Teaching English for Communication and Research to Postgraduate Students in Health Sciences

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Abstract

English is now the dominant language internationally in the field of health sciences. However, most Japanese colleges and universities lack any concrete curriculum to provide necessary English proficiency skills to students enrolled in their health sciences programs. English language courses taught at the undergraduate level are mostly general in nature and few schools provide any English language education at the postgraduate level. In a previous publication, the author described a new approach for teaching English to undergraduate students in medicine that utilized case studies. The present article describes a lesson plan to teach English for communication and research to postgraduate students in health sciences. The author's experience of using the described lesson plan in teaching a postgraduate course at a medical faculty in Japan in conjunction with the previously reported teaching approach at the undergraduate level, emphasizes the need to assess the English proficiency requirements of Japanese students in health sciences disciplines and devise appropriate curriculum and teaching methods to prepare them for their future professional careers as healthcare providers and researchers in the 21st century.

Key words: English, communication, research, postgraduate, health sciences

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Introduction

English is now the most commonly studied foreign language around the world[1]. It is also the dominant language of science globally[1] especially in the field of health sciences[2]. In a number of European countries where the native language is not English such as Italy and France, it is taught as a compulsory subject in medical schools[3-4]. While the specific details of the English curriculum used in these and other countries are not available, a recent study from France shows that medical English is taught in 68% of the schools[4]. Although English is also taught as a compulsory subject at the undergraduate level in Japan, no concrete medical or specialized English language curriculum exists at Japanese medical and health sciences institutions of learning. Most schools offer the same undergraduate English language courses to health sciences students as to those from other faculties. Often the classes include students from multiple faculties and the course content is general in nature being unrelated to students' respective fields of study. In comparison, according to the French study[4], the content of English courses taught at medical schools in France is medical in nature and in 52% of the cases, a doctor participates in the class.

Few Japanese health sciences schools teach any English language courses at the postgraduate level. In a survey of 29 dental schools in Japan, only 45% of the public schools and 6% of the private schools were found to offer some English language education to their postgraduate students[2]. A variety of English language textbooks aimed at teaching Japanese students in medicine, dentistry, nursing and pharmacology do seem to be available in the market[5-7]. However, most are either too general or merely present a lot of facts and technical material requiring rote learning methods thereby losing their effectiveness as appropriate study materials[8]. Furthermore, the content of the books is non-specific in terms of the level or needs of the target population.

In a recent publication, the author has described a different approach that involves using case studies based on real life examples for teaching medical English to undergraduate students in medicine[9]. The approach avoids rote memorization and makes learning of difficult medical terminology easier while making the classes more active, interesting and relevant. The present article describes a lesson plan to teach English for communication and research to post-graduate students in health sciences. The rationale behind devising this plan was the realization that in the realm of health sciences, English language educational needs of postgraduate students are different from those at undergraduate level. The undergraduate students need to be taught a wide range of topics and vocabulary in their respective health sciences disciplines with a goal to prepare them as future practitioners. On the other hand, postgraduate students require language skills that can help them communicate about their work both verbally and through writing with the global research community.

Lesson Plan

1. Outline

The lesson plan described here is based on part of a postgraduate course that the author taught in the Graduate School of Medicine, Dentistry and Pharmaceutical Sciences of Okayama University from 2003–2007. The course was titled: "Introduction to Medical and Dental Sciences" and was a requirement for first year students in the master's program of the graduate school. The part of the course that the author taught was titled: "Learning Medical English". It was further subdivided into three sections of 90 minutes each: 1) English as a means of communication in medical research; 2) Fundamentals of writing a medical research paper in English; and 3) A writing workshop. The class duration was 90 minutes for each section with a total of 270 minutes for the entire lesson.

2. Class size and students

The average class size was 28 (range 19–34) with roughly equal number of male and female students. The research areas of students ranged widely from basic sciences such as biochemistry, cellular biology and molecular genetics to clinical specialties such as emergency medicine, gastro-

intestinal surgery and ophthalmology.

3. Procedure

The procedure below describes the rationale and teaching steps for each of the three sections of the lesson.

Section l: English as a means of communication in medical research

Rationale: As in any other academic field, effective communication in research in health sciences also begins with effective communication at an individual level. In this section, students learn to express and convey information, thoughts and ideas effectively and with confidence and clarity through self-introduction and by asking and answering questions to each other about themselves including their academic and research interests and backgrounds.

Step l: Ask the students to write a quick self-introduction. Most students will usually write one of a very basic and general type that would include their name, age, hobbies, etc.

Step 2: Go over a few typical self-introductions written by the students. Explain that as post-graduate students, their self-introductions must include information about their academic status, affiliation and field of study. Write the following model sentences on the blackboard: (The words in brackets will change depending on the level, program, affiliation and research fields or interests of students in the given class.)

1. I am a (first) year student in the (master's) program of Graduate School of (Medicine, Dentistry and Pharmaceutical Sciences) at (Okayama University).
2. I am studying (Nursing).
3. My field of research is (Pediatric Nursing).
4. I'm interested in studying (how to improve child healthcare in rural areas).

Step 3: Go around in the class and help the students fill in relevant information in sentences 1–4.

Step 4: Tell the students to go over their self-introductions and depending on time availability, have a few or more of them present orally before the class what they have written.

Step 5: Have students ask a few questions to the presenter and also practice in pairs. Give them some typical questions for practice such as the following:

1. What are you studying?
2. What is your field of research?
3. How and why did you pick this field of study?
4. What are your future goals?
5. What is the significance of your research in your field of study?

Step 6: Tell students to hand in a corrected and revised copy of their self-introduction in the next class.

Section 2: Fundamentals of writing a medical research paper in English

Rationale: Writing a good research paper requires not only good data and material but also the art and technique to put it all together as well as a thorough understanding of the literature in the given field[10]. In this section, students learn about the basic structure and organization of a standard scientific research paper (See[11-12] for two typical examples) including its main components.

Step l: Distribute copies of the selected research paper. Point out and explain briefly the following main components: Title; Abstract or Summary; Introduction; Experimental Procedure or Materials and Methods; Results; Discussion; Acknowledgements; and References.

Step 2: Have students read the Abstract.

Step 3: Go around in the class and check if students can get a gist of the Abstract and tell what the paper is about.

Step 4: Go over each component of the paper listed in Step 1 and explain the important points relevant to each part.

Step 5: Tell the students that in the next section, they will be writing a research paper based on this model. Allow time for students to discuss among themselves or ask the teacher any questions they might have about the paper.

Section 3: A Writing Workshop

Rationale: The rationale for this section is to put into practice the theory learned in Sections 1 & 2. Thus, here students draw the outline of a research paper in the field of their study or interest on the model of the paper used in Section 2.

Step l: Tell the students to write a title for their paper. Give hints and techniques in formulating a title[13]. Go around in the class helping the students formulate their titles.

In steps 2–8, students write brief outlines of the remaining components of the paper. Help and guide the students at each step using the respective components of the model paper as reference. Typical examples for various steps are given below. For additional hints, refer to the Library Guide on Writing a Research Paper[13].

Step 2: Abstract: Tell the students to write their abstract on the pattern of the one in the model paper being used.

Step 3: Introduction: Explain how to write the background review, cite references and detail the objectives of their study. For example, they may begin the sentence as follows: The objective of the present study was to examine plasma amino acid levels in epileptic patients before and 3 weeks after the antiepileptic medication.

Step 4: Materials and Methods: Point out model sentences such as: Twenty patients and 20 healthy subjects were examined; or The samples were analyzed for blood sugar level.

Step 5: Results: Explain how to organize and present data as Tables and/or Figures and cite them in the text. E.g. Table 1 shows the results of biochemical analysis.

Step 6: Discussion: Help the students to write sentences on interpreting and discussing the results. E.g. Results of this study suggest that in patients, there is a tendency for increased blood sugar levels.

Step 7: Acknowledgements: Make a few model sentences to help students write this part. E.g. We thank all the patients for agreeing to participate in the study.

Step 8: References: Show the students a few typical ways of writing bibliography pointing out differences in the ways of listing and citing depending on the publisher.

Step 9: Allow time for questions among the students and between the students and the teacher.

Step 10: Tell students to check, proofread and re-write the revised and corrected drafts of their writings as home assignments and to submit by a deadline.

4. Additional Suggestions and recommendations

Following are some additional suggestions and recommendations for more effective use of the lesson plan described, for the teachers who may want to try it in their classes. Firstly, make sure that the model research paper: is written in a standard format with easy to understand English; has a logical and systematic layout; is on a topic that can be understood by students from varied backgrounds in health sciences; and is interesting. Secondly, familiarize yourself with the area of research described in the paper and try to look up Japanese equivalents of major English terms such as those in the title. Finally, it would be desirable for the teacher to have some knowledge in both English and Japanese of the basic organization of the programs and courses offered at the health sciences school or faculty where the lesson is being taught. This will be helpful when guiding the students in writing their self-introductions as related to their academic status, affiliation and field of study. A detailed listing of programs and courses in both English and Japanese can be found in the prospectuses of most universities in Japan[14].

Discussion

The author's experience of teaching a postgraduate course in Japan using the lesson plan described in this paper underscores the importance of English education for postgraduate students in Japanese health sciences disciplines. The postgraduate classes in which the course was taught, were generally a mix of students from various academic backgrounds and different levels of English ability. Most had, however, never had a class of this nature. In particular, none of them knew how to describe their own student and research status in English. Thus, learning the very first sentence that "I am a first year student in the master's program of Graduate School of Medicine and Dentistry at Okayama University", in itself became a big sense of achievement and satisfaction for them. Students were asked to write their comments and impressions at the end of the lesson. Of the 81

written comments collected from three classes between 2005 and 2007, 100% had a favorable opinion of the lesson. Most students wrote that: they had never had a class like this before; had never before learned to introduce themselves in this context; the class had removed their fear of English; it had motivated them to study English more; and that what they learned in this class was practical and will be useful for them in their present study and future careers.

The author's experience of teaching this course also highlights, especially in comparison with past experience in teaching health sciences students at the undergraduate level[9], the differences in the educational needs of the undergraduate and postgraduate students with respect to the course content and teaching methodology. Thus, it becomes obvious that at the undergraduate level, the focus of English education has to be predominantly on teaching broader medical terminology, role playing, emergency medicine vocabulary, interviewing techniques and so on[15], whereas for postgraduate students, acquisition of language skills that can help them communicate about their work both verbally and through writing with the global research community are more critical[16].

While other developed countries like Italy and France where English is not the native language, have come a long way in improvising medical English curriculum in their medical schools[3-4, 17], Japan still lags behind in this respect. Although the importance of teaching specialized English to health sciences students in Japan has been noted[2], precisely what the subject should entail and how it should be taught are questions that remain a matter of debate and discussion[18].

The reasons for a lack of proper English language curriculum at health sciences schools in Japan are multiple. They are related to the overall system and practices of teaching English in the country and the role of the Japanese ministry of education in this regard[19-20]. In Japan, English is taught for a total of six years in high school. However, an average high school graduate who is also a potential college freshman, lacks the basic communication skills in both spoken and written English. Due to this factor, the author has faced considerable limitations during teaching practice at Japanese health science colleges when developing medical English curriculum for both undergraduate and graduate level classes. Simply speaking, until and unless college students have acquired a minimum level of English proficiency, they cannot cope with the more advanced or specialized level of instruction. It is precisely for this reason that the lesson plan described in the present paper includes first a section (Section 1) on learning some basic skills for communication such as doing self-introduction and asking and answering simple questions before going on to learning the scientific language and its use for research in the students' field of study as described in Sections 2 and 3.

From the above discussion, it becomes obvious that any efforts to develop and institute a concrete program of specialized English language education at Japanese health science colleges have to take into consideration the type and level of basic and general English language education during the 6 years of high school. This period of instruction must give the students a minimum level of English language proficiency which can enable them to proceed with the more advanced and specialized language learning in their professional field of study after they enter college.

Conclusions

In conclusion, in the current age of globalization, the ability to communicate the results of one's research and carry out a rational and intellectual discussion with the international scientific community, both verbally and in writing using the common language of science, namely English, is the fundamental requirement of a research career in health sciences. The author's experience of teaching a postgraduate course at a medical faculty in Japan using the lesson plan described in this paper in conjunction with previously outlined teaching approach at the undergraduate level suggests that it is critical to assess the English language educational needs of Japanese students in

health sciences disciplines and devise appropriate curriculum and teaching techniques to equip them with the necessary tools to lead productive and fulfilling professional lives as health care providers and researchers in the 21st century.

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要旨

現在，英語は健康科学の分野で国際的に優位な言語である．しかしながら，日本の大部分の大学において，健康科学プログラムに在籍する生徒に必要な英語能力を提供する具体的なカリキュラムが不足している．学部学生のレベルで教えられている英語コースは現実にはおおむね一般的なコースである．また，ほとんどの大学において大学院生への英語教育が提供されていない．著者は以前の論文において，学部学生に医学英語を教えるために，ケーススタディを用いた新たなアプローチについて紹介した．本論文では，健康科学分野の大学院生にコミュニケーションと研究のための英語を教えるレッスン・プランについて述べている．以前に述べた学部学生への教育アプローチの経験と，今回述べている日本の医学部大学院生コースにおけるレッスン・プランの経験とを通じて判明したことは，健康科学の分野で日本人学生の英語能力を評価することの必要性と，彼らに将来21世紀の医療人や研究者として活躍するために役立つ適切なカリキュラムと教育方法を工夫することの必要性である．

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