently cited the changes they perceived in themselves, the lessons they had learned, and the difficulties they had overcome. Their language was often strongly rhetorical and idealistic: whereas their explicit judgements were often cautious, their values and expectations were frequently expressed in very strong terms (code: 'strongwords'; e.g. 'essential', 'must', 'should', 'ensure', 'always') and these exhortations often applied to themselves as much as others:

'I am working to help the patients I see to the best of my ability. I may not be able to treat them yet, but I aim to make our consultation as comfortable and helpful as it can be.' (Year 1 student)

Use of language

Some accounts used far more personalised language than others, describing perceptions in the first person, and making direct statements about the

students' own perceptions and levels of action or responsibility by which they might achieve personal change and reach their professional goals. By contrast, some students utilised very little personal language, making many generalised statements of 'duty' or third-person abstracted statements about what should be done by others. Another finding concerned the extent to which students could articulate why they had selected specific examples to demonstrate the topic area: for example, why a particular consultation was perceived by the student to reflect a power or race issue. These three emergent patterns – goal identification, personalised reflections versus depersonalised principles, and accurate conceptual application – were all re-examined by extensive review of coded scripts with more detailed analyses.

Goal identification

'Although I was aware that I may find certain aspects of medicine difficult, such as [the] involvement of my emotions during consultations with certain patients, I have seen how situations such as this can be managed and utilised positively. In future, should a similar situation arise, I would like to use my personal experiences to empathise with a patient, but ensuring that my personal emotions are not outwardly evident. As a result I hope to grasp an emotional understanding of what a patient has experienced, while at the same time maintaining sufficient separation to rationally apply my medical knowledge to determine a diagnosis and treat the patient accordingly.' (Year 1 student, 26 nodes used)

'In conclusion, I would like to propose ways in which I can ensure both my own competence and my patients' safety during my medical career is always maintained… The emphasis on my communication skills training will, I know, equip me to deal with the many hurdles I will face in this area… One simple measure to lessen my potential mistakes will be to write legible patient notes and prescriptions. Additionally, effective teamwork is vital to ensuring patient safety. This means being able to coordinate and lead a team when called upon, as well as working as a member of a team, with different roles and responsibilities. Finally, it is vital that doctors seek help when they feel out of their depth, both in terms of patient care, and professional competencies related to colleagues that give them cause for concern.' (Year 5 student, 24 nodes used)

These two scripts show contrasting types of idealistic statement. The first directly references an example and makes a very specific goal of better external management of internal emotions with a relevant reason, which is not easy to achieve, but which represents a clear 'aspiration'. The second is couched in terms of what a doctor should do, but has no clear links with how the student will achieve this (even for the task of writing legibly). The latter type of statement is generalised and lacks a clear personal goal which this student might undertake to work towards in the next stage of professional development.

These two quotes do, however, both use the 'I' word, although the second moves to 'doctors' in the last sentence. Another student concluded as follows:

'I have shown that I am aware of my own limitations. This will promote safety as I am prepared to call for senior assistance whenever I feel that the limit of my capability has been reached and the matter has not been resolved…

'I will try to be aware of situations when I am busy or stressed and take extra care in, for example, prescribing during these times...

'It is my responsibility to ensure that whilst I am working, I am medically and physically fit to do so. It is also my responsibility to diplomatically and kindly address concerns of this nature with colleagues if they display behaviour which I am concerned about.' (Year 5 student, cf. the following)

'One should act as a positive role model and try to motivate and inspire fellow colleagues' (General Medical Council 2006 [*Good Medical Practice*]). To improve team performance, group members should respect the skill and contributions of other colleagues. It is essential for one's colleagues to understand your roles and responsibilities in a group. Regular reviews and audits of the standards and performances of the team, taking any steps to remedy any deficiencies (GMC 2006), are essential. My PBL group demonstrated that supporting a colleague through poor performances improves team performance.' (Year 2 student)

Although the entire report must be examined in order to judge whether the use of the third versus the first person is merely an issue of style, it is unclear whether this latter student is sufficiently clear about or engaged with his or her topic to move forward. How do such students propose to act on this themselves? What options do they have to do so? How will they know if they succeed?

The Year 4 topic areas also seemed to lack clarity for some students, although these topics had been addressed in social science learning since Year 1. Some students attempted definitions:

'…many factors can affect this interaction, including sex, race and power. Each of these can affect situations in very different ways; however all revolve around the issue of prejudice. Prejudice can be defined … as ''the holding of a negative attitude or affect against members of a group that you do not fit into''…' (Year 4 student, 26 nodes used)

Others wrestled with their own possible assumptions:

'…I walked away from that situation thinking the doctor was prejudiced to the patient because of her ethnicity. Later on reflecting upon it I can see how someone can misunderstand this and I realise that in a busy clinic one might say things without being able to clarify things. Maybe this was unintentional discrimination and the doctor was not aware of it. That is why we need to be aware of diversity issues in health care and how we handle them. I should have asked the doctor more about this patient – perhaps that was poor communication on my part. I realise the advantage of the training we get on the knowledge, attitudes and behaviours required…' (Year 4 student, 29 nodes used)

However, some students generalised in a way that suggested they only had a superficial understanding of the complex personal and social issues involved:

'Ethnic groups may suffer inequality in [gaining] effective access to health care. Language barriers are a major obstacle to care. This can be improved by using a professional interpreter. However, effective communication is more than overcoming language barriers, need to acquire locally relevant cultural knowledge/understanding and show respect, ''cultural sensitivity''.' (Year 4 student, 21 nodes used)

Although the overall coding suggests that the portfolio report does succeed in making students re-examine their experiences and link these to active striving towards suitable professional principles, these sub-analyses suggest that a few students are not yet able to articulate their own dilemmas and learning needs in complex real-world interactions and challenges. They also reveal some students who do not appear to have working definitions of issues such as racism or safety, and may therefore not have a framework within which to interpret problems arising in their practice. The use of over-generalisation and a lack of concrete or personalised language appear to be consistent linguistic precursors to weak learning plans and resolutions.

DISCUSSION

Methodologically, the study meets the broad criteria of 'quality in qualitative research': it gives enough detail to be credible and authentic, to be confirmable by others, and to be applied in other settings to test the generalisability of the findings.[27] There are, however, some limits to this study: it tells us nothing about what the students actually do in practice or whether their declared values influence their behaviours, and whether they utilise their learning intentions in subsequent development. These limitations are common to other studies utilising written essays as proxies for experience.[28] We also have anecdotal evidence from our routine annual student evaluations of this component that some students are uncomfortable with the task of exposing their own thoughts and reactions, and that they perceive problems with being honest about their own fears and failings in situations in which they are trying to be judged positively as nascent professionals. This is also a dilemma for qualified staff with supervisors or senior colleagues and thus, in this sense, this educational exercise can be constructed as a rehearsal for 'real life'. However, other methods would be needed to understand the direct student experience of the hidden curriculum and the day-to-day conflicts and tensions students experience.

The purpose of the study was not to examine the educational impact of writing the report, but to understand better what students would choose to reflect on when given a choice of experiences to demonstrate different aspects of professionalism. In this sense it is reassuring to note that students appear highly motivated to reflect by seeing patients' experiences of care, that they cite many examples of good practice and few of overtly bad practice, that they are confident in questioning both themselves and the actions of others, and that they do not make isolated assumptions, but use peers, staff and teaching to examine their ideas and judgements. In the process, they demonstrate familiarity with the principles set out by the accrediting body (the GMC) and its application to their own practice and future careers, and they aspire to excellent professional practice.

Apart from patient contact, the other most frequent setting for student professional dilemmas was the peer group, particularly in terms of the students'

year-long membership of a PBL study group. Interestingly, a recent review of PBL as a learning method[29] makes no reference to the value of PBL as providing a 'pseudo-team', nor to the learning which students can derive from the hard challenges of working in a peer group. The codings on expectations of peers and feedback from peers in this study suggest that students routinely turn the lens of professionalism onto this setting, and learn from both good and bad experiences therein.

As courses expose students to peer-based work and to patient contact at earlier stages, the emotional engagement of students and its personal costs may be greater than that of a traditional pre-clinical science course. The types of reaction shown in these texts (open, caring, but sometimes distressed) suggest that, within the context of professional development, students may need more learning and tutorial support to help them absorb the impacts of their experiences and to learn from them, rather than being damaged or traumatised. The issues of how students absorb and learn from their experiences, and what type of support assists constructive learning, also warrant further consideration.

Recognising effective reflection, whether in verbal or written modalities, is not simple, but marking criteria such as 'Shows ability to reflect on self and others honestly and thoroughly' (Table 1) require robust operational definitions. This study has led to modifications in our marker training and information packs, highlighting the need to note and consider:

1 patterns of language in which students generalise rather than use the active first-person voice;
2 accounts in which specific and achievable personal goals are not specified, and
3 accounts in which the common and appropriate voicing of uncertainty or emotion does not appear in the text.

From a curricular point of view, further conceptual and theoretical learning may be useful for some of the senior years so that students are clearer about the professional dilemmas which lie behind the GMC's emphasis on (for example) racism, diversity or safe practice, and to ensure that they have sufficiently firm cognitive frameworks from which they can more clearly critique the scenarios they see in practice. There is also room for research into whether students who are weak in reflective skills have problems later in practice, and to what extent this does or does not predict or correlate with other professionalism issues.

CONCLUSIONS

Students in this study show a real will towards professional practice and engagement in some very challenging and emotional situations. The detailed analysis of texts across the year groups represents an entirely different approach to that involved in routine marking. It gives insight into students' learning opportunities, how they handle these, where some of the 'hot issues' are, how well they understand the professional principles and how they apply these, and overall suggests that, in this learning environment, students are achieving well and retaining emotional responsiveness, and are also capable of a high level of professional insight at a relatively early stage. Although specific ways of expressing oneself in writing may not fully reflect the students' overall ability to learn from experience, the linguistic patterns detected provide some more reliable guidance to markers and a clearer threshold at which to identify students who are not fully engaged with learning from reflection on experience. Further research is needed to consider how the learning from such experiences can be supported by curricular and interpersonal inputs, as well as by assessments.

Contributors: AH was MB/BS course director for the University of East Anglia (UEA) MB/BS during 2005–2008 and was involved in the development and delivery of this component of the curriculum and assessment. AH developed the idea for this article, served as first coder of data and was responsible for drafting the main text. AB was senior advisor for the UEA MB/BS during 2001–2008, was a marker and teacher for the portfolios and served as second coder on this study. SL was dean of the Medical School and MB/BS course director during 2002–2005 and was involved in both capacities in the development and delivery of the portfolio component. All authors read drafts and approved the final version of the article.
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