Pharmacy Students' English Language Skill Development: are we heading in the right direction?

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Abstract

Pharmacists need to be able to communicate, both verbally and in a written format, with people in the community, colleagues and other health professionals using educated, 'elaborated' English. The focus of the study reported in this paper is the international and transnational student group enrolled in the Pharmacy program at the University of South Australia. A multistage project was undertaken which sought to assist and assess English language skill development for all students. A compulsory English language comprehension task was introduced into the assessment requirements of one of the third year courses in the pharmacy program. Subsequently, students had the opportunity to receive in context English language assistance from specialist learning staff from the University's Learning Centre. The written work from the third year assessment task was compared to a piece of reflective writing undertaken in a fourth year course. For the whole student group reported in this study there was a significant reduction in the mean of the sum of all errors for fourth year compared to third year (t=3.199, df=62, p=0.002). This study confirms staff perceptions that the international and transnational students' written English language skills improve between third and fourth year.

Keywords: *International, transnational, non-English speaking, language skill development, grammar and expression*

Introduction

English language skills and communication skills are not one and the same, the latter implying the effective use of written or spoken language to impart information or ideas. Good English language skills however, underpin good communication in English. Anecdotally, pharmacy graduates with poor English language skills may require longer than the expected 12 month post graduation, pre-registration period in order to demonstrate competency for registration by Australian Pharmacy Boards. Therefore, ensuring pharmacy students' English language competency and demonstrable high level communication skills is an imperative for university staff.

Pharmacists need to be able to communicate both verbally and in a written format with people in the community, colleagues and other health professionals using educated, 'elaborated' English. Within Australia and New Zealand, the requirement for Pharmacy programs to '*have content and be delivered in a manner which fosters graduates with……communication: the ability to communicate information, arguments and analyses effectively'* is set out in accreditation requirements (NAPSAC, 2005). In the "Competency Standards for pharmacists" (*Competency Standards for Pharmacists in Australia*, 2003) the Pharmaceutical Society of Australia has outlined essential characteristics of pharmacists as having '*effective problem solving, organisational, communication and interpersonal skills, together with an ethical and professional attitude…'*..

Developing appropriate language skills is a challenge for University of South Australia pharmacy staff, where a high proportion of pharmacy students (64 percent overall in 2005) indicate at enrolment that they speak a language other than English at home. Thirty percent of the students listed a Chinese dialect as their home language and another 16 percent indicated Vietnamese. Thus, the student group has a high proportion that may experience deficiencies in English language proficiency skills.

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Table I: Definitions for language errors used in scoring of student work.

Grammar	Definition
Tense	Number of incorrect tenses / 100 words
Spelling	Number of spelling errors /100 words
Verb/Subject agreement	Number of errors /100 words
Single/Plural	Number of wrong single/plural words / 100 words
Articles	Number of missing articles /100 words
Apostrophes	Number of incorrect apostrophe / 100words
Expression	Definition
Clarity of meaning of sentence	The number of sentences for which the meaning is unclear / total no. of sentences in the 100 word block
Sentence construction	The number of poorly constructed sentences / total no. of sentences in the 100 word block
Word use	Number of incorrect or inappropriate words use / 100 words

Most of the international students who commence the four year Pharmacy program in first year are Malaysian. A second larger transnational group of Malaysian students enter the pharmacy program in the third year, having studied the first two years of the identical curriculum program in a 'twinned' Malaysian college. Both international and transnational students are required to meet the International English Language Testing System (IELTS) score of 6.5 (or equivalent) for entry into the pharmacy program. The 2006 IELTS handbook indicates that an IELTS band of 6.5 for linguistically demanding programs is "probably acceptable", however, it points out that further English study is required (*IELTS handbook*, 2006).

A number of strategies have been used in the Pharmacy program in order to promote English language skill development, particularly in international and transnational students. For a number of years service arrangements with specialist learning staff of the University's Learning Centre have ensured that students have the opportunity to receive in context English language assistance. Small group sessions (generally eight sessions per semester, each session of 90 minutes) have been designed to assist students in developing skills for continued independent language learning. These sessions cover topics such as: reading and comprehending professional writing; identifying the main points in an article; writing a summary, including structuring, summarizing and paraphrasing; self-correction of written work, such as checking for grammatical mistakes; and, oral communication skills such as pronunciation, sentence and word stress, building rapport, and checking for understanding. Attendance at these sessions is voluntary.

Contemporary teaching and learning literature emphasises the alignment of assessment with objectives to ensure the acquisition and demonstration of knowledge and skills (Biggs, 1996) including English literacy proficiency (Ritter, 2002). In 2005 staff introduced a compulsory English language comprehension task into the assessment (15% of marks for the course) for all students in the course (subject) Applied Pharmacotherapeutics. This course is taken in the first semester of third year of the four year Pharmacy program. The task involved the student reading an unseen article of a general nature from an Australian pharmacy journal and then proceeding to summarise the article to the examiner both verbally and in a brief written report. Students were required to pass this component in order to pass the course, and therefore there were opportunities to resit the assessment task. Failure to pass the course precludes progression in the program. Students who did not pass the assessment were directed to English language support from the University's Learning Centre as described above.

Pharmacy academic staff assumed the view that the assessment of English comprehension skills had a positive effect on students' language development and their communication skills prior to graduation. The approach taken,

Table II: Total number of errors and percentage improvement /decline in error frequency in 4th year for each category for all students across both years

Error category and variable	Total number of errors in third year	Total number of errors in fourth year	Percentage improvement /decline in error frequency in 4th year
Grammar			
Single plural	119	63	+47%
Apostrophes	17	3	+82%
Tense	49	63	-29%
Spelling	54	71	-31%
Verb subject agreement	36	3	+92%
Articles	133	132	0%
Sub total: grammar errors	*388*	*335*	*+14%*
English expression			
Sentence construction	228	125	+45%
Meaning clarity	223	118	+47%
Inappropriate word use	234	244	-4%
Sub total: English expression errors	*685*	*487*	*+29%*
Total errors	*1073*	*842*	*+22%*

as described above, of assessing students individually and then conducting small group English language classes, is highly resource intensive and therefore evaluation is appropriate. Hence, the aim of this study was to retrospectively examine written English language skill development, over a twelve month period, of the first cohort of international and transnational students who had undertaken the comprehension assessment task described above.

Methods

The students' English language skills were assessed retrospectively from two different tasks undertaken in the first half of years three and four year of their four year Pharmacy

Table III: Frequency of errors and total number of errors for each variable of both English skill categories for all students for third and fourth year, N=

Error category and variable	Frequency of errors		
	Nil (N)	1 - 3 errors (N)	> 3 errors (N)
Grammar			
Single plural			
3rd year	12.7% (8)	63.5% (40)	23.9% (15)
4th year	39.7% (25)	55.5% (35)	4.8% (3)
Apostrophes			
3rd year	82.5% (52)	17.5% (11)	0
4th year	95.2% (60)	4.8% (3)	0
Tense			
3rd year	46% (29)	50.8% (33)	3.2 (2)
4th year	54% (34)	34.4% (23)	9.6% (6)
Spelling			
3rd year	39.7% (26)	58.8% (37)	1.6% (1)
4th year	41.3% (26)	52.4% (33)	6.4% (4)
Verb subject agreement			
3rd year	66.7% (42)	31.8% (20)	1.6% (1)
4th year	96.8% (61)	3.2% (2)	0
Articles			
3rd year	12.7% (8)	63.5% (40)	23.9% (15)
4th year	31.7% (20)	47.7% (30)	20.7% (13)
English Expression			
Sentence Construction			
3rd year	1.6% (1)	49.2% (31)	49.2% (31)
4th year	33.3% (21)	46% (29)	29.7% (13)
Meaning Clarity			
3rd year	3.2% (2)	49.2% (31)	47.6% (30)
4th year	34.9% (22)	44.5% (28)	20.6% (13)
Word Use			
3rd year	0	50.8% (32)	48.2% (31)
4th year	9.5% (6)	40.3% (26)	49.2% (31)

program of the University of South Australia. Work from 63 international and transnational students, taken from a third year class of 132 students in the Pharmacy program, was examined. Of these students, 45 (72%) were transnational, and 18 (28%) were international students.

Two pieces of student work were scored for English language grammar and expression errors. The first piece of work was the assessment piece described above for the Applied Pharmacotherapeutics course completed by the student in the first half of their third year. Students had the opportunity to re-sit this assessment and therefore scoring was for the work which received a pass mark. The second piece of work was a reflective piece of work written by students in their experiential placement work books. This was written as a normal piece of academic work in the final year of their program, not under examination conditions. The scoring is a summation of the number of errors per 100 words, or errors per sentence, in each category. The categories scored were for both grammar and expression. Definitions for these are shown in Table I. The scoring system developed was based on scoring approaches reported in the literature (Ranelli & Nelson, 1998; Chur-Hansen & Vernon-Roberts, 2000). The scoring was carried out by a non teaching assistant and was undertaken 'blind' so that student names and details were not revealed.

Students' attendance at specialist language support classes provided by the University Learning Centre was recorded.

Statistical analysis was carried out using a paired sample T test (SPSS, Chicago, Illinois, USA).

Results

Forty one students (65%) passed the third year language comprehension task on their first attempt. Students who failed were allowed to sit for a second test six months later whereupon a further 14 (22% of all students) passed. A third test was held 4 months later which all 8 remaining students passed. Of the 22 students who failed in the first attempt, 17 were transnational and five were international. Ten of the transnational students and four of the international students subsequently passed their second attempt.

A total number of 1915 errors were scored for all students across both years, with 743 (38%) related to grammar and 1172 (62%) related to English expression. The most common category of error was "inappropriate word use" with a total of 478 errors recorded across both years. Errors relating to apostrophe use were the least common (20 errors). Students in fourth year scored 22% fewer errors across both categories than third year students. The improvement in error frequency for students at fourth year compared to third year in the category "English expression" was 29%, while the category "grammar" improved by 14% (Table II).

When comparing the number of errors made in fourth year to third year, 42 students (67%) made fewer errors (range: 1-22, mean 8.7), two students (3%) showed no improvement and the remaining 19 students (30%) made more errors (range 1-18, mean 7.7). Table III describes the frequency of errors and total number of errors for variables in both English skill categories for all students across both years. When comparing

Table IV: Frequency of errors for international (N=18) and transnational (N=45) students across third and fourth year and percent reduction in total errors by 4th year, N= number of students

Student group	N	Total number of errors (3rd year)	Mean	Range	Total number of errors (4th year)	Mean	Range	Percent reduction in total errors by 4th yr
Students passing on first attempt								
International students	13	169	13.0	7-23	77	7.5	1-21	54.4
Transnational students	28	443	15.8	3-30	389	13.9	1-27	12.2
All students	41	612	14.9	3-30	486	11.8	1-27	20.6
Students passing on second attempt								
International students	4	90	22.5	17-26	38	9.5	2-16	67.8
Transnational students	10	206	20.6	12-30	168	16.8	3-35	18.4
All students	14	296	21.1	12-30	206	14.7	2-35	30.4
Students passing on third attempt								
International students	1	19			16			15.8
Transnational students	7	166	23.7	12-32	152	21.7	12-37	8.4
All students	8	185	23.1	12-32	168	21.0	12-37	9.2

the error rate in fourth year to third year, of the 45 transnational students, 27 (60%) were judged to have made fewer while 16 (36%) were judged to have made more errors. Fifteen of the international students (83%) improved their error frequency in fourth year compared to third year while the score worsened for the remaining three students. For the whole student group reported in this study there was a significant reduction in the mean of the sum of all errors for fourth year compared to third year (t=3.199, df=62, p=0.002). The frequency of errors for all categories across third and fourth years for each group of students is presented in Table IV. Students who passed the test in third year at their first attempt made a total of 612 errors (mean 14.9). This mean was 41% less than that for students who passed the third year test on their second attempt and 55% less than the mean for those students who passed the test on the third attempt. A similar trend when comparing error means was found in the fourth year assessment, with students who passed the test the first time in third year continuing to make fewer errors than the other two student subgroups.

For students who passed the test on their first attempt, international students made fewer errors per student and scored a greater decrease in the percentage of errors between third and fourth year than their transnational colleagues (Table IV). This result was replicated for each category of student passing their test at the subsequent opportunities (Table IV).

As described above a pass grade was required in the third year assessment item in order that the student pass the course. Students have the opportunity to attend specialist language sessions provided by staff from the university Learning Centre. All but one student who had failed the English language assessment at their first attempt attended at least one session; the remaining students attended up to a maximum of 6 sessions (mean 4.4 sessions). For students who failed on their second attempt, a total 12 sessions were offered. The mean attendance for this group across all sessions was 9.6 sessions (range 9-11).

Discussion

Communication skills are highly rated generally in the Australian business community (Sinclair, 1995) and are a professional competency (*Competency Standards for Pharmacists in Australia*, 2003). The staff teaching in the university's pharmacy program appreciate the importance of English language skills acknowledging published studies undertaken at another Australian pharmacy school which indicate that lack of academic literacy skills places students at academic disadvantage (Holder, Jones, Robinson, & Krass, 1999). This paper describes processes undertaken for written language skills, consistent with the emphasis on the importance of written communication in varied contemporary pharmacy practice settings (Prosser, Burke, & Hobson, 1997; Ranelli & Nelson, 1998).

The scoring categories used in this study are a composite of those used for error analysis in a pharmacy program Public Health course (Ranelli & Nelson, 1998) and in the Written Language Rating scale (Chur-Hansen & Vernon-Roberts, 2000) developed as a means to objectively rate medical students' written English language skills and to target those students in need of formative feedback and tuition. The scoring system could be readily applied and did not require specialist language knowledge.

This study confirms staff perceptions that the international and transnational students' written English language skills improve between third and fourth year. This may be a reflection of external factors such as the classes provided by the University Learning Centre and increased frequency of interactions in Australia with English speaking inhabitants. Internal factors such as personal efforts at improving English language skills, or the increased awareness of the need to pass the comprehension test in order to progress to the final year of the program may also play a role.

The results from this study indicate that written language skills for international and transnational students improve in

the twelve to eighteen month period described. The improvements observed for those errors described as 'grammar' were not as marked as for those errors grouped as 'English expression'. The results therefore are consistent with the published literature in this area and suggest that we are observing an improved language proficiency of our students (Harris & Silva, 1993). A range of error types under the error headings of verbs, nouns, articles and prepositions have been described with the comment that *'These four error types account for most of the errors made by ESL writers with a fairly high level of English proficiency; ESL writers with lower levels of proficiency may also describe more problems with basic sentence, clause and phrase structure'* (Harris & Silva, 1993).

The results displayed in Table III indicate that there is very wide variation in English language skills in the group of international and transnational students in this study. If, for example, we focus on sentence construction in the fourth year work examined, 33.3% of students made no errors, however 29.7% of students made more than 3 errors. This is consistent with anecdotal information gathered about the international and transnational students. For example, although some of the students have Malaysian citizenship and are of Chinese origin they speak English at home, and yet other students with identical descriptors have parents who are unable to speak English.

The results of this study are also consistent with work which suggests that language development is not a linear process. We note that some skills such as tense and spelling become worse for some students (Nunan, 1998) and in fact results in Tables II and III confirm this. This result validates our approach to of the use of language support classes where teaching is conducted in context.

It is interesting to note that international students made fewer errors per students and scored a greater decrease in the percentage of errors between third and fourth year than their transnational colleagues (Table IV). The differences in error rates in third year may be attributable to the fact that the international students have been living in an Australian English language environment for one to two years prior to the third year test, whereas our transnational students, although having studied in English at their Malaysian campus, have been living in a country where other languages predominate in the media and on the street. Transnational students as a group appear to improve less between third and fourth year. Anecdotally these students form informal transnational student study groups, with the potential that the students adopt languages other than English as the medium for communication in these groups.

There are several limitations of this study. Firstly, there is no attempt to track individual student participation in the classes provided by the University Learning Centre. Secondly, individual student language backgrounds (i.e. English spoken in the home, as opposed to the family not being able to speak English) have not been taken into account, nor have individual students' exposure to English language outside the University. For example, some international and transnational students choose to live in essentially English speaking 'homestay' accommodation whereas others choose to share accommodation with other students of the same language background.

This study confirms staff perceptions that the international and transnational students' written English language skills improve between third and fourth year. Although we cannot attribute this directly to alignment between assessment and objectives, the assessment requirements for the written work signalled to students that the acquisition and demonstration of written English skills was to be taken seriously as failure precludes progression in the program.

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