Interdisciplinary collaboration for clinical skills acquisition in the transition to ward-based learning

Andrea Paul and Kara Gilbert

Abstract

Internationalization of higher education affects strategies accommodating different learning styles and the provision of communication and learning support to students. This paper describes clinical communication skills training initiatives developed by linguists in collaboration with clinicians for undergraduate medical students on their first clinical placement. This approach deconstructs the language, underlying behavioural factors, argumentation and interactional features of professional tasks, serving several pedagogical purposes: learning needs analysis; deconstruction of tutor modelling; and concrete strategies to improve learner performance. Communication frameworks and their application are described with two illustrative cases. Three years of evaluation data determined impacts on students and tutors. Students report increased confidence in communication, capacity to practise clinical skills independently and supported integration of medical knowledge into clinical practice. Co-delivery enriched teaching methodology for tutors. Collaboration between linguists and clinicians provides a useful model for clinical and communication skills teaching in a wide range of undergraduate and graduate clinical and health discipline training contexts.

Keywords: clinical skills; communication skills; medical education; student support; transition; internationalization of the curriculum

Contact author
Andrea Paul: Faculty of Medicine, Nursing and Health Sciences, Building 64, Monash University, Wellington Road, Clayton 3168, Australia
email: Andrea.Paul@monash.edu
1 Introduction

Internationalization of higher education curricula, with concurrent discussions on graduate attributes and academic outcomes for overseas students, is driving the implementation of strategies for accommodating different learning styles and the provision of communication and learning support to students, especially at transition stages of their learning cycles (Harman 2004; Leask 2005). The increasing numbers of non-English speaking background (NESB) students in Australian undergraduate medical programmes has led universities to develop language and academic skills support for medical students with a strong emphasis on remediating linguistic and cultural disparities through processes of communication skills training. Communication skills development requires attention not only to linguistic and cultural competencies but also to generic, disciplinary and interpersonal skills important in attitude and professional behaviours of clinical workplace contexts.

2 Communication and clinical culture

The clinical learning culture is complex, differing markedly from university campus-based contexts. Clinical learning often occurs in time-pressured settings and clinical trainers juggle multiple competing priorities, moving between the roles of care provider, teacher, mentor, supervisor and evaluator (Penciner 2002). Consequently, it is challenging for clinical teachers to create high quality learning environments and students typically encounter haphazard and variable learning experiences in the clinical environment (Van der Hem-Stokroos et al. 2003; Daelmans et al. 2004; Dolmans et al. 2008). In orienting to the ‘cultural system’ of the medical workplace, students must not only acquire specific clinical skills and knowledge but also develop concomitant attitudes and behaviours for clinical practice and professionalism. Importantly, students must learn to navigate a relatively unstructured learning environment and to recognize and take advantage of serendipitous learning opportunities through effective interactions with peers, clinical tutors and staff, a range of health professional educators, and patients, including their families.

Communication is now an integral component of health professional curricula, recognized as essential for effective clinical learning and practice, and a key factor in student success or failure (Pilotto et al. 2007). Communication is defined, for the purpose of this discussion, as the combination of culturally mediated behaviours and language (verbal and non-verbal) which participants use to co-construct an interaction. The Australian Medical Council and the Confederation of Postgraduate Medical Education Councils (CPMEC) endorse professional communication competencies in the areas of patient interaction,
managing information and working in teams, specifying the need to ‘convey information clearly, considerately and sensitively to patients, their families, doctors, nurses and other health professionals’ (Confederation of Postgraduate Medical Education Councils 2006). However, the ways these competencies may be achieved are not always evident to novice and non-native English speaking (NNES) practitioners.

Clinical knowledge and practice, and key aspects of clinical assessment, are based in the oral culture of the clinic, which is realized in distinct clinical genres. These genres or ‘verbal realizations’ emerge from the multiplicity of scientific and lay ‘voices’ as the purposeful discourse activities of the clinic (Mishler 1984; Iedema et al. 2004). The staged, goal-oriented aspects of discourse are influenced by a discourse community’s common communicative purpose and social expectations of text. Hence, clinical genres constitute discourse types characterized with attendant strategies that can be described and taught in terms of their context, purpose, register, ‘moves’, organization, cohesion, and language features (Swales 1990). Examples of spoken medical genres which have been the focus of previous investigation include: history-taking or eliciting information about a problem; case presentation, or organizing patient information to impart a clinical argument or conclusion; and patient handover, or summarizing concisely the relevant case information (Heritage and Maynard 2006; Lingard 2007; McGregor et al. 2011). Integral to these genres is the need for interactional skills such as building collegial relationships, projecting professionalism, fostering negotiation, building rapport and trust, and expressing empathy. The process of acculturation from a communication perspective can be characterized as the development of a personal, culturally relevant ‘repertoire of genres’. Support for this acculturation can be facilitated by ‘bringing unconscious cultural knowledge to consciousness by describing how we use language to do things’ (Eggins 2004: 46).

Interactional and sociolinguistic approaches to communication skills teaching make explicit the ways interaction is co-constructed, the features of relevant spoken genres, and the impact of underlying cultural values on discourse (for example: Heritage and Maynard 2006; Thornbury and Slade 2006). These elements affect discourse at the ‘macro’ level, influencing text structure, and at the ‘micro’ level, influencing, for example, the type of vocabulary used. Cultural values affecting clinical workplace learning and practice (e.g. power differentials, positioning, face, politeness, task or relationship focus, ambiguity tolerance) are described in the literature on intercultural and workplace communication (for example: DeVito 2009). The additional perspectives provided by systemic functional linguistics (SFL) facilitate an understanding of the linguistic complexity inherent in communication, the basic premise of SFL being that language delivers three different kinds of meaning simultaneously.
It represents experience by expressing what is happening, enacts interpersonal meanings by expressing different ways of establishing relationships, and organizes spoken or written language into a coherent and meaningful discourse (Martin 1996; Halliday and Matthiessen 2004). Based in SFL, the ‘Appraisal System’ is a description of the linguistic resources used by speakers to express and negotiate opinions, evaluations, judgements and emotional content, and is of immense relevance to aspects of interaction (Eggins and Slade 1997).

These theoretical frameworks provide a ‘tool box’ for explicitly deconstructing the characteristics, language, underlying behavioural factors, and interactional features of professional tasks. They serve a number of pedagogical purposes: 1) diagnosis of ineffective communication i.e. needs analysis; 2) deconstruction of tutor and other clinical teaching models, including workplace experiences; and 3) provision of concrete strategies for change. This focus on discourse allows the learner to conceptualize communication in terms of its constituent elements and its outcomes, desired or otherwise. The aspects of linguistic and intercultural theory useful in scaffolding clinical communication are summarized in Figure 1 below.

Rather than being rigidly prescriptive, these constructs can provide building blocks for learning effective communication to support novices in acquiring

<table>
<thead>
<tr>
<th>Genre</th>
<th>Interactional sociolinguistics</th>
<th>Inter-cultural communication values</th>
<th>Systemic functional linguistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Register</td>
<td>• Participant roles</td>
<td>• High or low context communication patterns</td>
<td>• Links between social context and language use</td>
</tr>
<tr>
<td>• Context</td>
<td>• Involvement</td>
<td>• Task versus relationship focus</td>
<td>• Language and building interpersonal relationship</td>
</tr>
<tr>
<td>• Purpose</td>
<td>• Conversation management e.g. Turn-taking systems</td>
<td>• Ambiguity tolerance</td>
<td>• Language and strategies for cohesion &amp; organization</td>
</tr>
<tr>
<td>• Constituent ‘Moves’</td>
<td>• Interruption</td>
<td>• Power positioning (face, politeness, formality)</td>
<td>• Appraisal system – expression of judgment &amp; attitude</td>
</tr>
<tr>
<td>• Organization</td>
<td>• Topic initiation</td>
<td>• Group versus individual priority (harmony, conflict)</td>
<td></td>
</tr>
<tr>
<td>• Quantity of information</td>
<td>• Signposting</td>
<td>• Gender positioning</td>
<td></td>
</tr>
<tr>
<td>• Genre specific language features, e.g. terminology or preferred language structures</td>
<td>• Speech production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Non-verbal communication (voice, body)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1:** Conceptualizations and descriptors used to scaffold acquisition of clinical communication
discipline-appropriate interaction, aspects of which may be transferred across communication tasks. This approach is well established for the acquisition of written academic and research genres (Bhatia 1993; Swales and Feak 2000, 2004) and for building understanding of and ability in spoken discourse (Riggenbach 2006; Thornbury and Slade 2006; Eggins and Slade 1997; McCarthy 1998).

3 Transition and support

The commencement of clinical training is an important transition period for all medical students and one that is recognized as extremely stressful and anxiety provoking (Moss and McManus 1992; Sarikaya et al. 2006). Small, Soriano, Chietero, Quintana, Parkas and Koestler (2008) relate the key stressors of exposure to new learning environments, teaching styles, workload and performance expectations to a requisite process of professional socialization (cf. Prince et al. 2005) but additional stressors include the pressure of acquiring professional knowledge and skills. In a previous study, 80% of students cited interpersonal skills as an essential need (Radcliffe and Lester 2003). Additional impacts on clinical learning and performance for international students include cultural factors in workplace communication and behaviours, access to clinical learning opportunities and the role of communication in assessment.

In terms of professional socialization, both local and international students must acquire the conventions of professional (academically influenced) as well as institutional (workplace influenced) medical discourse in order to learn and perform effectively within both the educational and healthcare systems (cf. Hoekje 2007). Local and international students have overlapping needs for support in this socialization process and their acquisition of professional skills. It is not always clear to students how to emulate the positive clinical models they see. Professional modelling is often observed in ‘non-teaching’ contexts, and these models are not always explicitly ‘unpacked’. Novices may require overt deconstruction of the discipline-specific genre and its discourse components in order to learn how to carry out similar tasks. The findings of a recent study confirm the prevalence of additional factors inhibiting learning during clerkships; notably, students reported too few opportunities to (a) examine patients independently and (b) receive adequate supervision and feedback (cf. Dolmans et al. 2008).

For the international cohort, difficulties with transition can also be linked with identified barriers to performance in clinical contexts: mismatch in expectations around roles, the need to interact with a wide range of people from different cultural backgrounds, incomplete understandings of implicitly embedded cultural factors, and specific communication skills, including the ability to choose appropriate terminology, register and amount of information
for different audiences (Pilotto et al. 2007). Differences in orientation to the structures of professional and conversational interactions and a lack of understanding as to how these interact with clinical practices can impede the acquisition of clinical skills. Internal factors, such as lack of confidence, can also affect access to clinical learning experiences (Mathieson et al. 2009). These issues are brought to the fore and intensified in the transition to learning in clinical contexts.

Dolmans, Wolfhagen, Heineman and Scherpbier (2008) advocate helpful supervisory behaviours that support effective clinical learning experiences, including offering direct guidance on clinical work, integrating theory and practice, giving feedback that both enables and assures the student that he/she is capable of meeting high standards, and promoting role modelling. Particularly relevant is their citing of the crucial role of observation and constructive feedback in sustaining the effectiveness of clinical learning experiences for students.

A combination of content and language instruction has been cited as the most effective method for enhancing the learning of specialized communication and for promoting engagement in learning (Graham and Beardsley 1986). This approach requires language acquisition to occur as part of the normal process of learning some distinct body of knowledge or skill set (Graham and Beardsley 1986: 229). Communication skills teaching is therefore embedded in most mainstream medical curricula. Additional communication skills support may be embedded in a complementary curriculum endorsed by faculty and open, but not mandated, for all students. Such support mirrors the mainstream curriculum, developing in students the confidence and skills required to participate effectively in professional, academic and assessment tasks. Endorsement of the support programme by faculty is crucial, lending it strong face validity for 1) academic as well as professional task development and 2) student perception of relevance, increasing uptake of support. Delivery of the support programme benefits from involvement of experts in both areas (medical educators, applied linguist educators), at least initially.

4 Collaborative teaching

There is a growing literature on training for interdisciplinary teamwork, unpacking some aspects of interdisciplinary delivery of integrated teaching and learning across health professions. Hall and Weaver (2001) note two key topics evident in interdisciplinary health education literature: issues of pedagogical approaches and negotiation of content. Faculty from each discipline must have the motivation to grapple with unfamiliar teaching methods and to develop new knowledge, attitudes and skills. Both discipline-specific
and shared language must be acquired, and a common approach developed that navigates professional role demarcation and potential blurring of roles (Mariano 1999), and the interaction between each other’s content. These elements inform the methodological approach, the collaborative delivery, and the interaction between the two discipline experts responsible for the programme described below.

5 Student Academic Support Unit clinical programmes

The Student Academic Support Unit (SASU) in the Faculty of Medicine, Nursing and Health Sciences at Monash University is staffed by applied linguists with education backgrounds. The unit was first established to provide English language, learning and cultural support, including pastoral care, for international students. Subsequent recommendations to the faculty by SASU on remediation support for at-risk students called for: 1) an increase in liaison and collaboration with clinical staff; 2) access to programmes not to be limited to international students; and 3) programmes with broader measures for supporting student learning. Based on these recommendations, SASU developed six key initiatives for learning support, two of which will be presented in this paper.

Corroborating findings by Graham and Beardsley (1986), cited above, student feedback on early programmes called for co-delivery of support tutorials by both clinicians and linguists. Therefore two key components of the clinical SASU programmes involve collaborative team co-delivery by linguist-educators and clinicians, and formed the basis of the pilot programme.

This paper reports on the methodology and evaluations of those aspects of the programme concerned with (1) targeted at-risk student remediation

![Table](image)

**Figure 2:** Summary of Student Academic Support Unit (SASU) Clinical Support programmes
(referred to as Collaborative Clinical Bedside Tutorials or Collaborative CBTs), and (2) broader learning support provision (specifically, the Physical Examination Workshop Series). University ethics approval was obtained for student and tutor evaluation of the programme.

6 The Pilot Collaborative Tutorial programme

The pilot programme is summarized in Table 1, which outlines the goals, student selection, delivery and teaching and administration of each component. The goal of the Collaborative CBTs was to provide frameworks, communication strategies and cultural understandings, to enable independent learning. One desired result was improved academic and professional performances; however, an equally important concomitant outcome was to ensure students felt supported to achieve their full potential, regardless of cultural background, previous academic deficit, or disability.

6.1 At-risk student support: Collaborative Clinical Bedside Tutorial programme

6.1.1 Tutorial participants

Both international and local students deemed ‘at-risk’ were eligible to attend and were admitted by faculty (clinical supervisors) and SASU on interview at any time during the academic year. International and local cohorts each included both Native English Speaking (NES) and Non-native English Speaking (NNES) students; however, a larger proportion of international attendees were NNES, and most local learners were NES. Students were designated ‘at-risk’ by faculty based on previous academic performance, particularly in oral formative and summative clinical assessments such as the Oral Structured Clinical Examination (OSCE), communication skills tasks, and clinical tutor feedback on participation or communication deficits. Students accessing the ‘Collaborative Clinical Bedside Tutorial’ (CBT) on an ongoing basis were predominantly from the international cohort. Local students were referred to the sessions only if faculty staff identified communication or interaction as a component of academic or professional difficulty. A small number of local students requested participation based on a perceived need for additional feedback on clinical performance. Tutors assessed this need and participation was endorsed if evaluated as necessary. Self-referral was also a key pathway, as frequently learners performing well in on-campus settings encountered significant difficulty in the clinical environment. SASU admitted students to the programme based on self-report and observed communication concerns, participation and interaction difficulties, and issues impacting on capacity to access ward-based learning, such as confidence and independent study skills.
Table 1: The Pilot Programme

<table>
<thead>
<tr>
<th><strong>The University MBBS Pilot Clinical SASU</strong></th>
<th><strong>Goals</strong></th>
<th><strong>Student Selection</strong></th>
<th><strong>Delivery and Teaching</strong></th>
<th><strong>Administration</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pilot Component</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. ‘At-Risk’ Student Support:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative Clinical Bedside Tutorials</td>
<td>To address barriers to clinical learning by targeting:</td>
<td>Students identified as potentially at-risk academically, based on:</td>
<td>Weekly bedside tutorials</td>
<td>SASU administered</td>
</tr>
<tr>
<td></td>
<td>- Content deficits</td>
<td>- Academic results</td>
<td>- Co-delivered by a clinical supervisor and SASU linguist educator</td>
<td>- Referral collation</td>
</tr>
<tr>
<td></td>
<td>- Cultural, language and communication factors</td>
<td>- Formative and summative clinical assessments</td>
<td>- Duel interdisciplinary perspectives</td>
<td>- Needs analysis</td>
</tr>
<tr>
<td></td>
<td>- Interpersonal and professional interactions</td>
<td>- Performance of communication skills based tasks</td>
<td>- Detailed feedback – immediate and subsequent</td>
<td>- Scheduling – coordination of clinician tutor and student access</td>
</tr>
<tr>
<td></td>
<td>- Confidence building</td>
<td>- Clinical tutor feedback or referral</td>
<td>- Deconstruction of clinician models, and immediate supervised implementation of clinical skills, language and strategies</td>
<td>- Curriculum / content sequencing</td>
</tr>
<tr>
<td></td>
<td>- Providing additional clinical supervision</td>
<td>- SASU referral based on performance in adjunct workshops</td>
<td>- Negotiating interdisciplinary pedagogy</td>
<td>- Support materials development</td>
</tr>
<tr>
<td></td>
<td>- Playing a pastoral role with students in difficulty, including relevant onwards referral to relevant services</td>
<td>- Self-referral – subsequently assessed by SASU and clinician tutor</td>
<td>- Programme evaluation</td>
<td>- Record keeping</td>
</tr>
<tr>
<td></td>
<td>- Playing pastoral role with students in difficulty, including relevant onwards referral to relevant services</td>
<td></td>
<td>- Clinician tutor also selects patients</td>
<td></td>
</tr>
<tr>
<td>2. Adjunct Language and Learning Skills Workshops:</td>
<td>To provide integrated communication and clinical skills for:</td>
<td>- Self-referred students sign up to attend</td>
<td>- Delivered periodically throughout the year</td>
<td>SASU administered</td>
</tr>
<tr>
<td>Physical Examination Workshop Series</td>
<td>- Effective and efficient patient instruction</td>
<td></td>
<td>- Co-delivered by SASU and clinician tutor</td>
<td>- Scheduling and venue booking</td>
</tr>
<tr>
<td></td>
<td>- Reporting of examination findings</td>
<td></td>
<td>- Emphasis on the deconstruction of clinician modelling (language use in relation to examination technique)</td>
<td>- Coordination of clinician tutor and student access</td>
</tr>
</tbody>
</table>
Common communication difficulties include: ineffective questioning skills (not necessarily due to knowledge deficits); poor organization across communication tasks including questioning and presentation of information; incapacity to articulate reasoning appropriately for clinical purposes; ineffective instruction to patients, affecting capacity to elicit physical signs on examination; inability to gain consent from patients for interview or examination; mixing discourse registers; ineffective interactions, socially or professionally, with nurses, registrars, or senior clinicians, impacting on access to clinical learning opportunities; patient disengagement; and lack of skills to cope with ‘difficult encounters’ with patients having low language proficiency, deafness, concentration problems or emotional factors (for example, learning to express empathy in culturally appropriate ways).

Attendance was strongly recommended but not mandatory. Students attended with different degrees of regularity, some participating on a weekly basis all year, others attending only a few sessions in one semester. Students could exit at any time, and tutors excluded students when they gained the requisite understandings.

6.1.2 Tutorial methodology
The tutorials partially mirrored the faculty’s formats for the teaching of clinical skills in hospital settings. The teaching approach was pre-negotiated between the linguist and clinical tutor who delivered the collaborative teaching sessions, and understandings developed over time as to how communication could best be embedded alongside the medical content, particularly with the timing of teaching interventions (see examples 1 and 2 below).

Groups of 4-7 students attended a two-hour weekly bedside tutorial. Prior to meeting a patient, various medical and communication approaches were outlined and discussed. As in mainstream CBTs, key activities were: 1) patient interview and examination; 2) observation of tutor models; and 3) subsequent emulation of clinician modelling. During clinical training, models are constantly being provided to students, who may acquire skills via emulation. However, an aim of this programme was to accelerate if possible the time taken to acquire these skills. Patient interactional strategies and patient perspectives were also a key focus of the tutorials, with the patient experience solicited as part of the feedback process. Feedback provided at the bedside called for immediate implementation, with tutors monitoring and guiding student capacity to act on clinical information and communication advice. Post-bedside activities included extensive feedback and practice in the communication of clinical reasoning via case presentation with prompting by tutor questions. Post-bedside teaching focused on building ‘in-principle’ understandings, additional focused observed practice as required, and suggestions for further independent practice in order to develop students’ independent learning capacity.
The tutorials provided direct input on content and communication related to clinical tasks and explicitly addressed cultural and discourse factors essential for clinical learning that have the potential to impact on clinical performance. They ensured a safe environment for students to raise issues and address internal barriers to clinical performance, such as lack of confidence. A significant component of the curriculum was allocated to developing capacity for self-directed ward-based learning, as access to opportunistic learning could be affected by the ability of a student to negotiate relationships with teaching and other staff on wards. Social and professional interactions are potentially affected by speaker fluency and understanding of both the mainstream (Australian) cultural context and the clinical 'culture'. Learning within the clinical setting requires a level of assertiveness that may be alien to students, particularly those coming from cultures where greater deference to authority is practised.

6.1.3 Interdisciplinary collaboration
The Collaborative CBTs were co-delivered by a clinician tutor and a SASU applied linguist educator. The clinician tutor determined and delivered clinical content, including the development of clinical reasoning, problem solving, discussion of medical content and issues. Importantly, the clinical tutor modelled clinical skills and communication. The SASU lecturer focused learner attention on communication skills relevant to clinical tasks. For example, when history-taking, the SASU lecturer facilitated learners to focus on effective and efficient probing for specific information, to listen attentively to base questioning and identify information gaps, or frame questions in lay language. A number of methodology tasks also emerged, including: 1) exploitation of clinician modelling for communication content, providing the basis for a subsequent fine breakdown of the constituent skills, communication strategies and language; and 2) monitoring student capacity to observe, understand and implement skills. Figure 3 summarizes the clinician and linguist tutor roles.

The following examples have been constructed to illustrate the collaborative programme's pedagogy, emphasizing typical interactive collaborative delivery and the type of clinical and communication content addressed in these tutorials (the names of real people and actual events are not used).

Example One: Chest examination
Adil, a medical student, examines Mrs Maher's chest for signs of respiratory and cardiac problems. Adil's examination technique is affected by his failure to adequately 'expose' Mrs Maher, position his hands and stethoscope correctly, and effectively instruct Mrs Maher on how to breathe. As a result he does not appear confident and is unable to elicit the irregular heartbeat or locate consolidation in the lungs.
Dr Grainger, the clinician tutor, demonstrates helping Mrs Maher disrobe, maintaining modesty, and asks Adil to continue. Dr Mark Smith, the linguist educator, intervenes and asks Mrs Maher if she would allow Adil to practise the techniques for maintaining her modesty. It is apparent that Adil has not absorbed Dr Grainger’s technique with its requisite communication. Mark suggests Dr Grainger repeat the demonstration, asking Adil to focus on the doctor’s wording and actions. While clearly nervous, Adil is subsequently better able to do this task. Dr Grainger later demonstrates specifically where to place the stethoscope when examining lungs, while instructing the patient on how to breathe. When it is Adil’s turn to examine Mrs Maher’s lungs, he instructs without eye contact, using the words ‘I’m listening to your back and would you mind you say 99… and could you please say 99 again’, instructing Mrs Maher each time he places the stethoscope on her back. Mark intervenes to suggest Adil use the words, ‘Mrs Maher, every time you feel my stethoscope on your back, say 99’, stressing the words ‘every time’. Away from the bedside Mark discusses with the group the use of names in Australian culture, eye contact, focusing listeners on key information and being specific about what is needed. Adil admits he had never previously examined the chest of a female patient.

**Example Two: Case presentation**

Dr Whyte, the clinician tutor, asks Anita, a medical student, to present the findings of a respiratory examination. Anita has excellent recall of each part of the examination (concerning hands, vital signs, face, precordium, chest, lungs) and presents this in detail. Dr Whyte discusses with the group the types of medical problems the patient might have (hypotheses) and the signs that might indicate or exclude these (physical data evidence). The clinician asks students for a summary to su-
andrea paul and kara gilbert 101

Mark, the linguist educator, suggests a schema (set of moves) for how this summary might be organized, and some possible ‘signposts’. After students practise, Mark asks Dr Whyte to model this task. Different students are asked to focus on various aspects: the overall organization, the kind of information included in the opening sentence, the body and the summary, ‘signposts’, how reasoning is structured. Observations provide a strategy list for further practice of this task.

A key feature of the collaborative delivery was a slowing of pace due to: 1) the dual focus on clinical skills and communication; 2) time spent on analysis and discussion of clinician models; 3) provision of detailed, concrete feedback and appraisal of student capacity to implement it; and 4) systematic monitoring of retention.

6.2 The Physical Examination Workshop Series
This programme specifically addressed the need to provide effective instruction to patients when conducting language-dense physical examinations where effective patient direction is essential for eliciting accurate signs (e.g. neurological). There was also a focus on using professional medical discourse to report examination findings in a way that reflects clinical reasoning. Thus the tutorials supported novice doctors to differentiate between lay and professional discourse in the set of tasks. These workshops were available to any student who wanted to attend.

6.2.1 Tutorial participants
The 2006 cohort attending these sessions included: 1) highly motivated and capable students who took advantage of an additional supervised opportunity to practise clinical skills; 2) capable learners who lacked confidence in their skills; and 3) students who correctly identified their need for further support in acquiring clinical and communication skills, but who had not been referred by the faculty. Thus these sessions provided an additional pathway for the identification of support needs. Some students were subsequently offered the option of attending the ongoing collaborative tutorial programme.

6.2.2 Tutorial methodology
Many aspects of the tutorial methodology paralleled that of the Collaborative CBTs. However, there were a few key differences: 1) group sizes ranged from 8 to 18 students; 2) workshops were delivered in a tutorial room, not at the bedside; 3) the patient was simulated by one of the tutors; 4) a student demonstrated aspects of the examination, to raise areas of difficulty, and reported on physical findings; 5) the clinician tutor modelled clinical technique, patient instruction and reporting of findings; 6) the SASU lecturer focused student attention on language use and communication strategies demonstrated by the
clinician; 7) after each part of the examination, in pairs, the students practised examining, instructing and reporting; and 8) both the clinician and SASU lecturer monitored student uptake of skills during all activities.

6.2.3 Interdisciplinary collaboration
These workshops were delivered collaboratively by a clinician and linguist educator team, following the role principles outlined earlier for Collaborative CBTs.

7 Evaluation Method
Addressing faculty recommendations, evaluations were undertaken of the two components of the programme concerned with targeted at-risk student remediation and broader learning support provision to students who self-referred into the programme. A pilot study of the weekly collaborative tutorial programme was conducted in 2006 with subsequent re-evaluation in 2008 after implementation of changes based on student feedback. The adjunct physical examination programme was evaluated in 2006. Data were gathered to determine the impact of the programme on students’ experiences in the transition to ward-based learning.

7.1 Subjects
Seventy-six Collaborative CBTs were delivered across two clinical sites in the clinical school with a greater proportion of international students. Initially in 2006, nine of a total of 79 MBBS students attending the clinical school were referred into the programme based on previous academic performance. Throughout the academic year an additional 21 students were referred due to staff or their own concerns about communication, content knowledge or confidence. Twenty (67%) of the 30 students referred attended tutorials, uptake being defined as attendance at more than one tutorial.

In 2008, the programme was re-evaluated and by semester 2, a total of 33 students of 110 MBBS students attending the clinical school were referred into the programme. Twenty-six (85%) of the referred students attended the sessions. Over these two years, a total of 63 students were referred into the programme, and 46 (73%) students attended at least two tutorials in the programme.

Sixty-four self-referred students attended 22 Physical Examination Workshops during 2006, about two-thirds (40) international students and the remainder (24) local students.

7.2 Instrument and procedure
Participants in the Collaborative CBTs completed a survey at the end of each semester in 2006 and 2008. In 2008 the criteria were further differentiated
into the categories of history-taking, examination and case presentation and sub-skills were expanded (see Appendices 1 and 2).

Students accessing the Physical Examination Workshop Series in 2006 completed a survey with skills criteria focused on examination and reporting examination findings. In all other respects the survey was identical to the 2006 Collaborative CBT questionnaire. Item 3 in the skills component of the physical examination instrument was also rephrased in the survey to better reflect the functional communication component of the clinical task (refer to Figure 4).

The survey instruments elicited students’ perceptions on the degree to which tutorials helped them acquire targeted skills and to develop capacity to apply the learned skills and communication in their independent ward-based learning outside the tutorials. Qualitative comments on student learning experiences were also collected.

### 7.3 Analysis

Quantitative and qualitative survey responses were analysed to assess the relevance of the programme to students’ learning needs and to assess the impact of the programme on students’ experiences in the transition to ward-based learning.

### 7.4 Results

For the Collaborative CBTs, 35 (76%) of the 46 students over the two years who attended more than one tutorial in the programme completed evaluation surveys. Student responses (summarized in Figures 5 and 6) show that overall the tutorials were considered supportive to clinical skills development. The majority of surveyed students (95%) felt able to put strategies into practice when doing independent self-directed ward-based learning (Figure 7). However, in

---

**Figure 4:** Physical Examination Workshop Series questionnaire - Item 3. Development of clinical skills criteria into related communication tasks

<table>
<thead>
<tr>
<th>3. The tutorial helped you improve in the following skills:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruct a patient clearly and efficiently</td>
</tr>
<tr>
<td>Differentiate between language for patient interaction &amp; medical discourse</td>
</tr>
<tr>
<td>Describe a patient on general inspection, as relevant to the case</td>
</tr>
<tr>
<td>Organize information logically &amp; coherently as relevant to the case</td>
</tr>
<tr>
<td>Summarize using appropriate organization and medical discourse</td>
</tr>
</tbody>
</table>

---
Figures 5 and 6: 2006 and 2008 tutorial cohorts’ clinical skills development
When students were asked how often they were able to apply the skills on a weekly basis, over half (57%) responded once or twice a week only, raising questions about some students’ capacity to either organize their own learning activities or effectively learn in a self-directed environment (Figure 8).

Sixty-three of the 64 students attending the Physical Examination Workshop Series similarly evaluated the tutorials. Ninety-three per cent of students reported that the tutorials helped them to acquire a range of clinical and communication skills, and 98% felt able to transfer the skills into self-directed learning and tutorial contexts (Figures 9 and 10).

**Figures 7 and 8:** 2006 and 2008 tutorial cohorts’ implementation of strategies
Figures 9 and 10: Physical examination skills development and implementation
The qualitative analysis of open-ended survey responses identified issues in relation to: 1) student perception of targeted tasks and their motivation and capacity to achieve these both within and outside the tutorials; 2) cognitive and social interactions (with tutors and peers), including abilities to access resources relevant to learning; and 3) institutional issues (i.e. access or barriers to attending sessions); and 4) perceptions of skills transfer.

Key findings from the analysis of qualitative survey data are presented below in Box 1, supported by illustrative data samples (i.e. student responses to qualitative survey items).

Box 1. Key findings supported by examples of students’ comments

Students perceived the benefits of having communication skills training simultaneously integrated with clinician-based knowledge and practice. This enabled students to recognize the relevance of specific communication strategies in clearly defined clinical functions, which made them more confident in the effectiveness of their clinical interviewing and case presentation skills.

- ‘I learnt about the ways to direct patients to answering the questions in a more constructed way.’

Students appreciated the problem-solving approach that was employed in the tutorials. This involved deconstructing the overall clinical task into multiple communicative events, which helped the students to organize and analyse clinical information in stages and structure information strategically.

- ‘It teach me to be more organised and break things down into group.’

Students highly valued experiential opportunities for practising clinical tasks, presenting information to the tutors on aspects of those tasks.

- ‘Everyone have a chance to take history, examine the patient, and also presenting back to the tutor.’

Students differentiated between clinical versus communication skills and commented on the dual perspectives offered in this learning context, indicating their appreciation of an integrated approach to communication skills training.

- ‘I have a better experience from a professional staff from medical point of view and also language.’
- ‘…Two tutors clinician and communication person gives balance on what we need clinical and language, we need help there.’
- ‘The language-specific instruction on examining specific systems (was useful).’
Students liked having language and communication, including interpersonal interactions with patients, specifically targeted in the clinical learning environment.

- ‘Knowing how to ask details about the patient.’
- ‘Informative – teach useful techniques and ways to ask questions; teach on how to use language appropriately.’
- ‘Got feedback on how I should do my language.’

Students appreciated attention to differences between professional and lay discourse.

- ‘Using the correct term’ [when communicating with tutors]
- ‘Practice the proper medical language and that is used to interact with patient, which are simple and clear.’

Students commented on differences with the mainstream clinical bedside tutorials, valuing the language-intensive, system-focused orientation of teaching.

- ‘Different perspective on how to target examination for the case.’
- ‘The structure of the workshop focuses thoroughly and systematically on one system...’
- ‘More focus on interpersonal skills.’
- ‘How to deal with different patients.’

Students stated that they applied the communication and independent learning strategies outside the tutorials, indicating that the programme supported their transition to ward-based learning and clinical participation contexts.

- Communication – questioning, listening; language; physical examination
- Interaction with patients & instructions giving to patients.
- Phrases used to communicate with patients more effective and more easily.
- ‘Yes, I try to form questions in a succinct and precise (less winding and time consuming) ways.’
- ‘Yes, I went to see patient at the [hospital] to gain more experiences, knowledge and confidence.’
- ‘It’s very motivating and encourage me to study.’
- ‘Communication, interaction with patients’

Students also requested more regular and wider access to these kinds of session, particularly for second language speaking students. There also appears to be a wider effect with attendees passing on understandings acquired in the tutorials.

- ‘Have it more often and throughout the clinical sites.’
- ‘It should be open to many people.’
- ‘I have problem with the time slot. Even though I am not able to attend the session, I will try to gather with colleagues who attend the session and discuss about the systemic approach of the examinations.’
The comments students provided on the programme and their experiences of learning reflect not only their appreciation of the novel and innovative agenda of communication integrated into practical clinical skills teaching, but the methodological approaches used in small group tutorials.

8 Discussion

Many of the desired outcomes of the collaborative programmes were achieved. The evaluation data confirm that the collaborative CBTs provide genre frameworks, communication strategies and cultural understandings to students, which is a result of the interdisciplinary delivery of the programme. The evaluation supports an approach to embedding communication skills in mainstream clinical skills teaching as this empowers students with not only specialized clinical knowledge but also the ability to effectively use clinical knowledge in discourse. The parallel goal of ensuring students perceived themselves supported in the transition to independent ward-based learning was also achieved. Students responded positively to strategies of learning that see them better appreciating the clinical relevance of integrating communication, medical knowledge and skills, designed to improve outcomes for effective clinical practice. The evaluation findings indicate that the CBTs facilitated independent learning for most of the participants, although a small number of students indicated limited application of skills outside the CBT tutorials. More focused monitoring of independent learning outside the Collaborative CBTs, particularly of challenging tasks for novices, will be the subject of further investigation. A significant number of students reported to SASU tutors improved academic outcomes in faculty assessments, and this also requires further empirical investigation.

Pedagogical strategies that integrate instruction, practice, feedback and modelling to promote interactive, experiential and reflective processes for students are highly valued. Students felt they benefited from receiving explicit instruction on appropriate language and communication strategies for generating acceptable discourse conventions within their clinical practice contexts. Furthermore, feedback on students’ case language and communication encouraged reflection that helps students to understand the significance of their communicative interactions with patients in clinical decision-making processes, how to integrate existing knowledge with new knowledge, and how to structure logically coherent arguments that express the rationality of their knowledge building.

Integrated teaching lends validity to the communication skills curriculum for all students (local and international) who, wrestling with the huge medical content load, too often dismiss communication as a ‘touchy feely’
non-essential aspect of their curriculum. Of note are positive outcomes for both the clinician and linguist tutors, who expanded their understandings of pedagogical strategies and discipline-specific knowledge. A direct outcome of SASU approaches has been the uptake by educators in the MBBS course of interdisciplinary delivery of specific procedural skills (e.g. digital rectal examination) integrated with relevant communication skills.

There are, however, some practical issues to consider when embedding communication skills into programmes for students on clinical placements. First, workshops designed to specifically support the language and communication skills development of remedial or international students are usually presented as mere adjuncts to the core curriculum, especially if delivered by extra-disciplinary specialists without medical practice qualifications. Yet, the findings of the study reported on in this paper suggest that insights from discourse analysts that focus on communication skills in context can enhance the pedagogical strategies of medical content experts. Learners valued the dual perspectives received in this programme.

Finding clinical practitioners with time and resources to participate as tutors in such programmes is often problematic, as clinical tutors must inevitably deal with having to juggle both their consulting and teaching commitments in the hospital system. An additional factor for both tutors is the demands of interdisciplinary team teaching – negotiating roles and pedagogical approaches. Greater incentives for clinical practitioners to assume teaching responsibilities in support programmes not necessarily located in the core curriculum, as well as to participate in staff development programmes, are probably required. These issues have been successfully addressed in the clinical school in this study by formally structuring clinician support of targeted students into the clinical school’s Clinical Supervisor role, which is often accepted by clinicians genuinely interested in participating in undergraduate medical education and acquiring pedagogical skills.

Working across multiple sites is also an issue, requiring the flexible delivery of adjunct programmes. Linguists supporting students in clinical contexts are usually required to travel across clinical teaching sites in their endeavours to effectively address needs and become fully-fledged members of the clinical school communities. The research and pedagogical practices of discourse analysts who occupy outsider status in practitioner communities require ‘considerable time and effort, and considerable negotiation … to access and achieve even the modest mutuality needed to make sense of the contexts of interaction’ (Candlin and Candlin 2003). The discourse analyst in the SASU role must, therefore, contend with the practical constraints of their occupation.

Administrative factors include the need for effective and confidential referral systems that do not stigmatize or perpetuate negative perceptions of
students’ potential performance. Moreover, the support ethos requires consistent reporting approaches between clinical schools, the faculty and support staff (including SASU). At-risk students are often ‘strongly recommended’ but not required to access SASU tutorials. The tension between providing a confidential and optional support service to at-risk students as required by the university’s faculty in the face of a perceived need by clinical schools for mandated follow up is ongoing. An area of future investigation is the extent to which these transition support programmes meet faculty as well as clinical school stakeholder expectations.

Perceptions that communication skills deficits are problems limited to particular groups of students, usually on the basis of their personality traits or linguistic-cultural backgrounds (Woolf et al. 2008), imposes misconstrued notions on the essentiality of integrating communication skills training more closely with the delivery of core content in the regular curriculum. It is the experience of the authors of this paper that local students appreciate as much as international students the communication skills programmes that emphasize conventions of communicative practices in their institutional contexts. This is evidenced by the level of uptake (one third of local native speaker students) for optional communication skills sessions. Although managing so-called institutional discourse has been recognized as problematic for overseas trained ethnic minorities (Roberts et al. 2000), it is argued here that explanation of conventional communicative practices in situated professional contexts is desirable for novices of all backgrounds. Learners lack familiarity with newly acquainted institutional practices of learning and teaching, which may be quite independent of their previous cultural and educational experiences.

Programmes that accommodate the experiences of both local and international students, and so serve to recognize common intersections in their needs, are probably also well positioned to identify the distinct sociocultural differences that generate communication problems between the groups. This then provides a real basis for supporting the distinctive needs of an international and second language speaking cohort. Perhaps, innovative approaches to communication skills delivery might also see local and international students working together to stimulate the development of an appropriate intra-professional focus in cultural diversity training.

Medical students in clinical stages of training require language and communication skills training to be embedded in their clinical learning experiences, with strong integration between the content and communicative functions of their clinical learning encounters. Students in this study indicated preference for having clinical tutors directly involved in their communication skills development. Collaboration between linguists and clinicians yielded positive learning experiences for students at important transition points of their medical
training. Clearly, applied linguistics can play a crucial role in the design of clinical communication skills curricula that support the socialization and professionalization of student doctors. This collaborative approach between linguists and clinicians offers a useful model for clinical and communication skills teaching in a wide range of undergraduate and graduate clinical training contexts and health disciplines.

Appendix 1

International Student Support Programme

Collaborative Clinical Bedside Tutorial Evaluation 2006

Date:

Lecturers:

Location:

<table>
<thead>
<tr>
<th>1. How is your overall assessment of the session/course (e.g. relevant to your learning needs, addressed important issues)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely useful</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. The Lecturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understood my needs</td>
</tr>
<tr>
<td>Helped me understand the nature of the tasks</td>
</tr>
<tr>
<td>Are helping me gain confidence in my clinical study</td>
</tr>
</tbody>
</table>

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

<table>
<thead>
<tr>
<th>3. The tutorial has helped you improve in the following skills?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtaining a complete history (questioning &amp; listening skills)</td>
</tr>
<tr>
<td>Obtaining &amp; presenting a detailed timeline for presenting acute or chronic problems</td>
</tr>
<tr>
<td>Eliciting and understanding information accurately</td>
</tr>
<tr>
<td>Instructing and explaining to patients</td>
</tr>
<tr>
<td>Interacting and building positive relationships with patients</td>
</tr>
<tr>
<td>Case presentation</td>
</tr>
</tbody>
</table>

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

| 4. Are you putting these skills into practice at other times? |

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

Appendix 1
4a. If you are putting the skills into practice, in what ways? If not, why not?
____________________________________________________________________
____________________________________________________________________

5. What was good about the session?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

6. Do you feel the session could be improved? How?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

7. If you have NOT attended these sessions OR if you have attended very few, PLEASE let us know why?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

8. Please make any other comments if you wish.
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Thank you for completing this survey.
Appendix 2

Student Academic Support Unit

Collaborative Clinical Bedside Tutorial Evaluation 2008

1. **Course Entry:**

   - Australian School Leaver
   - Overseas Student
   - Local of non-English speaking background

2. **The tutors:**
   (please tick)
   1. Understood my needs
   2. Helped me understand the nature of the tasks
   3. Are helping me gain confidence in my clinical study
   4. Provided appropriate feedback

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **The tutorials help me to:**
   (please tick)
   1. Obtain a complete system specific history
   2. Obtain thorough Presenting Complaint information & timeline
   3. Elicit information accurately
   4. Interact with patients while taking a history

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **The tutorials help me to:**
   (please tick)
   1. Practise physical examination
   2. Instruct patients
   3. Interact with patients while doing an exam

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. **The tutorials help me to:**
   (please tick)
   1. Formulate an appropriate case introduction
   2. Organize information appropriately
   3. Report a detailed, accurate timeline
   4. Formulate a case summary
   5. Formulate a differential diagnosis list demonstrating clinical reasoning

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. **I am putting these skills into practice outside tutorial times.**
   (please tick)

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6a. How often? (please tick)

<table>
<thead>
<tr>
<th>Less than once a week</th>
<th>Once a week</th>
<th>Twice a week</th>
<th>More than twice a week</th>
</tr>
</thead>
</table>

6b. What skills are you putting into practice?

________________________________________________________________________
________________________________________________________________________

7. What was most useful about the sessions?

________________________________________________________________________
________________________________________________________________________

8. How could the sessions be made more useful?

________________________________________________________________________
________________________________________________________________________

9. If you have NOT attended these sessions, OR if you have attended very few, PLEASE let us know why?

________________________________________________________________________
________________________________________________________________________

10. Overall, I rate my experiences during these bedside tutorials as (please circle one):

<table>
<thead>
<tr>
<th>Excellent (5)</th>
<th>Very good (4)</th>
<th>Satisfactory (3)</th>
<th>Unsatisfactory (2)</th>
<th>Poor (1)</th>
</tr>
</thead>
</table>
About the Authors

Andrea Paul received her MA in Applied Linguistics from Macquarie University, Sydney and is currently a lecturer in the Faculty of Medicine Nursing & Health Sciences, Monash University. Her research interests include cross-cultural communication, spoken interaction for academic and professional purposes, and clinical communication and reasoning. Her most recent publication is ‘Socio-cultural considerations in feedback’ in L. Molloy and D. Boud (eds) Effective Feedback in Higher and Professional Education: Understanding It and Doing It Well (2012, Routledge). Address for correspondence: Building 64, Faculty of Medicine, Monash University, Wellington Road, Clayton 3068, Australia. Email: Andrea.Paul@monash.edu

Kara Gilbert received her Bachelor of Arts (Languages) from Monash University, majoring in Linguistics and Japanese. She is currently Academic Programmes and Course Development Manager in the Office of the Pro Vice-Chancellor (Berwick and Peninsula), Monash University. Her research interests include argumentation, clinical reasoning and communication, discourse and pragmatics, second language writing, and higher education pedagogy. Her most recent publication is the book chapter, ‘Drug advertising and clinical practice: Positing biopolitics in clinical communication’ as co-author with G. Thomas Goodnight in Frans van Eemeren and Bart Garssen’s Exploring Argumentative Contexts (2012, John Benjamins). Address for correspondence: Office of the Pro Vice-Chancellor, Berwick and Peninsula, 100 Clyde Road, Berwick VIC 3806. Email: kara.gilbert@monash.edu

References


Mathieson, F., Barnfield, T. and Young, G. (2009) What gets in the way of clinical contact?
Student perceptions of barriers to patient contact. *Journal of the New Zealand Medical Association* 122, No.1292.


