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BRIEF REPORT

English language proficiency and academic performance: A study of a medical preparatory year program in Saudi Arabia

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ABSTRACT

Introduction: All medical schools in Saudi Arabia have English as the primary official medium of instruction. Most of the high school education, however, is delivered in Arabic and hence the transition to an English based learning environment tends to be difficult for some students. Our study aims to correlate English language proficiency with academic performance among medical students in their preparatory year. **Methods:** A cross-sectional study design was used. Test scores of 103 preparatory year students (54 female and 49 male) were analyzed after the students completed an English language course and medical introductory course in their preparatory year. The total score obtained in the English course assessment was compared to each component of the medical content assessment. **Results:** A significantly positive correlation (Spearman's Rho, at 0.01 levels) was seen between the scores of the English exam and the written exam ($P < 0.001$) and the oral exam ($P = -0.003$) parts respectively of the medical examination. Significant correlation with the English exam score was not obtained for the other components of the medical assessment, namely; student assignments, presentations and portfolios. **Conclusion:** English language proficiency is an important factor in determining academic proficiency of medical students in our college at the preparatory year level.

Key words: Linguistics, Saudi Arabia, undergraduate medical education

INTRODUCTION

Our medical school has a 5-year medical undergraduate program (excluding a year of internship). The 1st year of this program is a preparatory course, which covers an introduction to the medicine module and also has a complete English language module. The medicine module is during the last quarter of the preparatory year and includes didactic lectures, problem based learning in small groups and practical workshops as the main teaching-learning methods. The assessment at the end of the course includes a final summative written examination in the form of multiple-choice questions (MCQs) with a weightage of 40% and an oral examination with a weightage of 15% (total of 55% as summative assessment). The formative assessment includes – student portfolios, which in turn includes performance in small groups (20%), student assignments (15%) and student presentations related to the content of the small group problem based learning cases (10%).

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The English course in the preparatory year was constructed as a standardized course covering all aspects of medical English including – medical terminology, reading, writing, speaking and comprehension. The final assessment is out of 400 marks (100 marks each for reading, writing, speaking and comprehension with both summative and formative components).

Most students entering the undergraduate medical course come from a background of Saudi high school education, which is delivered almost entirely on Arabic. The English component taught in high school is of a very basic level and by itself is not sufficient for professional courses. English proficiency is considered as a part of the weighted formula, which governs admission to Medical schools. At the time of writing this report, there is no specific cut-off score or a minimal standardized English language proficiency requirement on the lines of standardized tests like IELTS or TOEFL, for entry into the medical school.

Focus group discussions conducted with previous preparatory year students have indicated that most students have general difficulty in all aspects of English language usage in the context of their medical content. A study from Umm Alqura University in Saudi Arabia has shown that a lack of proficiency in English language was one of the main difficulties faced by medical students during their 1st year of the course.[1]

It was also seen among our students that those who were fluent in English (who have had their high school education in English medium schools in Saudi Arabia or in other countries, with English as the native language) perform better in terms of medical academic proficiency. We however had no concrete data to support this observation. Theoretically, proficiency in English language would play an important role in each component of the medical assessment. The training in medical English, though limited, was assumed to help students perform significantly better in formative assessment components like student assignments, as they have more time for preparation. Our study aimed to correlate English language proficiency with academic performance among medical students in their preparatory year.

METHODS

The study was carried out after getting ethical clearance and funding from the scientific research deanship of the King Faisal University, Hofuf, Saudi Arabia during the period 2011–2013. The students in the preparatory year were our population. All the students in the preparatory year were invited to participate in this research. It was explained to the students that participation in the study was voluntary. The sampling was essentially based on the fact that the preparatory year students were the only group which had both an English language course with assessment and a proper medical module. Students were informed regarding the aims and methodology of the study. The students who accepted to share and completed their information sheets were considered as our sample (103 preparatory year students; 54 female and 49 male), representing 77% of the whole batch.

Design

A cross-sectional design was implemented. Correlation between scores obtained in each component of the medical content assessment and the total score in the English assessment was analyzed.

The English course in the preparatory year was administered as a standardized course which covered all aspects of medical English including – medical terminology, reading, writing, speaking and comprehension. The final assessment for the English course was out of 400 marks (100 marks each for reading, writing, speaking and comprehension with both summative and formative components). The students' learning abilities in listening, reading, writing and grammar were tested time to time by continuous evaluation in the form of quizzes, mid-term exam and final exam. During the course, the students' comprehension skills and their vocabulary were mainly tested in the reading skills component. Their ability in understanding the unseen passages related to medical text were given more emphasis. The students' writing skills were tested through the classroom activities such as writing small paragraphs by doing instant correction in the classroom. They were also trained to write good essays using linking of words. Listening skills were tested by using audio-visual aids clippings, which after seeing/hearing they were asked to fill in the gaps of conversations between doctors and patients. The doctor's communication skills are very important in handling the patient. Hence more emphasis was given to grammatical structure such as passives, relative clauses, tenses, verbs, subject – verb agreement, reported speech and connectives. Grammar was taught by using inductive methods, direct methods, communicative methods and task-based teaching. Almost all these activities in the classroom were taught through role-plays, group and pair work, group discussions and presentations.

The medical component assessment includes a final summative written examination in the form of MCQs with a weightage of 40% and an oral examination with a weightage

of 15% (total of 55%). The MCQs are single best option type. The oral examination is in the form of a one-on-one viva, with one faculty member asking content related questions to the students and lasts for 5–10 min. Formative assessment includes – student portfolios – including performance in small groups, professional behavior and reflective essays (20%), student assignments – are related to the medical content and students are given clear instructions regarding structure, references etc., (15%) and student presentations are short 5 min power-point presentations related to the content of the small group problem based learning cases (10%). The reflective essays, student assignments and presentation are assessed based on a checklist, which also considers language skills as one of the points.

Statistical analysis

Scores obtained in each component of the medical content assessment were compared to the total score in the English assessment. Statistical analysis was done using SPSS software (IBM corporation). Nonparametric correlation using Spearman's- Rho was the primary statistical measure.

RESULTS

One hundred and three preparatory year students; 54 female and 49 male), representing 77% of the whole batch were included in the study.

A significantly positive correlation (Spearman's Rho, at 0.01 level) was seen between the scores of the English exam and the written exam ($P < 0.001$) and the oral exam ($P = -0.003$). There was no significant correlation between the English exam score and the other components – student assignments, presentations and portfolio [Table 1].

DISCUSSION

Our study showed a significant positive correlation between the score in the English language assessment and the final summative part of the medical content assessment (including the written the oral parts). This indicates that addressing the issue of English proficiency is very important in the context of medical education in countries like Saudi Arabia where the native language and main medium of high school education is not English. The concept of "investing" in a second language to really increase chances of a better academic and professional future has been an important area of discussion in the past. For the Saudi medical students too, English language proficiency in not only important for their basic undergraduate course, but also for higher studies in the future. This is especially important considering that a large number of Saudi students opt to go to countries like Canada and the United States for further fellowship programs.[1-4] A study from the King Saud bin Abdul Aziz University for

Table 1: Correlation of the English language assessment score with different components of the medical content assessment

	Total written/40	Portfolio/20	Assignment/15	Presentations/10	Oral examination/15	English assessment score/100
Spearmans' Rho						
Total written/40						
Correlation coefficient	1.000	0.004	0.283*	0.234	0.569**	0.621**
Significant (two-tailed)		0.979	0.049	0.105	0.000	0.000
n	49	49	49	49	49	49
Portfolio/20						
Correlation coefficient	0.004	1.000	0.275	0.313*	0.118	−0.012
Significant (two-tailed)	0.979		0.056	0.029	0.420	0.933
n	49	49	49	49	49	49
Assignments/15						
Correlation coefficient	0.283*	0.275	1.000	0.351*	0.397**	0.136
Significant (two-tailed)	0.049	0.056		0.013	0.005	0.352
n	49	49	49	49	49	49
Presentations/10						
Correlation coefficient	0.234	0.313*	0.351*	1.000	0.421**	0.183
Significant (two-tailed)	0.105	0.029	0.013		0.003	0.208
n	49	49	49	49	49	49
Oral exam/15						
Correlation coefficient	0.569**	0.118	0.397**	0.421**	1.000	0.416**
Significant (two-tailed)	0.000	0.420	0.005	0.003		0.003
n	49	49	49	49	49	49
English assessment score/100						
Correlation coefficient	0.621**	−0.012	0.136	0.183	0.416**	1.000
Significant (two-tailed)	0.000	0.933	0.352	0.208	0.003	
n	49	49	49	49	49	49

*Correlation is significant at the 0.05 level (two-tailed), **Correlation is significant at the 0.01 level (two-tailed)

Health Sciences attempted to correlate premedical English with that of the basic science courses in year 2 and year 3. This study found a significant positive correlation between English and all courses of the 2nd and 3rd year. This study however did not correlate with individual components like written exams, oral exams or assignments.[5] The importance of the medium of instruction and the correlation with academic performance in medical course is not limited to the Arab world and has been discussed in the context of other regions/cultures too. Understanding medical terminology was found to be one of the major issues facing a group of Bangladeshi medical students.[6]

It has been suggested that more effort should be made to improve language-learning strategies, rather than the time allocated for learning a language, to ensure better proficiency. The two major aspects to be considered here are: Identification and comparison of the learning strategies used by more and less successful English language learners, and develop instructions for less successful learners that would help them become more successful in their language study.[7] More integrative English language training combining reading, writing, speaking and listening skills in authentic medical contexts will be important in ensuring the students actually transfer the benefit of language training to their academic performance.[8] Using role-plays and scenarios similar to actual medical consultations would go a long way in improving relevant medical communications skills in English.

The positive aspect from the study was that in the assessment components where students had more time to prepare – like student presentations and assignments; English language proficiency was not a major influencing factor. This suggests that continuous and well-planned intervention in the form of refresher courses and other activities like; book clubs or debating societies, might lead to a definite improvement in the English proficiency of the medical students. We also suggest that a minimal cut-off score in a standardized English examination like TOEFL or IELTS be consider for entry into the medical program. Reflective essays may actually contribute by itself to the improvement of English language skills of the students and we hope to focus on this more in future.[9] Extra credit points for students opting for English courses in the vacations could also be considered.

Limitations

The small sample size was the major limitation in our study. One of the other limitations of the study was that we did not have any data related to the prior proficiency levels of the sample population. The results have to be interpreted keeping in mind the inherent limitation of a cross-sectional study, which may not be ideal for studying correlation. A qualitative component of the study was absent, which could probably have helped us understand how exactly the student perceive their English language proficiency and its possible effects on their academic performance in general.

Future plans

As a continuation of the study we are considering alternative and novel options like book clubs (based on medical fiction) and debating clubs as an intervention to improve English language proficiency. We are planning to continue following up the same group of students longitudinally to assess progress of both academic proficiency and English proficiency.

CONCLUSION

English language proficiency is an important factor in determining academic performance of medical students in the preparatory year in our college. This was significantly more important in the context of summative assessment and less in the context of formative assessment where students had more time to prepare for the assessment. Studies that are more elaborate are warranted in order to have a better understanding of the relationship between language proficiency and academic performance, in the context of undergraduate medical education.

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Conflicts of interest

There are no conflicts of interest.

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