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An initiative to improve the professional communication skills of first-year pharmacy students

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Competence in communication skills is essential for pharmacists, and is assessed in all years of the BPharm program at The University of Queensland, Australia. Students of non-English-speaking background often demonstrate communication difficulties in academic assessments. This project aimed to determine the outcomes of extra-curricular tailored communication training on academic performance and self-evaluated competence. First-year students were identified based on academic performance and invited to participate in tailored tuition by an independent provider for two hours per week during Weeks 1–8 of Semester 2, 2008. Workshops involved self-assessment and needs-driven communication exercises based on pharmacy scenarios. School-based mentoring was offered from Weeks 9–12. Outcome measures included academic performance and self evaluations of communication competency.

54 students attended the first workshop (42 from 54 identified academically, 12 self-identified). 80% of these attended at least half of the workshops. The most common communication challenges were self identified as colloquialisms and pronunciation. Greater attendance was associated with higher achievement in communication-related and unrelated assessments. Moreover, 30 of the 54 academically-identified students had been identified ‘at risk’ of failing the final oral assessment; only four failed, three of whom had poor workshop attendance. Self-evaluated improvements in competence were notable.
Early introduction of this initiative is ideal. Students were receptive to the extra-curricular tailored assistance in communication skills, and aware of the emphasis on oral assessment through the BPharm program. The protocol for identifying students is suitable for further application. The future of this initiative will be determined by feedback, academic indicators and funding.

**Keywords:** communication, language, competency

### Introduction

In Australia, health professional education is now largely based within university programs of study. These programs provide undergraduate education for domestic and international students from an increasingly diverse range of cultural and linguistic backgrounds. Although a number of issues impact on the experience and success of students who speak English as an additional language (EAL), English language proficiency is critical, as it impacts on academic and social experiences (Sovic, 2008). EAL students enrolled in clinical programs face particular challenges; not only do they need to engage in the academic discourse of their chosen discipline, but also the professional phraseology of their future colleagues and the colloquial speech of health care consumers. This paper outlines the development of a contextualised, constructively aligned language support program designed to prepare first-year EAL pharmacy students for their first placement in community pharmacies.

### Background

Programs of undergraduate study for health professions are usually developed in consultation with relevant professional organisations to prepare students for competency in their future career. To practise as a pharmacist, communication skills are mandated in the competency requirements for a registered pharmacist (Pharmaceutical Society of Australia, 2003). Further, each pharmacy degree program must be accredited by Australian Pharmacy Council as providing a suitable registrable qualification (Australian Pharmacy Council, 2009). For these reasons, communication skills are an essential element of the undergraduate study program in Pharmacy.

To further develop students’ professional practice skills, attitudes and knowledge, undergraduate experiential placements in community pharmacies are also required. On placement, students develop the required interpersonal skills that promote patient autonomy and shared decision making, both of which are essential elements for patient-centred care, and therefore for effective health care delivery (Coulter, 1997; Coulter, 2002; Hunt, Adamson, & Harris, 1999). The experiential placements are largely observational initially, but advance to participation in appropriate pharmacy practice activities in the pharmacy. To prepare students for this practice experience, and considering the importance of good communication skills to the education of pharmacists, professional communication skills are taught in all four years of Bachelor of Pharmacy at The University of Queensland. Prior to this research, communication skills were assessed by a compulsory, validated English Language Screening Test at the commencement of year 1, in written form in years 1–4, and orally in years 2–4.

This project had its genesis in the student evaluation feedback from the experiential placement preceptors who noted that poor communication skills were hindering some students’ development of practice skills (McKauge, 2007). These difficulties become frustrating for
both students and preceptors, as communication with patients and other health care practitioners must be easily and accurately understood (Beardsley, Kimberlin, & Tindall, 2007; Thistlethwaite & Ridgway, 2006). On-campus tutorials and assessments had also suggested that communication problems were not restricted to international students, but may be a common feature of EAL students, who often have difficulties in communicating and understanding verbal and non-verbal messages in a practice environment (Remedios & Webb, 2005). A need was identified for an innovative language support program that dealt with both professional phraseology as well as the colloquial speech of health care consumers. As students are steeped in the university-based model of education where learning is driven by assessment requirements (Ramsden, 1992), this program was also required to be constructively aligned with communication-related assessments and the first-year curriculum.

**The English for academic communication program**

This initiative aimed to develop and trial a contextualised English language support program for first-year EAL Pharmacy students at The University of Queensland. A secondary aim was to evaluate the program in terms of need and student and tutor feedback.

It was hypothesised that the participants would demonstrate improvements in performance in oral assessment and understanding of colloquial and professional English, and greater confidence in using English in these contexts, while recognising that such skills require time for development.

**Integration with existing curriculum**

The English for Academic Communication program was a voluntary extra-curricular language support activity developed and offered to first-year students in conjunction with their studies in Introductory Pharmacy (course PHRM1010) at The University of Queensland, Australia.

Participants for the program were identified following three communication-related assessments through Semester 1, 2008 (Figure 1). Further details relating to sampling are provided below. The program took place over 8 weeks concurrently with PHRM1010 Community Pharmacy Placements (2 hours per week over 5 weeks) and regular on-campus lectures and tutorials in Semester 2. Students who had attended at least 4 of the 8 workshops were granted the opportunity to participate in practice/mentoring sessions (1 hour per week for 4 weeks) facilitated by the School-based support officer (JB) prior to their final oral assessment. Immediately following this assessment, focus groups were conducted to obtain feedback from the program participants.

Other data collection not linked with the curriculum included qualitative feedback from the English tutors and the School-based support officer, and interviews with a sample of community pharmacy preceptors, described below.

**Selection of students**

A protocol was developed to identify students at risk of communication-related academic difficulties. Students were invited if they were identified by two of four ‘critical’ indicators, or one ‘critical’ indicator and both ‘non-critical’ indicators (Table 1). Prior to the end-Semester 1 assessments, indicators suggested that 30–70 students would be invited. No minimum and maximum number of students was imposed by the workshop organisers.
Figure 1: Program integration with curriculum

<table>
<thead>
<tr>
<th>‘Critical’ indicators</th>
<th>‘Non-critical’ indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Language screening test (week 2): mark &lt;35/70</td>
<td>• Oral presentation: below-average performance</td>
</tr>
<tr>
<td>• Oral presentation: comment from a tutor</td>
<td>• Semester 1 written examination: mark &lt;49.5%</td>
</tr>
<tr>
<td>• Other communication exercises: comment from tutor/examiner</td>
<td></td>
</tr>
<tr>
<td>• Formative oral assessment: ‘borderline’ or ‘unsatisfactory’ performance (where 50% of the grading was for communication)</td>
<td></td>
</tr>
</tbody>
</table>

The identified students were invited via email to participate in the program. Wider advertisement of the workshops to all first-year Pharmacy students was also undertaken for equal opportunity. Students registered for the program directly with the service providers, and remained anonymous to the PHRM1010 academic staff until the conclusion of assessment. Participation was voluntary, but encouraged, with a view to the end-of-year communication-related assessment.

Description of the English for academic communication workshops
Participants were eligible to attend 1 of 2 workshops per week (2 hours, scheduled during teaching times) for 8 weeks. The workshops were provided, at no cost to the participants, by experienced English language teachers from the Institute of Continuing and TESOL Education (ICTE), the on-campus language institute for EAL students. Costs for preparation
of materials were met by the project, and delivery costs were met by the university under an existing funding agreement with ICTE.

The workshops involved students’ self-evaluation, critique of a commercially-available pharmacy communication video, role plays, pronunciation exercises, reflection on experiences during the concurrent Community Pharmacy Placements, review of ‘diaries’ in which students documented unfamiliar words and expressions they encountered, and worksheets prepared with reference to existing pharmacy communication resources and suggestions from practising and academic pharmacists and lay research with health consumers. The materials focused on lay descriptions of symptoms, colloquialisms and communication challenges in pharmacy practice, and were reviewed by the chief investigator (LE) and School-based support officer during their development.

The workshops provided a supportive learning environment with individual attention, in maximum groups of 16 students. The School-based support officer observed in most sessions, and undertook project-related communication and data collection with the participants to retain their anonymity to the researchers.

Analysis of the initiative
Data collection was undertaken with approval by the University of Queensland Social and Behavioural Sciences Ethical Review Committee. Data were obtained from the following sources:

1. The participating students. Under the direction of the ICTE English language teachers, the students documented self-evaluations of their language competency and needs on a customised questionnaire, as well as feedback and reflection at the final workshop. Further self-evaluation and reflection was provided by participants following the PHRM1010 final assessment, at the end-of-year focus groups conducted by a facilitator not involved in the workshop delivery (TS) (Figure 2).
2. The ICTE English language teachers, who reflected on the content and perceived value of the workshops, skills progression, task development, performance of the participants and suggested improvements in a recorded interview with the chief investigator and School-based support officer.
3. The School-based support officer, who provided reflective data on the liaison role between the participants, English teachers and the researchers, the workshops, and the follow-on weekly support meetings with the students.
4. Community pharmacy preceptors, who comprised a convenience sample of local pharmacists who had hosted an EAL student in their pharmacy. Interviews were conducted by the School of Pharmacy Placement Pharmacist (LMcK), transcribed and thematically analysed. Discussions focussed on the preceptors’ involvement with Non-English speaking background students, communication and behavioural issues, and suggestions for teaching assistance.

Analysis of the data included assessment of the perceived effectiveness of the program, based on students’ before-and-after self-evaluations, and the ICTE English language teachers’ and School-based support officer’s reflections of student performance throughout the workshops and subsequent practice sessions. Correlation of students’ performance in the various assessments involving language competency through the year (Semester 1 vs Semester 2), was also undertaken with reference to their participation in the workshops.
Further, the selection criteria for participation in the English program were evaluated via comparison of academic performance in the PHRM1010 end-of-year oral examination (the primary assessment related to the English for Academic Communication Program) between three groups of students: those who were invited to attend the program, but did not enrol; those who were invited to attend the program, and did enrol; and those who were not invited to attend, but self-identified as needing assistance and enrolled.

**Participation and outcomes**

**Description of the cohort**

The selection criteria identified 54 students in need of language support (23% of the class). Of these, 42 enrolled in and commenced the program, and a further 12 self-identified their need, enrolled and commenced. An additional 8 students had enrolled but not attended the first workshop. 43 students (80%) attended at least half of the workshops, and were invited to the facilitated practice sessions, where 35 of these students attended at least 3 of the 4 sessions.

Self-reported data collected at the first workshop revealed that the dominant languages spoken at home were the Chinese dialects ($n=27, 50\%$) and Korean ($n=16, 30\%$). The most common areas in which students desired assistance were classified as ‘general English competency’ ($20/47$ responses) and ‘professional communication’ ($n=13$). The majority of students reported attempts to immerse themselves in English literature and media ($25/50$ responses) and speak in English with peers ($n=17$).
**Analysis of the selection criteria**

One-way ANOVA compared academic performance between groups of students according to their association with the program. Students self-identifying with needing English assistance and consequently participating in the program attained, on average, a higher mark in the oral examination than those students targeted by the selection criteria (Table 2). Students identified by the selection criteria, but who did not participate in the program, attained lower marks in the oral examination than those who did at least enrol.

<table>
<thead>
<tr>
<th>Registration</th>
<th>Mean</th>
<th>n</th>
<th>Std dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified but did not enrol</td>
<td>6.8</td>
<td>12</td>
<td>1.5</td>
</tr>
<tr>
<td>Identified + enrolled</td>
<td>8.1</td>
<td>42</td>
<td>1.7</td>
</tr>
<tr>
<td>Self-identified + enrolled</td>
<td>8.8</td>
<td>12</td>
<td>1.2</td>
</tr>
</tbody>
</table>

* Mean score out of 10 for the end-of-year PHRM1010 Oral Examination based on an over-the-counter dermatology scenario; marking criteria comprised 50% ‘content’ and 50% ‘communication’ marks.

**Analysis of academic performance**

Evaluation of the academic value of the English for Academic Communication Program compared the PHRM1010 academic performance of four groups of students who:

- were invited to participate in the program, but did not enrol (‘did not enrol’)
- enrolled in the program (targeted and self-identified students combined), but attended only 1-3 of the 8 the workshops (‘partial attendance’)
- enrolled, and attended at least half of the workshops and at least 3 of the 4 mentoring sessions (‘full attendance’)
- were not identified by the selection criteria, i.e. having satisfactory communication skills (‘not targeted’).

Progression of performance was evident in the oral examination and placement modules (both succeeding the language support program); those who did *not* enrol in the program demonstrated the lowest academic achievement (Table 3). However, these trends were replicated in the Semester 1 written examination, which preceded the program, and the Semester 2 written examination, which was unrelated to the skills developed in the program.

<table>
<thead>
<tr>
<th>Group</th>
<th>Oral examination</th>
<th>Placement modules</th>
<th>Semester 1 examination</th>
<th>Semester 2 examination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean/10  n</td>
<td>Mean/20 n</td>
<td>Mean/30 n</td>
<td>Mean/30 n</td>
</tr>
<tr>
<td>Not targeted</td>
<td>8.5  161</td>
<td>17.2  164</td>
<td>19.5  166</td>
<td>22.2  163</td>
</tr>
<tr>
<td>Full attendance</td>
<td>8.4  36</td>
<td>17  36</td>
<td>18.3  36</td>
<td>22.5  36</td>
</tr>
<tr>
<td>Partial attendance</td>
<td>7.7  14</td>
<td>16.1  14</td>
<td>15.9  14</td>
<td>19.8  12</td>
</tr>
<tr>
<td>Did not enrol</td>
<td>6.8  12</td>
<td>15.9  12</td>
<td>14.9  12</td>
<td>19.7  10</td>
</tr>
</tbody>
</table>

1. F=5.8, df=3, p<0.02
2. F=4.3, df=3, p<0.07
3. F=17.5, df=3, p<0.01
4. F=6.5, df=3, p<0.01
The PHRM1010 formative oral examination preceding the program had identified 11.5% of the class (27/235) with ‘borderline’ performance, and 6.8% (16/235) with ‘unsatisfactory’ performance as a result of their communication competency. These 43 students were considered at risk of failing the end-of-year oral examination. However, only 6 students (of 234) failed this examination. Specifically, for the 54 students identified by the selection criteria (30 with ‘borderline’ or ‘unsatisfactory’ performance in the formative oral assessment), 4 failed the end-of-year oral examination. One of the 4 failing students had not enrolled in the language support program, and 2 had withdrawn in the early stages.

**Students' self-evaluation and reflective data**

The reflective survey conducted in the final workshop identified that students’ self-evaluation of various communication competencies increased by an average of 2–3 points on a 10-point scale (Table 4).

The end-of-year focus groups, involving 34 students (of the 54 invited), revealed that students who participated in the program predominantly valued the experience. Of particular note were the focus on understanding of colloquial expressions, pronunciation exercises, expansion of students’ vocabulary, and the facilitated practice sessions prior to the oral examination. One student doubted the value of the workshops, but it was noted that this student was competent in English. The majority of students reported improved confidence with communication.

| Table 4: Students' self-evaluation of communication competency (at final workshop) |
|---------------------------------|-----------------|-----------------|
| Element                         | Week 1 (median) | Week 8 (end) (median) |
| Confidence in English in a pharmacy setting | 4               | 7               |
| Ability to pronounce English    | 5               | 7               |
| Ability to sound professional and caring | 4               | 7               |
| Pronunciation of drug names     | 4               | 6               |
| Understanding of native English speakers | 5               | 7               |
| Culturally appropriate communication ability | 4.5            | 6.5            |
| Understanding of slang and colloquialisms | 4               | 6               |
| Ability to speak accurately     | 5               | 7               |

*10-point scale: 1 = ‘very low’, 10 = ‘very high’

**English language teachers’ reflections**

The English language teachers involved in the majority of workshops cited the peer support, collegiality and cooperation of students as drivers of the success of the program, notwithstanding that students were assessment-focused. The weekly diary, in which students documented unfamiliar expressions, was a successful initiative.

The main factors that inhibited students’ progress and thus challenged the success of the program included their problems with pronunciation when attempting to articulate phonemes and handle word stress, intonation and unfamiliar lexis in pharmacy-related and other contexts. Other affective factors could be attributed to lack of confidence, shyness, embarrassment at performing in front of their peers and teachers, gender and culture-specific issues and lack of maturity. The language teachers attempted to counteract these factors by fostering a non-threatening learning environment and through cross-cultural communication strategies.
The tutors expressed enthusiasm to continue the initiative, requesting more insight into the selection process, examination processes and students’ career intentions to help guide the focus of the workshops. They acknowledged the complexity in simultaneously developing students’ language skills, content knowledge and a stepwise (yet flexible) structure to pharmacist-client consultations.

**School-based support officer’s reflections**
The mentoring and facilitated oral examination practice sessions for students who participated in at least half of the workshops was considered by the School-based support officer to be a valuable incentive for workshop attendance and academically valuable with a view to the end-of-year oral examination. The ‘scaffolding’ of skills, use of repetition, rotation of roles (pharmacist, patient, assessor) and simulation of exam conditions in practice scenarios facilitated both confidence and skill development. The support officer was conscious that the role did not extend to provide academic tutoring in the content, rather to facilitate students’ application of the skills gained in the workshops.

Reflections further suggested that the program had provided intangible benefits, such as new friendships, enhancement of the first-year student experience (particularly for international students) and trust in the assessment process. The support officer suggested longer sessions in future, more specific communication marking criteria to allow directed feedback, and a video of a simulated oral examination for the benefit of all students.

**Preceptor interviews**
The ten interviewed preceptors recognised the importance of communication skill development in Pharmacy students, particularly competence in speaking (to both lay and professional associates), listening, empathy and non-verbal behaviours. Further, the preceptors acknowledged their own role in the learning community, from their (unpaid) mentoring of undergraduate students on placements through embracing of postgraduate and lifelong learning. The interviewer noted that although the preceptors were sympathetic to the needs and experiences of EAL students, ultimately employing a graduate with communication difficulties could be detrimental to their business. Consequently, they were unanimously supportive of initiatives at undergraduate level to enhance students’ communication skills.

**Discussion**

**Discussion of the method**
The need for this initiative had been prompted by reported issues during students’ community pharmacy placements and via a range of communication-related academic indicators. Its integration with the current first-year Bachelor of Pharmacy curriculum presented opportunities for the consolidation of students’ knowledge and skills from PHRM1010, and thus content relevance. It was suspected that the clinical topics covered in the workshop exercises and students’ focus on the final PHRM1010 oral examination encouraged their participation and retention.

The engagement of professional English language teachers and a School-based support officer not involved in PHRM1010 meant that the material could be prepared and delivered under the guidance of Pharmacy academics and yet ensure that participants were unknown to those teaching and assessing them.
Feedback from all staff and the majority of participants indicated that the structure (the range and combination of exercises, and facilitated practice), length and delivery of the program were well received. It was deemed appropriate to retain both targeted and open invitations to first-year students, as communication problems are not exclusive to those with English as a second language. Mindful that even the best standardised testing of language abilities cannot measure the range of complex literacies required for successful university study (Johnson, 2008), we encouraged students’ self-recognition of their communication challenges, which may not have come to light through the program’s screening process.

Analysis of the selection criteria identified higher academic achievers amongst those students who self-identified their need and enrolled in the program. While it would not be ideal to deny any interested self-identifying student the opportunity to improve his/her English speaking skills, it is recommended to retain a targeting strategy to encourage enrolment of students with the greatest academic need.

**Discussion of the results**
The analysis of students’ academic performance across related and unrelated assessments suggests that those who took the opportunity to participate (to some extent) in this extra-curricular initiative represented a group of higher achievers overall, compared with those who failed to act upon the recommendation to improve their English skills.

Comparison of performance between the Semester 1 (formative) oral examination prior to the English program and the Semester 2 (summative) oral examination following the English program produced the most convincing evidence of the academic value of this initiative, with a much lower than expected failure rate in the end-of-year oral examination. Of note, three of the four students who had been targeted for this initiative and subsequently failed the end-of-year oral examination had not enrolled or had partial attendance in the program.

Other positive outcomes reported by the student participants suggest enhancement of the student experience. Participants reported improved confidence and greater levels of engagement with their studies and peers. Given that difficulty with oral communication has been reported as a “pervasive and insidious difficulty, affecting and exacerbating all of the other challenges [students] face” (Sovic, 2008), one could expect that contextualised support in both professional and colloquial English would positively impact students’ wellbeing. Longer-term, the improved confidence and engagement of students in this study could be expected to improve retention (Svunum & Bigatti, 2009) and satisfaction scores on institutional surveys. Other indirect benefits of the initiative may extend to greater socialisation in the pharmacy profession and enhanced employment prospects in a competitive environment.

Further research is planned to assess the ongoing benefits from this program. With the intended continuation of this initiative for first-year students, a dynamic database of students’ communication-related academic performance will be generated. Monitoring and evaluation of the participants’ perceptions and learning outcomes throughout their undergraduate studies will provide evidence regarding the longer-term impacts of the program. Post-graduation experience through the non-compulsory Internship year may also be monitored through workforce and postgraduate education surveys.

Nevertheless, the data collected to date correlating completion of the English program and various academic and social gains suggests a number of initiatives should be taken directly to
ensure maximum benefit is gained from future iterations of the program. Firstly, Pharmacy academics and placement preceptors are advised to actively identify students’ language deficiencies. Cyclical feedback of these identified needs into future iterations of the program can only improve its applicability and perceived value. Secondly, there is a need for further research regarding the reasons for non-participation in the program; it may be that additional incentives are required to encourage participation and completion of the program by students who have demonstrated specific educational needs. However, the findings suggest that reports on the improved academic performance of students in the program could be used to encourage enrolment in, and completion of, future developments in the English speaking program.

In the longer term, there is the need to develop this program beyond its current focus on the end-of-year oral examination. Language and literacy development for EAL students at university should not be left to one foundational course; it should continue throughout their degree program (Devereux & Wilson, 2008; Johnson, 2008). The increasingly complex communication skills required by pharmacy students in their subsequent years of study, and into practice, call for a scaffolded approach to language development, whereby students experience “high challenge and high support” throughout their study (Hammond & Gibbins, 2005). One way of supporting students’ language development beyond first-year would be to identify students at risk of relapse or further difficulties. Alternatively, structured peer mentoring for self-identifying students could be introduced to encourage sustainability and continual development of new language skills.

Conclusions

The first iteration of this English for Academic Communication Program has produced positive findings a) quantitatively in terms of students’ academic performance in first-year Pharmacy studies at The University of Queensland, and b) qualitatively in terms of feedback from the participants and all staff involved. Students were receptive to the extra-curricular tailored assistance in communication skills, and early exposure to an initiative such as this is ideal. The program was prepared and delivered by experts in English communication and was independent of assessment, but guidance by the School of Pharmacy ensured that content was relevant. The protocol for identifying students in need of assistance, along with the tailored workshops and mentoring, is now embedded in the curriculum.

Given the diversity in the communication skills of our students, this program appears to be a much-needed initiative by the Pharmacy profession. As professional-entry tertiary education for other health disciplines includes knowledge, skills and problem solving (Higgs & Hunt, 1999; Phillips, 2008), it is expected that the current educational approach to enhance communication in undergraduate students has potential for longitudinal application and monitoring of student performance, engagement and retention across many health professions.

Acknowledgements

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