Article

Discourse of final-year medical students during clinical case presentations

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Abstract

Introduction: The need for medical students to adopt a discourse appropriate to the field is repeatedly emphasised by teaching staff during lectures and ward rounds. The acquisition of such discourse is often not assessed, resulting in inconsistency between the levels used among students of similar academic backgrounds.

Objective: The aim of this study was to determine the extent to which appropriate discourse was adopted by 9 medical students early in their final year during clinical case presentations, and to compare this usage with the students' final results.

Methods: Transcriptions of recorded case presentations by 9 students were assessed by 2 experts and a peer evaluator, using a rubric which drew on prior research in medical discourse, and included the prominent themes of terminology and thematic staging. These were then compared with their academic results.

Results: Our findings show that most students are able to use the appropriate terminology when they reach their final year of study. However, our data also support the hypothesis that students with similar academic backgrounds may display considerable variation in their level of discourse. Although it appears as if the students were all beginning to shift towards a more mature form of medical discourse, the degree to which this occurs is sporadic. The apparent absence of a relationship between discursive competencies and academic achievement may suggest that the ability of assessment to encourage the adoption of disciplinary discourse is perhaps not being optimally applied, although further research is required.

Introduction

During lectures and ward rounds, teaching staff at medical schools repeatedly emphasise to their students the importance of 'speaking like a professional' and thus adopting the discourse appropriate to the medical fraternity. Events such as clinical case presentations give students the opportunity to demonstrate the degree to which this skill has been developed, and doctors often have high expectations for appropriate discourse use on these occasions. It is our contention, however, that this expectation is not supported when students are assessed. Assessment is widely regarded as the activity associated with teaching and learning that has the greatest influence on how students approach their studies.[1-3] In this article, we report on a preliminary study conducted to determine the extent to which appropriate discourse is adopted by 9 medical students early in their final year during clinical case presentations, and compare this usage with the students' final results. These findings may serve to inform future research and practice in this regard.

The need for the medical practitioner to communicate effectively and appropriately, not only with patients, but importantly with fellow doctors and other health care professionals, is well documented. Often this research has focused on the relationship between the health care professional and the patient.[4,5] At least one study has demonstrated that poor communication is linked to poor clinical (although not necessarily academic) performance,[6] communication being an important skill for ensuring good patient handover and management. Internationally, institutions have addressed the need for such skills through the implementation of extensive communication skills courses.[7,8] However, we wish to focus on the more encompassing concept of discourse, rather than purely communication.

Our understanding of discourse concurs with the work of Gee[9] who suggests that discourse refers to '… a socially accepted association among ways of using language, of thinking, feeling, believing, valuing, and of acting that can be used to identify oneself as a member of a socially meaningful group or ''social network'' or to signal (that one is playing) a socially meaningful role'. In the context of this study the 'social network' comprises medical doctors. Often there is an implicit expectation that students at university, including students studying towards a professional qualification such as medicine, will through their years of study adopt the 'way of doing' that defines the chosen discipline.[10,11] To our knowledge, however, no formal research has been conducted to investigate the discourse used by medical students during clinical case presentations and how or whether the level of discourse used may link to performance. Our study aims to begin the journey into this uncharted void.

Methods

Two members of the research team collected data by observing and recording individual case presentations of 9 final-year students during ward rounds over a period of two weeks, i.e. 9 transcriptions in total. The recordings were done during the general surgery rotation, where students

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Table I. Discourse assessment rubric

	5	4	3	2	1
Does the student display the appropriate use of medical terminology?	All of the time	Most of the time	Half of the time	Less than half of the time	Never
Does the student address the most pertinent issues at the optimum time?	All of the time	Most of the time	Half of the time	Less than half of the time	Never
Given the context of the patient and illness, comment on the length of the history	The history is excessively long for the given case	The history is somewhat lengthy for the given case	The history is of appropriate length for the given case	The history is a little too short for the given case	The history is much too short for the given case
How would you rate the structure of this presentation?	Very good, logical and easy to follow	Good	Average, at times illogical and confusing	Below average	Poor, illogical and difficult to follow
To what extent is the history bolstered by irrelevant medical facts?	>4 instances	3 instances	2 instances	1 instance	Never

are expected to present a case that they have seen in the wards to a consultant – on a weekly basis. This rotation was chosen, as it was one of the few rotations where presentations were made on a regular basis to the same consultant. Although no specific format was defined for how the cases needed to be presented, the students were aware that the presentation was to be done as if the consultant had no prior knowledge of the patient; hence a degree of detail was required. Convenience sampling was adopted, as the selection of the students was dependent on who was presenting a case on our research days. To support the electronic recordings, we scribed the basic details of each case presentation recording including time, date, place, and a list of those present, including their student numbers – this also to ensure the validity of the data. The recordings were then transcribed. This entire process of data collection was undertaken subsequent to obtaining the necessary ethical clearance as well as written permission from the relevant consultant and the students in advance.

The transcriptions were then assessed by 3 evaluators. The first evaluator (the expert) was a consultant surgeon with experience in teaching and assessment of final-year students as well as extensive medical knowledge in the field to which the presentations related. Drawing on the work of Bazerman, Jacobs[12] describes the university lecturer as 'the expert' – the one who sits at the centre of a particular discipline's 'discursive system', having invested 'a huge amount of energy, training and social activity within it'. Our selection of an expert was framed by this understanding. The second evaluator (a second expert) was an anatomical pathologist and co-author with experience in medical education research, student assessment and curriculum development. In order to maximise perspectives, a volunteering student in the same year group as the subjects was chosen as the third evaluator, thus providing a voice for both the insider and the outsider.[12] The evaluators received only basic instruction on how to complete the rubric, so as to not prejudice their opinions regarding what would be considered 'appropriate' in each context, and thereby ensured the authenticity of each evaluator's own voice.

The evaluation was conducted according to a rubric that was developed specifically for the study by compiling a set of indicators drawn from previous studies of a similar nature. The first indicator was the appropriate use of medical terminology, one of the primary components of medical discourse.[4,13] Thematic staging was chosen as the second indicator, based on its use in assessing doctor-patient interaction during OSCEs.[4] However, we applied the term in a slightly different manner – in our study it served as an indicator for whether or not the student addressed the most pertinent issues at the appropriate time during their case presentation, which is both a marker of good discourse and clinical reasoning.

The third indicator was length of the presentation, which was found to be one of the most important indicators of success in OSCEs in a large study conducted in Australia.[14] Here again, our usage of this indicator was somewhat different, and we sought to determine not the exact length of the presentation, but rather whether or not it was considered to be of appropriate length for the given case. The fourth indicator evaluated the structure of the presentation in accordance with prior research that highlights the degree to which formalised structures are commonplace in case presentations.[15] In our rubric, the focus was on whether the format was logical and easy to follow, rather than whether or not a specific formula was followed.

The last indicator sought to elicit a phenomenon referred to in prior research,[14] whereby students include spurious detail in their case presentations in an effort to prove competence, an important marker of immature discourse that often differentiates the discourse of medical students from that of doctors. An example would be referencing journal articles, facts from textbooks and other resources that are not relevant to the specific case in question. This latter indicator drew us back to the literature on discourse mentioned earlier that refers to students, especially junior students, who in trying to imitate the expert seek to include all the academically appropriate-sounding words in their own texts.[16] The entire rubric is included in Table I.

The decision to include only these indicators was not specifically grounded in established theory, owing to a lack of research in this area. Each individual indicator has been used in previous studies, and the decision to combine them in this manner was based on choosing variables that we felt would most appropriately assess discourse as defined in this study.

The results obtained from the assessment of the discourse levels according to the rubric were then interpreted by comparing the findings of the various evaluators and highlighting specific examples. They were then compared with the academic achievement of the participants at the end of their fifth-year final examinations (i.e. their previous year). These examinations included both previous clinical clerkships (50%) as well as core theory modules in ethics, health management and community health care (50%), therefore providing a recent and representative sample of a student's academic achievement. A potential ethical dilemma in our study was that the principal investigators were also peers of those being studied. To address this concern, the handling of sensitive information (e.g. academic records) was conducted by the sub-investigators – both of whom are members of staff at the university – who allocated reference numbers to the different participants that could not be traced back to the individual students.

Results

Terminology

Most of the students in the sample displayed appropriate use of medical terminology. In the opinion of the expert evaluators, 7 of the 9 students used the appropriate medical terminology 'most of the time'. Examples of this usage are evident in all of the transcripts, with students using appropriate medical terms, such as 'comorbidities', 'oedema', 'odynophagia'. The peer evaluator felt that 5 of the 9 students used the appropriate terminology most of the time, and all of these instances overlapped with those who had scored highly according to the other evaluators.

Thematic staging

The results of the second element of the rubric, which assessed thematic staging, were less positive, and also showed less agreement between the 3 evaluators. The peer evaluator felt that 7 of the 9 students used the correct thematic staging at least half of the time, as did the surgeon, although this did not always apply to the same students. The educational expert considered 8 of the 9 students to have used thematic staging appropriately or better, agreeing with the surgeon in most instances.

Presentation length

With regard to the length of the presentations, the student and surgeon considered the presentations to be generally too short. The peer was most critical in this regard, expressing the opinion that 5 of the 9 presentations were 'much too short for the given case'. The surgeon was slightly less critical, and in the case of one student felt that the presentation was of appropriate length. The educational expert was far less critical, and considered 5 of the 9 cases to be of an appropriate length or longer.

Structure and spurious detail

The fourth element of the rubric assessed structure. The surgeon gave relatively positive evaluations, regarding 7 of the 9 cases as possessing average structure or better. The opinion of the educational expert was concordant, and the peer evaluator was generally stricter. The phenomenon we attempted to find with element five, i.e. the use of irrelevant detail for the purposes of proving competence, was largely absent in our sample, with only one instance reported by the educational expert and none by either of the other evaluators.

Academic performance and discourse

Despite the random nature of the sampling, as described above, the marks of the students were surprisingly homogenous, with a 2% variation in aggregate for theory modules for 7 of the students. The other 2 students had significantly higher marks, especially in the theory modules, for which their aggregates were 8% higher than the mean for the rest of the group.

Of great interest in our findings is the apparent diversity of discourse use between students of similar academic backgrounds. A pertinent example was the case of students A and B, the top-performing students (who obtained aggregates in their previous years' final examinations of 68.6% and 71.2%, respectively) in the sample, who scored the lowest and highest scores on the rubric, respectively (Figs 1 and 2). The following extracts are particularly illustrative:

Student A: *'... she presented with severe abdominal in um, um, left upper quadrant abdominal pain with difficulty swallowing and nausea and um vomiting. Um the, um GP um subsequently decided to do a I think a CT scan of the abdomen .... She at that point did not have any, ah jaundice ... no other abnormalities, nothing. Clinical examination was ....'*
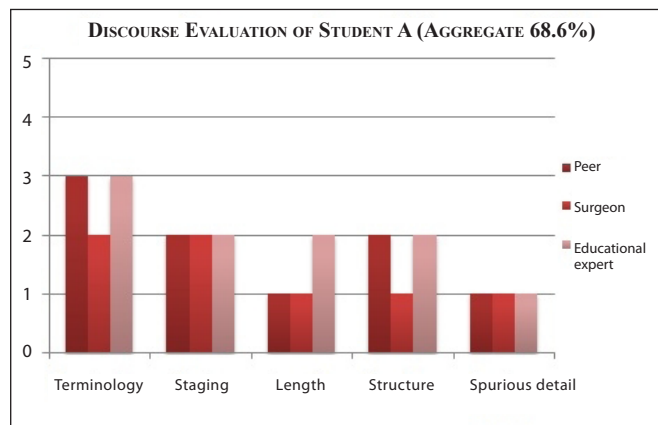

Fig. 1. Student A.

Student B: *'... gives a history of progressive, um dysphagia, first with fluids, now with um solids. Also vomiting and hoarseness and later, um, odynophagia. Um, the patient has no other comorbidities. According to him he's non-smoking and not drinking. Um, on examination he's um, extremely wasted .... His last um, Hb was, um tested after he received a transfusion.'*
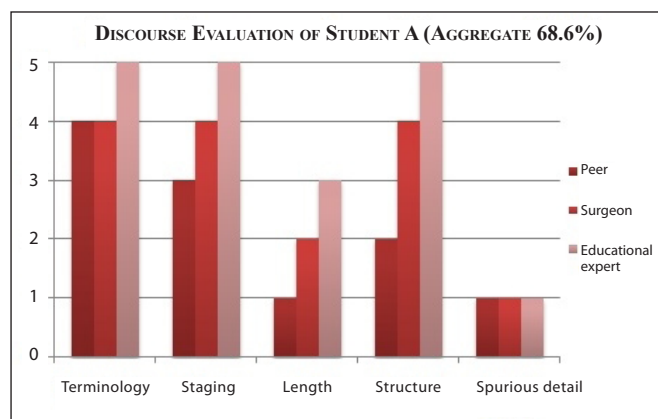

Fig. 2. Student B.

Both students presented patients with similar histories. However, student A referred to the patients as having 'difficulty swallowing', whereas student B used the term 'dysphagia' and later 'odynophagia'. Student A also referred to the patient having no other 'abnormalities', whereas student B used the term 'comorbidities'. The differences in thematic staging are also clear -- student A mentioned special investigations in the middle of the presentation, followed by rather random detail regarding the examination. Student B, by contrast, mentioned the lab results only after completing the report on the history and physical examination. In terms of structure,13 the presentation of student B was neatly segregated into detail obtained from history, physical examination and special investigations, whereas student A mentioned information largely at random.

Discussion

From this preliminary study it would appear that this group of students was able to obtain above-average academic results irrespective of whether or not they displayed appropriate levels of medical discourse during clinical assessments. Of further interest is that even students who achieve relatively weaker scores are able to acquire and use the appropriate medical terminology in their final year of study. Skills in thematic staging are

less developed, and represent a source of concern as this competency is regarded as important to a good communicative style.[4] That the presentations were regarded as too short by the evaluators was an unexpected finding, as it might be surmised that final-year students ought to be aware of how important providing a detailed history is for ensuring success in clinical evaluations14 and, potentially, clinical practice. The educational expert was far less critical in this regard, and a possible explanation is that this assessor had comparatively less exposure to the exact context of the presentation, and was therefore less likely to know what would be considered an appropriate length for a case presentation in this situation.

Our expectation was that the structure of the presentation would be generally good, as any student, even at the start of their final year, is likely to have had significant practice and tutoring in this regard. The 2 experts agreed with this expectation. However, the peer evaluators' more negative views suggest that the perceptions regarding the appropriate structure of presentations vary to some extent between students and qualified doctors. A possible reason is that medical students are generally expected to communicate in a more formal manner,[15] especially during assessment or when presenting to consultants, whereas qualified professionals are more accustomed to a conversational discourse. Lingard *et al*.[13] highlights one of the purposes of the student case presentations as being to 'prove competence', compared with presentations by doctors for the purpose of ensuring optimum patient care. This difference will certainly influence the expectations regarding appropriate structure, and one may go so far as to say that as the students received positive evaluation from the doctors, but rather weaker evaluations from their peers, suggests that they are beginning to transition into a more mature form of medical discourse. Further evidence for the above hypothesis is the general absence of spurious detail in the case presentations. Anecdotal evidence suggests that this is a highly prevalent phenomenon, and is also highlighted by Lingard *et al*.[13] as a technique for 'proving competence'. Perhaps its absence is due to it no longer being required by students who have progressed further along the path of discourse development and are becoming 'socially accepted' in the sense referred to by Gee.[9]

It appears as if the students in our study were beginning to develop a more mature form of medical discourse. However, the degree to which this occurs appears to be sporadic, both between different students and between different components of discourse within the same student. Furthermore, the absence of a relationship between these competencies and academic achievement suggests that the ability of assessment to encourage learning and the adoption of disciplinary discourse is perhaps not being optimally applied.

It is interesting that the variation in quality of discourse is much greater than the variation in academic achievement and that the 2 students with the strongest academic background had the highest and lowest scores on the rubric. However, it is important to acknowledge that a limitation of our study was that we only obtained one discourse sample per student, and any findings are therefore preliminary. Another limitation of our study was that we were not able to follow up these students until the completion of their final year, at which point their varying discourse skills may have become more relevant given the increased emphasis on clinical assessment.

Conclusion

In closing we acknowledge that strong conclusions cannot be drawn based on this preliminary exploration. The primary value of this research is the manner in which it opens several avenues for further study, both with regard to issues of the assessment of case presentation and the role of developing an appropriate disciplinary discourse, specifically among senior medical students. The rubric that was used in this study provided a unique way to assess this complex concept of discourse, and may be of great value in larger studies. Furthermore, we have shown that discourse is a useful construct for assessing communication between doctors, and possesses certain unique properties which provide advantages over traditional communication skills assessment. Using these tools on larger samples may help to further establish our findings as well as explore the implications for a student's eventual success as a medical practitioner and the subsequent effect on patient care. This study presents a preliminary exploration into these important phenomena.

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