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第17回 日本医学英語教育学会 学術集会 開催案内

　日本医学英語教育学会は1988年に第1回医学英語教育研究会が開催され，その後，医学英語に関する研究を推進し，医学英語教育の向上を図る目的で学会として発展して参りました。現在では400名以上に及ぶ会員を有しております。

　医学英語教育は卒前・卒後・生涯教育として重要であり，医療の国際化，医師国家試験の英語問題導入や医学英語検定試験など，専門職教育の限られた時間でどのように教育を行うかが課題です。学術集会では例年，医療系の英語教育に係わる教員・研究者・医療関係者が参加し研究・事例を報告します。平成26年度学術集会は下記により開催します。日本医学教育学会の委員会に起源をもつ本会に是非ご参加いただき，医学英語教育について情報を交換していただければと思います。

記

学会名：第17回医学英語教育学会学術集会

日　時：平成26年7月19日（土）〜20日（日）

会　長：西村月満（北里大学一般教育部）

会　場：東京ガーデンパレス（〒113-0034　東京都文京区湯島1-7-5）

演題募集：平成26年2月1日正午〜4月20日 正午

　　　（医学英語教育の目標・教育方法・評価，学生評価，語学教育と専門教育の統合，実践力教育，医学・看護学・医療系教育における医学英語教育，英語教員による医学英語教育，医学・看護学・医療系教育者による医学英語教育，医学英語教育におけるシミュレーション教育・ICT活用，教員教育能力開発，医学英語論文指導・校閲・編集，医学論文作成における倫理，USMLE受験指導，医療通訳，医学英語検定試験，その他の医学英語教育に関連する演題）

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Second Announcement

The 17th Annual Conference of the Japan Society for Medical English Education

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The Japan Society for Medical English Education (JASMEE) held its first meeting as a 'study group' in 1988. Since then, the society has continued to grow in promoting the development of medical English education, supported by over 400 members.

Medical English education has become a significant part of basic, postgraduate and continuing education. With the globalization of medicine and recent changes, such as the introduction of the Examination of Proficiency in English for Medical Purposes (EPEMP), JASMEE has become active not only within the society itself but has also extended its involvement and responsibilities in ways which contribute to society.

The 17th JASMEE academic meeting will include plenary lectures, educational lectures, oral presentations, and symposia workshops. We welcome submissions on various topics related to medical English education such as: educational methods, assessment, student evaluation, integration of language education and specialized education, medical English for nursing and other healthcare related fields, medical English editing, teaching of medical writing, EPEMP etc.)

Date: July 19 (Saturday) to July 20 (Sunday), 2014

Venue: Tokyo Garden Palace

1-7-5 Yushima, Bunkyo, Tokyo

President: Tsukimaro Nishimura

(Kitasato University College of Liberal Arts and Sciences)

Call for papers: Proposals for papers on the following subjects should be submitted by the 20th of April, 2014.

· goals, methods, and assessment of medical English education

· student evaluation

· integration of language education and specialized education

· medical English for nursing and other healthcare-related fields

· ICT/simulation education for EMP

· faculty development

· teaching of medical writing

· medical English editing

· USMLE preparation

· medical interpretation

· EPEMP, etc.

All submissions should be made online. Only submissions by members in good standing of JASMEE can be accepted.

Registration: Please access the JASMEE homepage for details.

URL: http://www.medicalview.co.jp/JASMEE/gakujutu.shtml

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The missing question

We tend to make allowances for differences in culture. In fact, we have no choice. Whether we bend or not, the system certainly will not. We do need, however, to consider whether the resulting classes will work. In terms of outcomes, when a class of 45 students graduates, one would like 35 of these students to be competent in English. Impossible? Those students had at least 6 years of English at school before entering medical school, they did pass a highly competitive entrance examination that included English and they had at least 3 more years of English, or Medical English at medical school. If they do not know English after all that study, do they know their medicine?

Students in Western Countries have the ability to raise a hand and ask questions. In fact, in many environments that is considered compulsory skill for any learner who wishes to gain knowledge. Without that, students go through class not only without learning, they usually fail to realize that they hod failed to gain either knowledge or skills.

Language learning stresses the need for context and syntax as well as pronunciation. Many medical professionals, however, still live in the medieval caves of vocabulary memorization. And yet, the study of vocabulary alone can be highly problematic. Even a simple study of vocabulary can lead to confusion as the more words the student needs to memorize, the more difficult it is to fit those into context. When medical students start their encounter with these lists of words, they do not even know enough medicine yet to match them to their meaning. Once this study of words becomes more complicated by the intricate implication terms tend to have in the different areas of medicine, those students who will have recalled a few of the terms tend to give up and, joining their friends who remember nought, return to the dictionary in search for their salvation. In that case, why construct Medical English classes at all? Train the students in the use of dictionaries!

The need for an exchange between student and teacher becomes desirable as it may put the words in context and allow for a more natural flow of language. Creating a more vociferous class, a class that will engage in constructive Q & A may be a first step on the road to meaningful results in the medical English class.

Journal of Medical English Education

Editor-in-Chief

Reuben M. Gerling

Using case studies to develop effective medical English teaching materials and methods for Japanese undergraduate programs

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This paper introduces a lesson as an example of materials and methods that can be considered suitable and effective for use in Japanese undergraduate medical English programs. The main objectives in designing the lesson were: 1) to offer the students learning materials that would be relevant to their professional needs and also interesting and motivating for them; and 2) to provide the students with the tools and guidance to develop their capabilities to actually use English in their future workplace. Toward these objectives, the lesson utilizes a medical case study as the learning material, and a procedure that facilitates learners' production of spoken and written output in English. The paper gives a rationale for using case studies as materials in medical English instruction; provides an overview of the present lesson with notes on case study selection, materials requirement, class size and delivery methods; describes a step by step lesson procedure; and includes samples of the materials utilized. Use of the lesson by the author in several medical, nursing and medical technology classes at Japanese universities shows that students like the material because of its relevance to their future workplace, and find it interesting, enjoyable and easy to understand due to its story format. Other merits of the lesson include: an ease in learning and remembering medical terminology; provision of an all English listening and speaking environment; and building of student confidence in using the language. Incorporating additional pronunciation practice activities in the lesson could further improve its efficacy.

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Keywords medical English, teaching materials and methods, case studies, Japanese undergraduate programs, English for Medical Purposes

1. Introduction

The global spread of the English language and its dominance in the medical profession have brought the field of English for Medical Purposes to the forefront of healthcare education for learners from non-native English backgrounds. This has led to a critical review of medical English education in Japan and increasing realization that Japanese healthcare professionals need to be equipped with English language abilities.[1] As a result, unlike the traditional practice in the country of teaching only general English to students enrolled in health sciences faculties,[2] a growing number of medical and nursing schools are introducing the study of medical English in their undergraduate programs.[3-9] While these developments reflect a positive step in Japanese healthcare education, they have also created a need to develop suitable and effective teaching materials and methods that can be used in the newly introduced and forthcoming programs.

This paper introduces a lesson as an example of materials and methods that can contribute to meeting the growing need of Japanese undergraduate medical English programs. The main objectives in designing the lesson were: 1) to offer the students learning materials that would be relevant to

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their professional needs and also interesting and motivating for them; and 2) to provide the students with the tools and guidance to develop their capabilities to actually use English in their future workplace. Toward these objectives, the lesson utilizes a medical case study as the learning material and employs a lesson procedure that facilitates learners' production of spoken and written output in English.

2. Why use case studies?

Case studies have been employed as teaching tools in many educational settings. For example, literature on the use of case studies in science and engineering education cites numerous benefits of this teaching approach. While giving a rationale for using case studies in science classes, Klein[10] writes: "Cases appeal to students who are unresponsive to traditional content loaded lectures"; and "Cases use issues that students view as relevant to their lives and, by making content meaningful, students can be motivated to learn." In their experience of using case studies in engineering education, Davis and Wilcock[11] find that they: "Allow the application of theoretical concepts to be demonstrated, thus bridging the gap between theory and practice"; "Encourage active learning"; "Provide an opportunity for the development of key skills such as communication, group working and problem solving"; and "Increase the students' enjoyment of the topic and hence their desire to learn."

However, documented examples of the use of case studies in language education are few and limited to business English classes.[12,13] But in fact, the advantages of using this teaching tool in other language learning settings are also numerous. Many of the benefits of using case studies, such as development of critical thinking and reflective learning, and enhancement of general communication skills are common between both language learning and non-language learning settings. In addition, case studies when used in the language classroom can improve students' written and oral communication skills.[12] Taken together, the demonstrated and potential benefits of using case studies in language learning settings lend this pedagogical tool to application in teaching medical English in the Japanese context.

3. A lesson based on a case study

3.1. Overview

The lesson described here, using a case study as the teaching material, can be considered suitable for use in Japanese undergraduate medical English programs. The example outlined is not from a particular class per se but rather represents materials and methods that the author has used at various times in teaching medical, nursing and medical technology undergraduate classes at several Japanese universities. The actual content and type of case studies used in these classes have varied according to students' study majors. For example, as can be rationalized, cases that are based predominantly on situations involving doctors and nurses are better suited for medicine and nursing students, respectively. On the other hand, cases that highlight medical examinations and laboratory testing procedures are more appropriate for use in medical technology classes. At the same time, some degree of overlap across disciplines is also necessary since healthcare as a whole is the result of a concerted effort and collaboration between the various health specialties. Since medical professionals from different specialties work as a multidisciplinary team that manages a patient's care, they must be able to understand and communicate with each other. Accordingly, students in one healthcare specialty such as nursing need also to be familiar with the English terminology and discourse used in other specialties such as medicine and medical technology, and vice versa.

3.2. Case study selection

Textbooks in healthcare specialties generally provide examples of authentic cases that may be used to suit a particular class and level.[14-16] The case described here was taken from a textbook in medical genetics.[16] The example is one of several medical genetics cases used by the author as materials in medical English classes. The main reasons for using these cases are: 1) they are authentic, interesting and on topics that are of relevance in medical practice; 2) their writing is clear and logical, making it easy to adapt them for a medical English class; and 3) the author specializes in human genetics and, therefore, is familiar with the study and management of genetic disorders, thereby having a full grasp of the lesson content.

3.2.1. A note on terminology

In the case study presented here, the term 'proband' is used to refer to the 'patient.' Proband (also known as "propositus" or "index case") is a commonly used term in medical genetics to designate a case. The rationale behind using this term is that in many instances of medical genetics consultation, the individual seeking help (the counselee) is not necessarily afflicted with a disease but is someone at risk of developing an illness, or has one or more family members at such a risk. While there certainly are instances where the counselee her/himself is affected with a disease, as in the

present case, nevertheless, in medical genetics practice and literature, the term proband is commonly used. Likewise, the term 'pedigree' is a widely used and accepted term in the field to refer to a family tree. It is necessary that learners of medical English be taught the specialty-specific terminology so that they get accustomed to using it themselves and are familiar with it upon encountering it in actual practice.

3.3. Materials required

1. A handout describing an appropriate case study (Appendix 1)
2. A worksheet with comprehension questions (Appendix 2) based on the selected case study

   In preparing the worksheet, the questions can be listed in a format that provides writing space following each question so that students can write their answers on the same sheet of paper. This format facilitates students' practice in asking and answering the discussion questions in step 10 of the Lesson procedure described below.

3. An optional worksheet to draw a pedigree of the case study

   This worksheet may be provided to the students as an additional activity where they can draw a pedigree of the case study either in the class or as homework assignment. The worksheet can include standard pedigree symbols used in medical genetics[16] which the students can refer to when drawing the pedigree.

3.4. Class size

The author did not find class size to be a limiting factor in implementing the lesson. In fact, the approach works well with large classes for the following reasons: 1) the lesson format is suited for studying in pairs or groups; 2) students feel more relaxed as they do not stand out among the class when doing the reading aloud, and question and answer practice; and 3) students enjoy listening to other students' presentations and opinions as part of the activities described in Step 11 of the Lesson procedure below.

3.5. Delivery methods

The lesson can be conducted using a conventional black/whiteboard, PowerPoint, a combination of both or any other technological tool(s) that the teacher may consider appropriate to deliver the content effectively. The procedure described here utilizes PowerPoint and is adapted from a previously reported method using a conventional blackboard.[17]

It is recommended that the teacher use English exclusively when following the steps outlined in the Lesson procedure. With such an approach, depending on the level of students' listening ability, it may be necessary for the teacher to project on the screen in addition to the lesson content, the text of her/his speech as well. This practice, however, is likely to become unnecessary after a few lessons as the students become accustomed to hearing at least the commonly used questions or expressions by the teacher such as: "Have you heard this word before?" or "Do you know anything about this disease?" It will also be helpful for the students if the teacher would show them some model answers such as: "Yes, I have heard this word before" and "No, I don't know anything about this disease," respectively, as possible replies to the two questions mentioned above. In the author's experience, this simple practice gives the students confidence and impetus in using English in the class.

3.6. Lesson procedure

The step by step lesson procedure described below is based on a typical 90-minute class period at Japanese universities for most non-laboratory subjects including English, where one class is held per week for a total of 15 weeks per semester. An approximate time for each step is indicated in parentheses at the beginning of each step. In estimating the timings, it is assumed that the lesson format, procedure, etc., have already been explained to the students and, therefore, no extra time will be needed for this purpose. With a large class, it may be necessary to allocate two class periods to one case study, where the second period is used to accommodate students' group presentations in accordance with Step 11 of the procedure.

Step 1: (5 min) Begin by projecting the title of the case study on the screen and explain its meaning while highlighting all new and technical words. Elicit students' prior knowledge and understanding of the subject in the process. A simple way to do this would be to ask the students if they know or have heard about the disease or the word(s) in question. Encourage the students to raise their hands to answer.

When explaining the meanings of medical terms in this and the following step or at any other time during the lesson, the teacher may use their Japanese equivalents, orally, by projecting on the screen, or both. However, in such instances, it is recommended that the teacher still use English in communicating with the students. For example in explaining the Japanese meaning of the term "familial" that appears in the present case study, the teacher should say: 'Familial means *kazoku sei no* in Japanese,' instead of saying the entire sentence in Japanese such as: 'Familial wa

nihongo de *kazoku sei* to iu imi desu.'

Step 2: (10 min) Project on the screen all technical terms or new words from the text of the case study and explain their meanings while eliciting students' prior knowledge as in Step 1.

Step 3: (10 min) Read the words aloud and have students repeat them after you. Note and emphasize the points where students may have difficulties in pronunciation. This step can be repeated several times depending on time availability.

Step 4: (5 min) Read aloud the entire text of the case study without projecting it on the screen and before giving the handout to the students. Tell them to take notes if necessary while listening. Read aloud the text a few times as time permits. Elicit student responses and comprehension after each reading. This may be done by asking students to repeat some of the words or sentences, or by asking them a few simple content questions.

Step 5: (10 min) Distribute the handout of the case study (Appendix 1) and let students read the text quietly for a few minutes. Tell them to identify and make a note of places where they may have listening and/or comprehension difficulties. Allow students to consult with their classmates in the process. Explain the difficulties identified by individual students to the entire class so that rest of the students can also benefit at the same time.

Step 6: (10 min) Have students read aloud the entire text while repeating after you. Emphasize the pronunciation of new and difficult terms during reading. Repeat this process a few times.

Step 7: (5 min) Have students read aloud the text to themselves. Tell them to seek your help with comprehension and/or pronunciation if they need to. Since asking questions in the classroom is not a norm in Japanese culture, students may not be forthcoming with questions, at least in the beginning. However, with time, and as the students get accustomed to the lesson format, they will start asking questions although often in group settings such as while doing pair-practice in Step 10 below.

Step 8: (10 min) Distribute the worksheet with comprehension questions (Appendix 2) about the case study and tell the students to write out their answers. Allow them to work in pairs while writing.

Step 9: (10 min) Elicit student responses to the worksheet questions by reading each question aloud one by one and asking students to raise their hands and read aloud their answer to the respective question. Praise the students when their answer is fully or even partially correct. As a general rule, the author gives extra marks to students who raise

their hands and answer questions during the class. This gives a feeling of accomplishment to the students and encourages them to participate actively in the class. After having each question answered by a student, show its correct answer on the screen and point out any corrections to the student's answer if necessary.

Step 10: (10 min) Have students practice asking and answering the worksheet questions in pairs using the written answers.

Step 11: (5 min) Divide the students into groups of 4 or more depending on the class size and assign a leader to each group. Tell each group to collectively prepare for homework a brief scenario of how they would manage the present case if they were the physician/nurse in charge. The group leader should then present his/her group's scenario in the following class. The leader's role within each group can be rotated so that for the next case study, a different leader presents the scenario. This step is likely to move much more swiftly after the first class as the students will already know their group assignments in each subsequent class and, therefore, will need to concentrate only on understanding the homework task.

Note: Any additional information about the case study if available such as tables and graphics can be added to make the lesson more effective and interesting for the students. For example, in the present case study of familial polyposis of the colon, a family pedigree that also appears in the reference textbook[16] can be projected on the screen in step 4 while reading aloud the text to the students. This can help the students observe various relations between the proband and the respective family members mentioned in the case study while listening to the text. In the process, the teacher can explain also the main characteristics of and rules for drawing a pedigree for medical purposes. Students can then use this knowledge in drawing a pedigree of the family in the case study using the optional worksheet mentioned above under Materials required (section 3.3.).

4. Discussion

The present method utilizes a medical case study as the teaching material with the aim of making the content relevant to the students' professional needs, and to interest and motivate them. The developed lesson is simple and concise enough to prevent the students from getting bored or dozing off in the class. It is also compact but long enough to provide the students with plenty of new vocabulary and content, and exercises in the form of comprehension questions that require students to answer them in writing and

then practice orally. The lesson is, therefore, practical and suitable for a typical 90-minute class period at Japanese universities.

The author's experience of teaching undergraduate classes at a Japanese university medical school using the methodology described here shows that students become very absorbed in the lesson by imagining themselves in the role of the physician in charge of the case under study.[17] This in turn leads to their active participation in writing and discussing answers to the questions about the case. Similarly, when teaching Japanese nursing students using case studies from a nursing textbook,[15] students enjoy the classes and find the material "interesting and easier to learn because of its relevance to their future workplace and the story format of the cases."[18] Thus, authentic, real life case studies, when used as teaching materials in medical English classes can serve as highly interesting and motivating tools.

Together with motivating the students, the use of case studies as teaching materials can also make it easier for them to learn new and complex medical terminology. Since the terms are associated with a case study which serves as a story, they are easier to remember than they are when studied out of context. Thus rote memorization of the complex medical terminology is avoided and this "helps make the class more exciting, relevant, and active."[17] In course evaluations, students generally reflect that with case studies they find it easy to learn and remember the names of various diseases. In general, in the author's experience with classes where case studies are used, students often end up remembering entire sentences from cases that they find particularly interesting and motivating, without making any extra effort to memorize them. These observations also point to the practical and motivational benefits of using case studies as teaching materials in medical English classes.

In addition to utilizing relevant, interesting and motivating teaching materials, the present lesson employs a pedagogical approach that is different from what most Japanese university students are accustomed to through their study of English in high school. The standard pedagogy employed in most high school classrooms in Japan is based on grammar-translation method.[19] The method relies mainly on tasks that involve translation of English text into Japanese while all comprehension exercises and teacher-student communication are conducted in the learners' mother tongue. As a result, high school graduates entering university have had little or no previous training in hearing or speaking English; making English sentences; and asking and answering questions orally or in writing, in English. Since high school is the last stage where almost all Japanese undergraduates have

studied English immediately prior to entering university, it is important for the university teachers of medical English in Japan to be aware of their students' English-study background. This knowledge can be of great benefit in tailoring medical English classroom pedagogy to the learners' needs and proficiency level in order to achieve optimum learning outcomes. The lesson described here was designed in light of these considerations. Thus, all steps in the lesson take into consideration the fact that this is a new learning experience for the students. Steps 1-7 provide the students with the guidance and tools they need to grasp the lesson content and develop their listening, speaking, and comprehension capabilities. Likewise, steps 8-10 give the students a chance to express their English comprehension abilities through both writing and speaking, while Step 11 helps them build further on their learning experiences in the classroom.

It is common knowledge that in Japan grammar-translation pedagogy practiced widely in secondary schools is also employed to varying degrees in tertiary level classrooms. Typically, in such classes, the teacher explains the lesson content in students' L1, while the students are required to translate the English text into Japanese. Influence of the method can also be seen in at least some medical English classrooms where students translate from English to Japanese, doctor-patient dialogues and articles and abstracts from medical journals.[8] The lesson described in the present paper, on the other hand, encourages the students to use and produce the target language instead of their L1. In this respect, the lesson can be seen as a step that can steer the students in a direction away from the traditional grammar-translation approach and toward one that can help them develop their abilities to actually use English in their future workplace as opposed to only learning *about it* through their native language.

As a general rule, in freshmen medical English classes, the author does not give written examinations on the grounds that they merely encourage students to memorize the lesson content. Instead, students are evaluated on the basis of their participation in class. Thus, students are graded on how many times they raise their hands to answer a question in English, as in steps 1, 2, and 9, and how well they perform on home assignment in Step 11. Results of these qualitative assessments clearly show an increase in student interest and participation as the class progresses and students gain confidence in their abilities. For example, more and more students start raising their hands to answer questions during the class. Furthermore, student comments such as "I enjoyed that I raise my hand" in their course

evaluations show that they do so truly out of enjoyment and not under any pressure. Although there are invariably some students who remain hesitant to actively participate in the question-answer activity, many write in their course evaluations that they wanted to raise their hand to answer a question but did not find the courage to do so. These observations suggest that the lesson format described here does have a positive effect on Japanese students' attitudes toward learning English and that more of such opportunities should be provided in their medical English classes.

In a typical Japanese university curriculum in medicine/healthcare, English is taught only in the first two years as a general education subject while the study of specialized subjects does not begin until the third year or in the latter half of the second year in some cases. Therefore, excluding some exceptions, in most cases when teaching medical English during the first two years in an undergraduate program, it is not possible to correlate the course content with that of the specialized subjects. However, this should not be seen as a disadvantage since the lessons include content that students will ultimately be exposed to in the later years of their studies and in their profession overall. And when that happens, students who have previously studied the specialized content in their medical English courses will be at an advantage.

5. Future considerations

While the lesson described in this paper does provide the students with a fresh approach to the study of English for their future profession, there are still many hurdles that both teachers and learners in medical English classrooms in Japan must overcome. Perhaps the biggest of these hurdles are the difficulties encountered by Japanese university students in pronouncing English words. These difficulties are related not only to pronouncing complex medical terminology but also the entire English lexicon, which students pronounce according to katakana pronunciation making their speech difficult to be understood by a non-Japanese listener. While pronunciation may not be considered a critical factor in a different professional setting, it cannot be compromised in the field of healthcare, where even a small error in communication can become a matter of life and death. Thus, the significance of improving the pronunciation of Japanese medical English learners cannot be overemphasized.

In the author's experience of teaching the lesson described here and medical English classes in Japan in general, students like doing pronunciation practice and are keen on developing their oral skills, as required in several of the steps in the present lesson. However, the roughly 20-30 minutes of actual practice time for pronunciation out of the total 90 minutes of a class held only once a week for a total of 15 weeks per semester, is far from enough to bring any significant improvement in students' pronunciation. Therefore, until such time as changes are brought about in Japanese secondary level English education so that high school graduates enter university equipped with a fair degree of English speaking abilities and an intelligible speech, and/or more time is allotted in Japanese tertiary level curricula to the study of English, university medical English lessons should include additional pronunciation practice activities. These activities should focus on ways that can specifically help minimize the L1 interference in the students' output of English.[20] Future efforts in developing effective medical English materials and methods for Japanese undergraduate programs need to explore incorporating pronunciation practice strategies in case study-based and other lessons in order to improve students' confidence and communicative power and give them a sense of progress and accomplishment.

6. Conclusion

The expanding role of English as the common global language of healthcare is forcing a change in the traditional ways of teaching English in Japanese health sciences disciplines. As medical English is incorporated into the undergraduate curricula of medicine and related healthcare specialties at Japanese colleges and universities, there is a corresponding need for suitable and effective teaching materials and methods to support the respective programs. Teaching materials and methods that take into consideration the unique background, proficiency level and professional needs of the learners are necessary for the success of medical English programs in Japanese healthcare education. The case study-based lesson described in this paper is proposed as an example of effective materials and methods that could contribute to meeting the needs of Japanese undergraduate medical English programs, and help overcome the multiple challenges faced by both teachers and learners in these settings.

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Appendix 1

A case study of familial polyposis of the colon

The proband had a massive hemorrhage from her large bowel at age 42 years and was discovered to have multiple polyps and cancer of the colon; she died 18 months later of metastases. Her father had undergone removal of the colon for colon cancer and was alive at age 66 years; his father had died of colon cancer. The surgeon caring for this family obtained radiographic and endoscopic studies on the three daughters of the proband. The eldest underwent colectomy at age 18 upon the discovery of multiple polyps in her colon. The middle daughter appeared to be normal when examined at age 16, but was found to have multiple polyps when reexamined at age 18 and underwent total colectomy. The youngest daughter was found to be affected at the age of 16 and underwent colectomy. Although the removal of the colon is a fairly drastic procedure in an adolescent, it prevented the virtual certainty of colon cancer in these young women at risk.[16]

Appendix 2

Comprehension questions for the case study of familial polyposis of the colon

1. What symptom did the proband have at age 42 years?
2. Which disease was the proband discovered to have?
3. When and of what cause did the proband die?
4. What information is given about the father of the proband?
5. What information is given about the paternal grandfather of the proband?
6. What kind of studies did the surgeon caring for this family obtain on the three daughters of the proband?
7. What was the eldest daughter discovered to have and what procedure did she undergo?
8. What were the results of examination in case of the middle daughter?
9. At what age did the youngest daughter undergo colectomy and why?
10. How was the virtual certainty of colon cancer prevented in the three young women at risk?

An application of the Consecutive Interpreting Approach to English for medical purposes (EMP)

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Background: In an English as a foreign language (EFL) environment in which students have very limited exposure to English, it is difficult to effectively train them to improve their aural and oral English skills. However, with the increase in the number of international patients and growing importance of English in medicine, it is vital to find an effective way to enhance the listening and speaking proficiency of our nursing students.

Objective: The aim of the present study was to improve the verbal communication skills of nursing students through a prosody-oriented teaching model, the Consecutive Interpreting Approach.

Method: The Consecutive Interpreting Approach was used with 74 nursing students over the period of 14 weeks, with the primary focus on voiced input and output. Pre- and post-experimental tests were conducted to detect changes in their English proficiency. In addition, two sets of surveys were issued to obtain feedback on this approach from students' perspectives.

Conclusion: The Consecutive Interpreting Approach was found to be effective in improving the English proficiency of students in both listening and reading, as shown in the results of the experimental tests. Feedback from the follow-up surveys provides recommendations for EMP instructors interested in implementing this approach.

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Keywords consecutive interpreting, prosody, shadowing, reproduction

1. Introduction

With over 2.2 million registered foreign residents in Japan as of 2011 (1.7% of the total population), there is a clear need to develop an effective EMP instruction method to foster better communication between clinicians and patients from overseas.[1] In a real-life medical setting with foreign patients, aural-oral communication skills are essential. In this study, the School of Nursing in Jichi Medical University sought to improve students' verbal communication skills by using the Consecutive Interpreting Approach, an instruction method modeled after interpreter training, aiming to shift students' learning from being reading-focused to sound-focused.

Prior to this study, the overall language ability of the 74 subjects was assessed using a Test of English for Interna-

tional Communication (TOEIC) practice test.[2] A sample of items (28 listening and 25 reading questions) was used to make a shorter version of the test, without changing the test format.

The listening test results are shown in **Table 1**. The mean score for the 28 questions (1 point per question) was 12.01, giving a correct response rate of 42.89%. Similarly, the reading test results in **Table 2** reveal an average of 14.31 points for 25 questions (1 point per question), giving an average correct response rate of 57.24%. These results reflect the students' foreign language learning environment during their secondary school years: they thus appear to have

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Table 1. Listening test results

N	Min	Max	Mean	SD
74	5	19	12.01	3.143

Results from 28 questions

Table 2. Reading test results

N	Min	Max	Mean	SD
74	6	22	14.31	3.281

Results from 25 questions

focused more on reading than listening.

Therefore, this study first attempted to address students' weak listening skills by implementing a sound-focused instruction method throughout the entire term; the author also examined the other effects produced by this method. Using feedback from the surveys, the more practical applications of this instruction method are discussed, along with useful implications for EMP instructors.

2. Method

The Consecutive Interpreting Approach is a prosody-oriented instruction method developed for students in an EFL environment to nurture the basis for verbal communication skills.[3-5] First, the author briefly discusses the theoretical background of the approach to clarify what this method attempts to produce.

2.1. Theoretical background of the Consecutive Interpreting Approach

2.1.1. Prosody

Prosody is the general term used to explain sound in language, and it includes accent, intonation, how pauses are created between sense groups, as well as sentence stress. Someya stated that prosody accounts for between 30–40% of meaning transmission in natural communication.[6]

A particular characteristic of English prosody is known as isochronism. This refers to the tendency for stressed vowels to appear at equal intervals, irrespective of the number of unstressed vowels between them. An example of isochronism is provided in **Table 3**.

On the other hand, Japanese is a mora-based language in which consonant and vowel units create a rhythm. As a result, when Japanese students who have not mastered English prosody listen to the language, they are not able to hear statements correctly because they are unable to hear the unstressed vowels between isochronism gaps.

Murao used the gating method to reveal that native English speakers are immensely dependent on prosodic information to understand spoken English.[7] Furthermore, Murao clarified that the lower the Japanese students' level of profi-

ciency, the less they use prosodic information when decoding the meaning of spoken English.

To make non-native speakers more aware of prosodic information（and therefore better speakers）, Someya stated that the faithful imitation of the original sounds through shadowing leads to an awareness of language rhythm and phonetic differences. Consequently, this nurtures a prosodic sense, which in turn provides a foundation for listening skills.[6]

2.1.2. Shadowing

Tamai defined shadowing in second language acquisition as "an act or a task of listening in which the learner tracks the heard speech and repeats it as exactly as possible while listening attentively to the incoming information".[8]

There are two types of shadowing: prosody and content. The former focuses on the sound and the latter on content. Suzuki compared the results of a listening test between two shadowing groups: one with prior textual knowledge of the text to be shadowed, and the other one without such knowledge. Only the latter group showed a clear improvement in their listening skills after shadowing.[9]

On this issue, Tamai stated from his study that the equation of "shadowing technique = listening skills" does not appear to be a workable formula, since the correlation between the two is low: shadowing is a product of phonological analysis while a listening test involves both phonological analysis and meaning comprehension.[8] To understand spoken conversation, we do not simply engage in surface-level sound construction analysis using technical sound processing（bottom-up processing）; our background knowledge is also used to carry out knowledge-based processing（top-down processing）. Only a combination of both processes will lead to an improvement in listening skills; in other words, prosody and content shadowing should be used in tandem to induce an improvement in listening skills.

In terms of the impact of shadowing practice on speaking skills, given Someya's concept mentioned in 2.1.1, it would appear that prosody gained from shadowing practice contributes to about 30–40% of speech output. However, shadowing still lacks a crucial element as a method for improving verbal communication skills. Simply repeating a sound after hearing it does not go beyond imitation, as students lack voluntary output. By producing their own utterances, students can become aware of the various aspects of language, such as syntactic structures; furthermore, they learn to correct themselves. Without this type of metalinguistic awareness, automatic language output is not achieved.

Table 3. Isochronism

Students	watch	movies.
●	●	●
The students	are watching	a movie.
●	●	●
The students	have been watching	a movie.
●	●	●

● sections are read at equal intervals

2.1.3. Reproduction

Foreign language output requires the simultaneous processing of several types of information, which represents a considerable cognitive burden. Therefore, some form of assistance is necessary. One approach that may prove effective is reproducing the sentences of a text that students have already read or listened to. For instance, Maeda and Ikenabe promoted students' output by having them reproduce texts using keywords as a support.[10,11] Both experiments resulted in an increase in English-language production as well as an improvement in grammatical knowledge. However, as both experiments focused on writing, even though an increase in output ability was achieved, no improvement was observed in students' oral communication skills.

Taking into account the results of these prior studies, the author integrated shadowing and reproduction, to create the Consecutive Interpreting Approach, which focuses on both verbal input and output.

2.1.4. A new approach

In consecutive interpreting, the interpreter listens to the speaker while taking notes, and when the speaker pauses, the interpreter renders a portion of the message in the target language（TL）based on the notes taken. In the Consecutive Interpreting Approach, a part of this pattern is altered, as students reproduce the source language（SL）in their own English. **Figure 1** shows the order of activities used in this approach. The different steps may be summarized as follows:

Step I（SL）. The SL is an audio recording from the textbook.

Step II（Shadowing）. Students shadow an unknown text with no printed reference material to look at. This corresponds to the content shadowing in 2.1.2.

Step III（SL Analysis）. The words and grammar used in the SL text are explained to help students understand the content.

Step IV（Parallel Reading and Shadowing）. Once the content has been understood, students alternately carry out a parallel reading with the text, and then prosody and contents shadowing by listening to the audio soundtrack alone.

Step V（Listening and Note-Taking）. Students take notes while listening, writing down keywords necessary for reproduction.

Step VI（Oral Reproduction both in L1 and L2）. Students reproduce the text orally in both L1（Japanese）and L2（English）while looking at their keywords from Step V.

Step VII（Comparison between SL and IL in Written For-

SL: Source Language, IL: Interlanguage
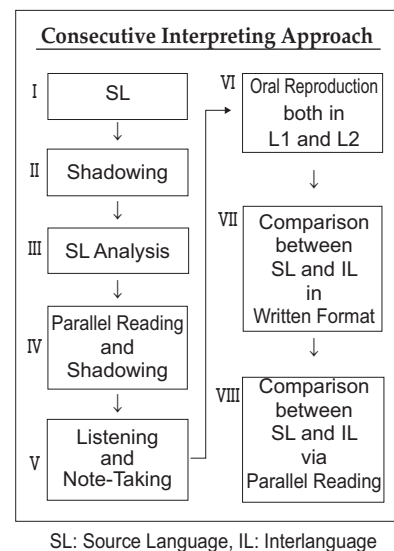
Figure 1. The order of activities in the Consecutive Interpreting Approach

mat）. Once the contents can be replicated orally in L2, students are asked to write them in English while referring to the keywords. Students then compare what they have written with the original text in order to ascertain whether the expressions and grammar used in their English reproduction are correct. Furthermore, they examine whether the information value is equivalent to that of the original text.

Step VIII（Comparison between SL and IL via Parallel Reading）. Students carry out a parallel reading while referring to their written reproduction（from Step VII）, therefore enabling them to observe any differences between the correct SL prosody and the mistakes in their written reproduction.

2.2. Procedures followed in each class

The abovementioned approach was used over a period for 14 weeks（once per week）with the first two lessons assigned to clarify how the instruction method works. The actual procedures followed in the classroom are described below.

With every new chapter in the textbook, the lesson began with Step III（SL Analysis）, in which the texts were explained so that students fully understood the contents, including new words, their pronunciation, and the grammar used in the passages. This step was crucial because it formed the basis for the following activities.

Next, students engaged in Step IV（Parallel Reading and Shadowing）. The audio recording was played, and the students were instructed to do both parallel reading and shadowing. This was repeated several times until students were able to precisely mimic the voice patterns without looking at the textbook.

Many of the students found Step V（Listening and Note-taking）too challenging and were unable to produce effective notes for reproduction. After several failed attempts, the author decided to create notes for them. **Table 4** provides an example of the text along with the corresponding notes.[12] The Japanese notes were shown as a PowerPoint（PPT）slide on the screen, and the explanation of which letter corresponds to which part of the text was provided.

Step VI（Oral Reproduction both in L1 and L2）was the main activity of the class. Oral reproduction training was carried out for the entire class as they looked at the PPT slide. First, the author demonstrated reproducing the text in L2, sentence by sentence, and then had students repeat it. After all of the students were correctly able to repeat the text in L2, they worked in pairs, with one person verbally reproducing the English while their partner rendered the relevant section in Japanese.

As it would be unreasonable to expect a significant improvement in students' verbal skills after only 14 lessons, an assignment was given each week throughout the entire term. The students were instructed to come to each class fully prepared for Step VI. In addition, the students were expected to practice Step VII（Comparison between SL and IL in Written Format）, Step VIII（Comparison between SL and IL via Parallel Reading）, and Step II（Shadowing）as preparation for the next lesson. Thus, the subsequent classes began with Step VI, after which the entire procedure detailed above was repeated while the class progressed with the textbook. Students were assessed based on their performances in Steps VI and VII, with the author examining the extent and accuracy of students' reproductions. With the participating students' permission, Step VI was video recorded in a class using this approach, and uploaded on YouTube at http://youtu.be/ZdPhl5RUqbI. An actual sample of a written reproduction from Step VII is included as **Appendix 1**.

2.3. Participants

Our institute accepts 105 students annually. As a requirement for graduation, students must choose at least one foreign language class from among English, Spanish, and Chinese. These language classes are open to first-, second-, and fourth-year students, and the majority of first-year students take the English class known as "Basic English." This is the only English class held throughout the four-year program, and is held once a week, 14 times per year. This experiment was therefore implemented in the Basic English class with 74 enrolled students.

2.4. Data collection

After implementing the approach in 14 lessons, the same excerpted versions of the TOEIC listening and reading tests discussed in the introduction were given to assess the effects produced using this approach. As the experimental period lasted for over three months, it was assumed that test learning effects would not substantially affect participants' test performance. The subjects were not aware that the same tests would be given twice, and no feedback was given to them after the pre-experimental tests.

In addition, two surveys were issued to review this instructional approach from students' perspectives. The first（Survey 1）was intended to discern any possible amendments that could be made to the approach, so that its use in class might be improved. The second survey（Survey 2）was an optional survey distributed by our institute to evaluate the classes taken by students, and was part of our Faculty Development initiative.

3. Results

3.1. Listening test

Table 5 shows the listening test results following the experiment. Comparing the results with pre-experimental test results（**Table 1**）, there was an average increase of 2.81 points across the 28 questions, with an overall increase in the correct response rate of approximately 10%. A significant difference was found when a t-test was used to compare the two sets of results（$t(73) = 5.94$, $p < 0.001$）（**Table 6**）.

Table 4. Source language and relevant notes

Source language
① Tamiflu is an oral anti-viral drug for the treatment of influenza A or B.
② Dozens of children under the age of 10 and teenagers have suffered mental or neurological disorders, including abnormal behavior, after taking Tamiflu.
③ Therefore the Health, Labor and Welfare Ministry issued emergency instructions to prohibit doctors from prescribing it to patients aged 10 to 19.
④ The ban on Tamiflu does not apply to children under 10 because they are at risk of dying from influenza that Tamiflu is known to treat effectively.

Relative notes			
①	②	③	④
Ta	多子	∴	禁ta
口	↓10〜10代	厚労省	×摘
抗	被る	iss	子↓10
治	精	緊注	b/c
flu A B	神	禁	thy
	異常	医	危 死
	aft	処方	flu
	摂取	患	ta 知 治
	ta	10	効
		19	

3.2. Reading test

As with the listening test, the TOEIC reading test was used to assess students' improvement in reading skills（**Table 7**）.

Comparing the results with the pre-experimental test results（**Table 2**）, a 2.23-point increase in scores was observed for the 25 questions. The overall increase in the correct response rate approached 10%.

The differences in the scores between the pre- and post-experimental tests was significant（t(73) = 4.54, p < 0.001）（**Table 8**）.

3.3. Survey results

Survey 1 used a 5-point-rating scale, where: 1 = strongly disagree, 2 = slightly disagree, 3 = neither agree nor disagree, 4 = slightly agree, and 5 = strongly agree. **Table 9** summarizes the statistical analysis of students' responses to the questions.

Survey 2 used a 4-point-rating scale where: 1 = not true, 2 = somewhat true, 3 = true, and 4 = very true. **Table 10** presents the evaluation items along with the statistical analysis of the responses. **Figure 2** is a radar chart based on the mean scores for Survey 2. Students' comments regarding how they perceived this approach are also listed in **Appendix 2**; these comments are translated into English in section 4.3 below.

4. Discussion

4.1. Listening test

Figure 3 displays the correct response rates for the post-experimental listening test. Both Q12 and Q45 had a correct response rate of less than 25%; the assumption made was that this approach could not resolve the language issues covered by these questions. **Table 11** presents the questions in detail. An error analysis based on **Table 11** reveals that, in the case of Q12, about 64% of students selected answer C, which could be interpreted as students incorrectly hearing the question as "Where did Peter live?" Such short questions, where the preceding context does not shed light on the meaning, tended to result in fewer correct responses. To resolve this issue, more authentic materials, such as those available on the Internet, should be used in this approach so as to further heighten students' prosodic awareness.

This listening test mimicked that of an actual TOEIC test, in which note-taking is not allowed. As a result, Q45 was a difficult question to answer without any notes, since the information contained in this question had to be reanalyzed. One solution could be to reduce the amount of keywords in

Table 5. Post-experimental listening test results

N	Min	Max	Mean	SD
74	7	22	14.82	3.469

28 questions

Table 6. Comparative t-test results

Mean	SD	SE	95% CI		t	df	p
			Lower	Upper			
−2.81	4.07	0.47	−3.75	−1.87	−5.94	73	0.00

Table 7. Post-experimental reading test results

N	Min	Max	Mean	SD
74	9	25	16.54	3.206

25 questions

Table 8. t-test results

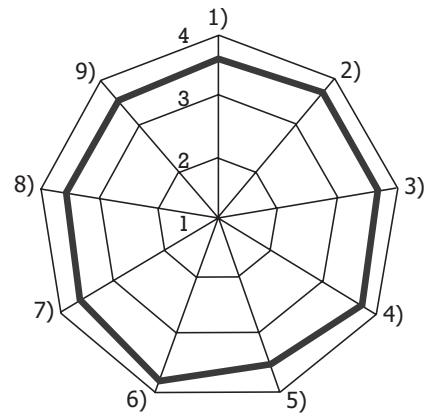| Mean	SD	SE	95% CI		t	df	p
			Lower	Upper			
−2.23	4.23	0.49	−3.21	−1.25	−4.54	73	0.00

Figure 2. Mean score radar chart for Survery 2

Step VI to improve students' retention and recall skills.

4.2. Reading test

The author did not expect to find a significant difference between the pre- and post-experimental reading tests since the instruction method used in this study focused chiefly on speaking and listening. The difference observed, however, might be attributable to a larger accumulation of syntactic items acquired through this approach. Simply translating the keywords into English and then assembling them does not produce correct English sentences. For the sentences to be correct, students have to activate their grammatical knowledge when connecting the keywords. This might have helped students to choose a correct answer in questions dealing with grammar.

Figure 4 summarizes the correct response rates for the post-experimental reading test, indicating that both Q101

Table 9. Response results for Survey 1

	Mean	SD	※
I. SL			
1. The delivery speed of the textbook CD material was appropriate.	2.77	1.134	16
2. The content of the medical English text was suitable	3.79	0.963	3
II. Shadowing			
3. Voices of other students interfered with shadowing in a normal classroom.	2.53	1.107	19
4. Shadowing was easier when it was practiced individually as an assignment.	3.13	1.057	14
III. SL analysis			
5. Translating all of the text into Japanese was necessary.	2.21	1.056	20
6. Creating a glossary was useful for specialist language acquisition.	2.67	1.155	17
IV. Parallel reading & shadowing			
7. Reading the text aloud with the CD helped me understand the pronunciation.	4.12	0.821	1
8. Shadowing was helpful to understand the content of the text.	3.41	1.028	5
V. Listening & note-taking			
9. It was difficult to take notes while listening to English.	3.92	0.818	2
10. I would like to focus more on note-taking.	3.29	1.100	8
VI. Oral reproduction both in L1 & L2			
11. Creating English sentences from the notes helped improve my speaking.	3.36	0.925	6
12. Creating Japanese sentences from the notes helped me understand the content.	3.31	1.013	7
VII. Comparison between SL and IL in written format			
13. Comparing my written reproduction with the text helped me understand the grammar	3.25	1.104	12
14. Comparing my written reproduction with the text helped me learn spellings.	3.44	1.030	4
VIII. Comparison between SL and IL via parallel reading			
15. Reading my written reproduction aloud with the CD helped me spot expression errors.	3.16	0.945	13
16. Reading my written reproduction aloud with the CD helped improve my listening skills.	3.28	0.952	9
Consecutive interpreting approach – Overall			
17. This approach helped me acquire English communication skills.	3.27	0.963	11
18. This approach was useful for medical interpreting practice.	3.27	0.875	10
19. This approach raised my interest in interpreting.	2.61	1.218	18
20. I would like to try this approach in Language Lab/Computer Assisted Language Lab room.	3.00	1.174	15

N = 75　※ indicates the order of highest to lowest of the mean scores.

Table 10. Evaluation items and the response results for Survey 2

Evaluation items

1）The gist of the lesson was easy to understand.

2）The contents of the lessons were not too abstract.

3）The amount of materials, such as slides and handouts, was appropriate.

4）The textbook and teaching materials were easy to follow.

5）The structure, content, flow, and procedure of the lesson were good.

6）The voice of the instructor was clear.

7）The lesson raised my motivation and interest in the course content.

8）The exercise was well arranged.

9）The exercise was relevant to the lessons learned.

Item	1)	2)	3)	4)	5)	6)	7)	8)	9)
N	63	63	63	63	63	63	63	63	63
Mean	3.63	3.67	3.67	3.75	3.54	3.86	3.62	3.55	3.55
SD	0.49	0.51	0.54	0.47	0.62	0.35	0.55	0.51	0.51
Max	4	4	4	4	4	4	4	4	4
Min	3	2	2	2	2	3	2	3	3

and Q124 had a low correct response rate of about 30%. **Table 12** presents these questions in detail.

In Q101, D was the most frequently chosen response. The other answers each had a response rate in the 20–25% range, meaning that over 70% of students did not recognize the word "consumer." This would indicate that vocabulary training should be incorporated onto the approach.

Finally, "triple" was the most selected response to Q124, followed by "third," which was the correct answer. The students were familiar with "third" as an ordinal number, but probably did not know "a third." Thus, basic word usage should be reviewed to resolve this issue.
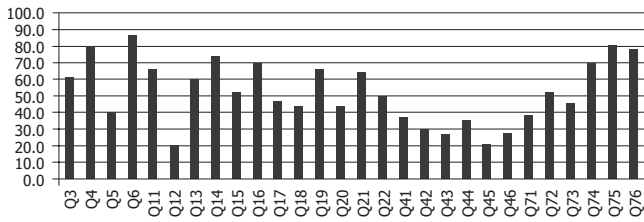
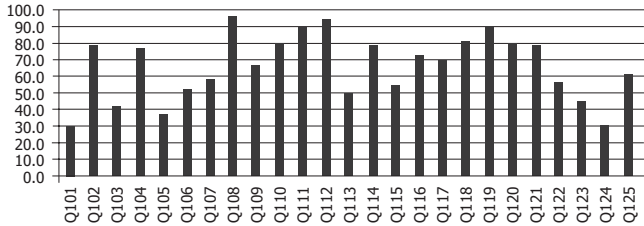**Figure 3. The correct response rates for the post-experimental listening test**

Figure 4. The correct response rates for the post-experimental reading test

4.3. Survey

According to the mean scores in Survey 1（**Table 9**）, the five top-ranking answers were extracted（**Table 13**）, while excluding Question 2, which was not relevant to the students' activity, and Question 9, in which the score was calculated by reverse scoring.

The five questions listed in **Table 13** correspond to Step IV（Parallel Reading and Shadowing）, Step VII（Comparison between SL and IL in Written Format）, and Step VI（Oral Reproduction both in L1 and L2）in **Figure 1**. By making these three steps the central activities in class, lessons can be directed to encourage students further.

Table 14 lists the questions with a mean score of 3.0 or less. The lowest average value was for Question 5, "Translating all of the text into Japanese is necessary." It became clear that the students paid more attention to English as opposed to the process of translating. With only 14 lessons throughout the four-year program, it would therefore be advisable to exclude Japanese translation from Step VI.

As observed in **Table 10**, the overall mean value reached 3.65 out of 4.00. While some students expressed somewhat unfavorable opinions, such as "Preparation for the presentation was a bit too demanding," as this figure indicates, the majority of students felt quite positively about this approach. Below are some of the encouraging comments that the author received（**Appendix 2**）.

"The class was interesting and amazing because I could write English just by looking at the keywords. It was something that I never experienced during my high school years."

Table 11. Questions with the lowest correct response rates in the post-experimental listening test

Q12	Why did peter leave? （A）He went to buy coffee filters. ○（21.6%） （B）I'll let him know he can go home.（14.3%） （C）He lives in town.（64.1%）
Q45	M: We're trying to decide where to hold the annual sales conference we're planning for March of next year. W: March is still pretty cold to have it in New York or Chicago. I say we go for some place warmer if possible. Oh, and not Dallas. We said we would hold it in Dallas in 2008. M: In that case, we could plan for Miami or L.A. for 2007. Do you have a preference between those two? In what year does this conversation take place? （A）2005（7.8%）　（B）2006 ○（21.6%） （C）2007（38.3%）　（D）2008（32.3%）

○ is the correct response.（　）shows the percentage of responses.

Table 12. Questions with the lowest correct response rates in the post-experimental reading test

Q101	Please have the report about Japanese .... habits on my desk by noon next Friday. （A）consumerism（24.8%）　（B）consummation（24.2%） （C）conscription（21.3%）　（D）consumer ○（29.7%）
Q124	COUPON #2 THREE MUSKETEERS（THREE FOR TWO） What a great bargain! When you buy two "Paul's Slices,"（our famous giant slice loaded with peppers, onions, sausage, tomatoes, mushrooms and pepperoni）get a .... Paul's Slice for free! Great for couples, kids, and those with big appetites. （A）three（2.5%）　（B）third ○（31.1%） （C）triple（37.4%）　（D）tripod（29.0%）

○ is the correct response.（　）shows the percentage of responses.

"It was exciting. I never thought that I could speak and write so much English just by using the keywords."

"I was so excited because just by practicing oral reproduction, I could write out long passages in English, which I'd never been able to do before. This excitement boosted my motivation in the subsequent lessons."

"My motivation for English learning increased tremendously. I think it was this class that motivated me to take the TOEIC."

"Initially, it was so difficult to memorize English. However, as we went along with the textbook, it became easier. I think the written reproduction activity was quite useful for checking spelling and reviewing grammar."

"My negative feelings toward English listening have been mitigated. I think it was because my attentive listening skills were strengthened through shadowing."

"Although I hated English, I can now manage to speak English. This was the first time I was able to speak English this much."

"The class had a laid-back atmosphere so we could

Table 13. The five top-ranking answers in terms of mean scores（excluding 2 & 9）

	Mean	SD
7. Reading the text aloud with the CD helped me understand the pronunciation.	4.12	0.821
14. Comparing my written reproduction with the text helped me learn spellings.	3.44	1.030
8. Shadowing was helpful to understand the content of the text.	3.41	1.028
11. Creating English sentences from the notes helped improve my speaking.	3.36	0.925
12. Creating Japanese sentences from the notes helped me understand the content.	3.31	1.013

Table 14. Questions with a mean score of 3.0 or less

	Mean	SD
1. The delivery speed of the textbook CD material was appropriate.	2.77	1.134
6. Creating a glossary was useful for specialist language acquisition.	2.67	1.155
19. This approach raised my interest in interpreting.	2.61	1.218
3. Voices of other students interfered with shadowing in a normal classroom.	2.53	1.107
5. Translating all of the text into Japanese was necessary.	2.21	1.056

express ourselves easily. In addition, since the class focused on conversation, my worries about speaking were lessened.

"This English lesson was something I'd never experienced before. The class was something new and exciting because it focused on pronunciation and conversation."

5. Conclusion

The paper focused on the Consecutive Interpreting Approach in an EMP context, and examined the effects of the method on the nursing students' aural and oral proficiency.

Initially, the author had expected that the students would produce different varieties of English in Steps VI and VII (**Figure 1**), but in reality, after practicing shadowing and reproduction numerous times, students' English was almost identical to the source text.

This reproduction activity, especially the oral output in Step VI, is crucial because, as stated by one of the students (**Appendix 2**), it is exactly what is lacking in students' secondary school English classes. This basic oral practice therefore serves to build up a foundation for verbal communication skills.

The author would like to continue this study by making Steps IV, VI, and VII in **Figure 1** as the core activities of this instruction method, and finding ways to encourage not only the reproduced English, but also more voluntary output from the students.

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Appendix 1. A sample of Step VII written reproduction

学籍番号：

名前：

記号を見ながら①〜④を英語でリプロデュースしなさい。

①	②	③	④
s.c. mad Or BSE 致命 病 引 進 神 悪化 esp ダ 一脳	病 引 穴 作スポンジ v's 脳	科 s ×確 どう BSE 広 →人 bt evi 示 人 獲 CJD Aft 食 BSE感 牛品 :部 神シ 脳 脊	BSE 初 報 牛 UK 11月 '86

① so-called mad cow disease or BSE (bovine spongeform encephalopathy) is a fatal disease that causes progressive neurological degeneration, especially damage to the brain.

② The disease causes holes to form like a sponge in the victim's brain.

③ Scientists are not sure how BSE may spread to humans, but evidence indicates humans may acquire CJD after eating BSE-infected cattle products such as parts of nervous system like a brain or spinal cord.

④ BSE was first reported among cattle in the United Kingdom (UK) in November 1986.

Appendix 2. The students' comments

記号みただけで、英文を書けるなんて おもしろく、すごい授業だったと思う。高校にはない授業で 新鮮だった。

とても楽しかった
ノートを用いることでこんなにも長く英語を話したり書いたりすることは思わなかった。

口頭再生を移すだけで、今まで書いたことのないような長文をスラスラと書けるようになっていて、とてもうれしかったです。その喜びが次回の授業への意欲を高めてくれました。

英語学習へのモチベーションが大変高まりました。
TOEIC受験ができたのも この授業があったからと思います。

はじめは英文を覚えるのがすごく大変だったけれど、しかけを重ねるうちに覚えやすくなりました。英文を覚えたあとに筆記再生することで、語いの確認と同時に、文法の復習にもなると思いました。

当初より、リスニングの点に抵抗感がなくなった。シャドーイングによって注意深く聞きとる能力が強化されたからだと思っている。

英語が嫌いだったけど しゃべれるようになりました。こんなにしゃべれたのは はじめてです。

堅くるしくなく、発言のしやすい授業でした。また、会話をすることを重視した内容だったので、英語を話すことに対して以前よりも抵抗がなくなりました。

今までやってきた英語の授業とはちがい、発音や会話に重点を置いていたので新鮮で楽しめた。

Skills Lab English: an English-only approach to medical education

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The use of English as the medium of instruction for medical content is still comparatively rare at the undergraduate level in Japanese medical schools. However, many possibilities exist to implement combined teaching of language and medical content through collaboration between language teachers and medical specialists. *Skills Lab English* is an experimental course at our institution in which small groups of highly motivated medical students are taught practical skills in an English-only setting. The activities covered so far have ranged from measuring blood pressure and performing CPR to giving oral case presentations in English. Since its inception in 2009 as a loosely structured extracurricular course, *Skills Lab English* has been refined and expanded, and since 2012 has also been incorporated into the official curriculum as an 8-week seminar course for first-year students. The success of the course with five different groups so far illustrates not only the potential for teaching medical content through English, but also that this approach can be implemented with students in the lower grades who lack specialist medical knowledge. This style of teaching also provides incentives for medical specialists, who can use and improve their own English, and language teachers, who can gain useful medical knowledge and skills.

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1. Introduction

At the undergraduate level in Japanese medical schools, English is typically encountered only as a subject of study— a distinct item that stands alone in the curriculum, its relevance largely a theoretical concept.[1] It is rare to find English used as the medium of instruction for medical content, and until recently it was even rare for Japanese medical schools to offer courses specifically in medical English.[2] The situation in Japanese dental schools has been reported to be similar.[3] The dichotomy between the medical curriculum and the English curriculum can lead students to consider English a lower priority, at least before graduation, such that simply squeezing more English classes into the curriculum might not be the best way to improve learning outcomes. It has also been argued that in any case there eventually comes a point beyond which most learners struggle to acquire additional knowledge or skills through formal language learning.[4]

Such problems are not unique to Japan, and especially in Europe Content and Language Integrated Learning（CLIL）is seen by many as the best solution.[5] In the CLIL approach, content instruction and foreign language education are combined into a single educational unit. This could mean anything from Austrian students studying history in Spanish to Italians learning geography in French, although in most cases English is the target language.[6] CLIL is not just about designing English courses around engaging content, nor is it simply a matter of subject teachers using English: It entails integrating a language syllabus and a subject syllabus into one unit.

There has been one report of an attempt to implement CLIL in a Japanese medical school, although this was essentially a matter of focusing on medical topics in English classes, not of English replacing Japanese as the language of instruction in part of the medical curriculum.[7] Indeed, there are obvious barriers to the widespread implementation of

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CLIL in Japanese medical schools. Not least, many students would struggle to absorb large amounts of core subject material presented in English only; moreover, most institutions would struggle to find staff capable of delivering that material in a way that facilitates the desired learning outcomes.

However, while large-scale CLIL programmes are currently beyond the scope of most Japanese medical schools, opportunities to combine content and language instruction in effective ways are often closer at hand than teachers realize, and there have been many reports in this journal of innovative teachers doing exactly this. One idea is to use poster presentations in English classes.[8] Another suggestion is to use the problem-based learning (PBL) approach.[9,10] Other possibilities include integrating English classes with the medical curriculum, or at least inviting medical faculty to become actively involved in English courses.[1,11] English teachers are usually not qualified to teach medicine, while medical specialists, even those with advanced English skills, rarely possess the additional skills needed to teach English effectively. Alone, then, each is limited in what they can achieve; working as a team, however, they can be an extremely potent force. In the remainder of this paper we describe our ongoing experience with small-scale extra-curricular classes that have this concept at their core, and discuss the implications for future curriculum development.

2. 2009–10: First group

2.1. Starting the course

The idea for the course came from a workshop attended by one of the authors (Hobbs) in October 2008 in Tokyo. On the subject of *Simulation in Medical English Education*, it was held as part of the *30th Medical Education Workshops and Seminars*, jointly sponsored by Nihon University Medical School and the Medical Education Development Center, Gifu University. The workshop was attended by medical professionals, English teachers, and medical students, and explored the English education potential of simulation-based activities such as using an automated external defibrillator (AED), performing a rectal exam, and doctor-patient consultations using a simulated patient. Discussions between two of the authors (Hobbs and Masuda) over the following months led to the decision to experiment with a similar method of instruction at our institution, beginning with a voluntary, extra-curricular class targeting third-year medical students. Among other things, this was an opportunity to make practical use of our institution's then newly-opened *skills lab*, a facility equipped with training manne-

quins and other equipment for use in teaching medical skills.

Two third-year medical students noted for their strong performance in English classes were invited to create a suitable group. A week later they reported back with a list of six interested students. It was decided to aim to meet twice a month, after regular class hours, for sessions of 90–120 minutes. The class was given the name *Skills Lab English*, and three broad goals were agreed:

1. Conducting English-only instruction in practical skills.
2. Roleplaying doctor-patient consultations in English.
3. Holding group discussions in English about the cases on which the doctor-patient consultations were based.

At this stage only two teachers were involved: Masuda as the medical expert, responsible for deciding core lesson content and teaching medical skills, and for securing access to the necessary equipment; Hobbs as the English expert, responsible for designing lesson plans that make the English-only approach viable, and for offering in-class support and guidance from the language perspective. (Aizawa would not become directly involved until the beginning of the first-year seminar course in 2012.) In retrospect, the clear definition of duties was an important factor that has allowed the teachers to work well together in the years that have followed.

2.2. Instruction in practical skills

Sessions held between October 2009 and January 2010 focused on three scenarios to train practical skills: cardio-pulmonary resuscitation (CPR) using a training mannequin and an AED simulator; drawing blood from artificial arms circulating fake blood, and simulating this procedure with other students without actually using needles; and measuring vital signs. The drawing blood scenario, for example, was based on the following procedure:

1. Place a tourniquet on the upper arm (not too tightly).
2. Cleanse the skin with alcohol.
3. Feel for the distended veins.
4. Swab the skin with antiseptic.
5. Wipe clean with alcohol.
6. Insert the needle at the correct angle.
7. Draw the blood from the vein.
8. Release the tourniquet.
9. Withdraw the needle and apply direct pressure for 1 minute.
10. Apply a bandage.

The practical training sessions were structured around the following generic lesson plan:

1. Introduce the scenario (*Today we're going to study how to draw blood using English only…*), but do not pre-teach key vocabulary.

2. Try to elicit from students both the medical procedures *and* the way to express them in English. Supply additional information and appropriate vocabulary as necessary.

3. Hand out a written summary of the procedures. Answer questions about meaning and pronunciation.

4. Invite one student to perform the scenario while they describe their own actions in English (e.g., *First I place a tourniquet on the upper arm…like this… Next I cleanse the skin…etc.*).

5. Invite all participants to discuss the student's performance, from both the medical and language perspectives.

6. Repeat steps 4–5 with the remaining students in turn.

During the sessions, questions and requests for clarification come not only from students, but also from the medical teacher (about English usage) and from the English teacher (about medical procedures). Everyone has a stake, and everyone has an opportunity to learn.

2.3. Case scenario role-plays and discussion

From the second month onwards, the sessions also included practice of one or more doctor-patient conversation scenarios prepared by the participating students. The structure of typical doctor-patient consultations, from the chief complaint to the diagnosis, had been taught in regular English classes, together with many useful phrases, so this served as an opportunity for students to apply and expand on what they had already learned but had had little chance to use. Various approaches were tried, but over time the following standard procedure was established:

1. One student creates an imagined doctor-patient dialogue based on a case of their choice.

2. The written dialogue is submitted to both teachers several days before the class.

3. The English teacher corrects errors and suggests changes from the language perspective. The medical teacher advises on the medical content.

4. In the class, the student who prepared the dialogue takes the role of the patient. Only this student and the teachers know the actual diagnosis. Another student takes the role of the doctor, and elicits the required information from the patient.

5. Other students support the 'doctor', suggesting additional questions to ask.

6. Following the role-play, the language teacher gives feedback, suggesting possible improvements or alternative expressions.

7. The medical teacher leads discussion of the case to elicit a main diagnosis and appropriate differential diagnoses, before discussing the actual diagnosis and treatment.

8. All students are given a copy of the final version of the submitted model dialogue, the content of which is compared with that of the spontaneous dialogue performed earlier in the class.

The cases selected by students included sarcoidosis, appendicitis, peptic ulcer, irritable bowel syndrome, ischemic colitis, gallstone, pituitary adenoma, schizophrenia, rubella (German measles) and iron deficiency anemia. In most cases students were able to make the correct diagnosis, and when they had difficulty the medical teacher guided them in the correct direction. Corrections and advice from the language perspective typically fell into the following four categories (actual examples from the sessions, with the teacher's suggestion in parentheses):

1. Grammatical corrections, e.g.:
   Do you have a fever these days? (*Have you had a fever recently?*)
   Your neck looks swelling. (*Your neck looks swollen.*)
   Have you gotten tired easily recently? (*Have you been getting tired easily recently?*)

2. Non-standard expressions, e.g.:
   Do you have any more trouble? (*Is there anything else that's bothering you?*)
   A woman whose age is 46 (*A 46-year-old woman*)
   Please explain about that in detail. (*Please tell me more about that.*)

3. Technical terms unlikely to be used or understood by many patients, e.g.:
   I often have dyspnea. (*I often get short of breath.*)
   When was your last menstruation? (*When was your last period?*)
   …examine you with chest roentgenography (*…take a chest x-ray*)

4. Incorrect choice of language in case summaries, e.g.:
   She looks yellow. (*She appears jaundiced.*)
   no poo regularly (*irregular bowel movements*)
   strong left belly hurts (*severe left abdominal pain*)

2.4. Oral case presentations and discussion

A small step away from performing case scenario role-plays was to organize sessions around student-led Power-Point-supported oral case presentations. After the teachers presented one case as an example, students were invited to take turns to prepare their own presentations for subsequent sessions, and urged to choose cases to fit the following template:

1. Chief complaint.
2. History of present illness.
3. Relevant details of past medical history, social and family history, and review of systems.
4. Physical examination.
5. Results of tests and diagnostic studies.
6. Assessment and diagnosis.
7. Treatment plan.

The procedure was similar to that used for doctor-patient role-plays, with students (usually a pair) preparing a presentation and submitting it to the teachers in advance. After editing both language and content based on feedback from both teachers, the students then presented their case in class. The aim was to involve everyone in discussion, so a pause was taken after each slide to involve the audience in one of four ways:

1. Inviting an audience member to paraphrase or summarize the information on the slide.
2. Checking understanding of key words and phrases.
3. Discussion of the case. (*What should the doctor examine next? Which of these symptoms are most significant? What are some possible diagnoses?* etc.)
4. Inviting questions from the audience, about either language or medical content.

This was a challenging activity for the students, whose lack of detailed knowledge about the diseases and conditions covered was often as much of an obstacle as lack of English ability. However, performances generally surpassed our expectations, with students often able to carry on prolonged discussions with little or no support or interruption from the teachers. This indeed is one of the benchmarks for success in such sessions: Less need for interruption by the teachers is generally an indication of stronger performance by the students.

3. 2011: New groups, new ideas

By spring 2011 it had become impractical to continue regular classes with the same group of students because both teachers had by then been relocated to our institution's new campus, while the students remained based at our old campus some 10 miles away, and had also begun their clinical training, making it difficult to guarantee attendance at given times on given days. We also felt that with all students having had ample chance to experience the activities we offered, this would be a good time to make a fresh start with a new group of students.

We again began by approaching a few outgoing and highly motivated students and inviting them to form a group. Two groups were formed: one of 5 third-grade students, and another of 8 second-grade students. Initial attempts to teach both groups together convinced us that groups of 10 or more are too large for this kind of teaching, as there is not enough time for every student to get hands-on experience with the equipment, and some students get little or no chance to speak. We soon began teaching the two groups separately, scheduling one session per month for each group. With both groups we followed the same procedure as with the original group, focusing first on training in practical skills, then on doctor-patient role plays, and finally on case presentations. On some days one or more students from the original group were also able to attend. In some cases they were able to assist with the teaching of skills they themselves had previously learned, and this peer-to-peer teaching became an added attraction of the sessions that the teachers had not originally envisaged. At other times (e.g., case presentations) the senior students attended as participating audience members, and further opportunities for peer-to-peer teaching emerged as the senior students were able to draw on their more detailed knowledge of the cases discussed.

The addition to the skills lab of a programmable blood pressure simulator arm added an extra dimension to this element of the course, as students could now be objectively assessed on the accuracy of their measurements. Regarding case presentations, the students' lack of medical knowledge was evident at times, but there was a significant improvement over time as students passed through third grade and entered fourth grade, augmenting their pool of clinical knowledge all along.

4. 2012–13: Skills Lab English as an officially recognized course

In academic 2012 *Skills Lab English* was for the first time offered as a structured course within the official curriculum. From 2012 all first-year medical students at our institution have been required to take a 7–8 week seminar course, choosing from a wide range of seminars offered by staff in

various departments, with the goal of allowing small groups of students to develop study skills in a hands-on, student-centred environment. *Skills Lab English* was offered in both 2012 and 2013 as an 8-week course of English-only practical training in three medical scenarios: cardiopulmonary resuscitation and using an AED, blood pressure measurement, and endotracheal intubation. This presented us with new challenges and opportunities as compared with previous years: First, the content had to be suitable for first-year students with almost no specialist medical knowledge; second, the course had to be clearly structured, with specific learning objectives to be achieved within a set timeframe; third, the teaching of endotracheal intubation, under the guidance of an anaesthesiologist (Aizawa), offered us our first opportunity to use SimMan© 3G (Laerdal Medical AS, Stavangar, Norway), an advanced programmable training mannequin. The course was structured as follows:

Week 1: Students are introduced to the skills lab and the scenarios to be studied. They form pairs or threes and each group selects one scenario to investigate.

Weeks 2–4: Covering one scenario per session, all students are trained to perform all three activities. However, the group assigned to each respective scenario is required to research the correct procedure in advance, and present

their findings in class.

Weeks 5–7: Presentation rehearsals: Each group in turn practices a prepared presentation in which they explain and demonstrate the procedure. The teachers and other students give feedback, and corrections and improvements are made.

Week 8: The three groups each give a presentation based on their scenario, to an audience of invited students and teachers.

In the final presentations, students are required to focus on three things:

1. General explanation of the procedure (e.g., "Endotracheal intubation is used to maintain an open airway and prevent airway obstruction in injured, ill, or anaesthetized patients," etc.).
2. Explanation of the equipment used (e.g., laryngoscope, stylet, bite block, etc.).
3. Demonstration of the procedure, with accompanying commentary (e.g., "First, we place the patient's head on the pillow, like this," etc.).

After each presentation of 15–20 minutes, questions are invited from the audience.

5. Impressions and future plans

From an uncertain beginning at a time when none of those involved had thought beyond the first five or six exploratory sessions, *Skills Lab English* continues to go from strength to strength, new students joining when necessary, new activities being added as ideas and opportunities arise. So far five different groups including a total of over 30 students have taken part, and the sessions have proved to be as popular with and useful for first-year students as for sixth-year students only months away from graduation. Analysis of learning outcomes is necessarily subjective, given that no formal testing is involved, only the first-year students are given scores, and those scores are overall impressions based on attitude and effort. However, the fact that students continue to choose to attend the sessions, and the teachers continue to teach them from choice, not obligation, can be taken as evidence that all those involved have gained from the experience. An informal survey of student opinions at the end of the first year (in September 2010) generated no negative feedback. Despite the equal focus on language and content, most students gave the opportunity to learn and use English as the primary motivating factor. For example:

"It's a really good class for me to practice English. And also a good experience for me. I'd like to continue enjoying this

class."

"I enjoyed this class because I want to learn English more."

However, this may well have been simply because it was the language teacher who solicited the feedback, and the feedback was given in English. Some students also noted that despite classes being in English, they had become more confident about speaking up in front of their peers:

"This class makes me feel positive and able to say my opinion clearly."

"The reason why I attend the SLE class is that I can learn not only English conversation but also technical terms at once. And thanks to the SLE lessons, I gradually became confident about speaking up in front of others."

When asked to clarify these comments, both students confirmed that for them the small class size was an important motivating factor. Indeed, although the authors see this style of teaching as a model that could be expanded in the future, clearly a major obstacle to this is the fact that the small group format is one of the keys to success.

As for the teachers involved, the motivation to continue these lessons, whether in the official curriculum or on a voluntary, extra-curricular basis, derives not only from the sense of satisfaction at seeing what the students have learned, and the chance to try out experimental teaching techniques, but also from the chance to learn something themselves: Medical experts are able to use and improve their English in a relaxed, informal setting; the English teacher is able to expand his knowledge of medicine in ways that can only be beneficial for his future as a teacher of medical English. At the time of writing, the authors are investigating the possibility of using SimMan© 3G to offer realistic simulations of some of the cases discussed in class. It is also hoped that a wider variety of medical specialists will become actively involved in future. Indeed, the main limiting factor at present is not a lack of equipment, nor a lack of time, but the difficulty of finding and coordinating schedules with specialist medical staff who are both willing to get involved and capable of training students to use the equipment related to their field of specialty, all in an English-only setting.

6. Conclusions

The continuing enthusiasm of all those involved has convinced the authors that teaching medical skills and expanding students' medical knowledge in an English-only setting is not only possible but highly effective and highly motivating. Moreover, teachers can gain almost as much from such sessions as can learners. It may still be many years away, but the encouraging results of our experimental teaching suggest that the incorporation of larger-scale English-only programmes into the medical curriculum in future may be both possible and effective. However, it should be noted that collaboration is absolutely vital. Language teachers should remain aware that they are qualified to teach language, and should not attempt to cross the line and teach medical skills in which they have not been properly trained. Subject specialists, meanwhile, must recognize that the ability to understand and use English for communication does not qualify them to teach it effectively. It is to be hoped that teachers on both sides of the divide will read this paper, and will be inspired to seek each other out with a view to experimenting with similar teaching programmes at their own institutions. We wish them luck.

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岩手医科大学は，2007年の薬学部創設に伴う移転により，日本で唯一，医・歯・薬3学部の学生が同一キャンパスで学ぶ医療系総合大学となった。英語教育は，現在，2つのキャンパスのうち，この新キャンパスで行っている。医学部の英語教育の目的は，最新の医療に関する知識や情報の収集，海外に向けた論文の発表，医療現場での会話能力，国際学会への積極的参加など，専門分野で十分に発揮できる英語能力を身につけることである。1年次では，「読む・書く」と「聴く・話す」にそれぞれ重点を置いた授業により，総合的な英語能力を向上させ，科学や医療への関心を高めることで，専門課程への橋渡しとなる教育を行っている。2・3年次では，専門的な医学英語表現と，医療現場での会話表現の修得を目指している。加えて，3学部の1年生が同じ教室で学ぶ選択科目，少人数での初年次ゼミ，上級学年を対象としたSkills Lab Englishも開講している。

1. Introduction

Iwate Medical University（IMU）has a long history going back to the founding of Iwate Medical College in 1928, with connections stretching back even further to a private medical school founded in Morioka in 1901. Significant structural reorganization took place in 2007 to coincide with the opening of a brand new campus in the small town of Yahaba, 10 km south of the old campus and hospital in the centre of Morioka. While operations are currently divided between the two locations, a new hospital adjacent to the new campus is under construction, and the coming years will see all but a small part of the university's operations transferred to Yahaba. Given IMU's inland location, the Great East Japan Earthquake and Tsunami of 2011 caused no significant structural damage, and resulted in only limited disruption to the academic schedule, although great care has been taken since then to address the needs and sensitivities of students from coastal areas devastated by the disaster. IMU Hospital was central to the rescue and relief effort, and the university continues to direct significant resources into the development of disaster preparedness infrastructure.

At IMU the School of Medicine, School of Dentistry, and School of Pharmacy each have their own English programme, and each English instructor's teaching duties are spread across the three schools. In the School of Medicine 120 new students are admitted each year. At present there are four compulsory year-long courses spread over the first three years: English Speaking and Listening（1st year）, English Reading and Writing（1st year）, Introduction to Medical English（2nd year）, and Medical English（3rd year）. In addition, a number of elective and extra-curricular English classes are offered.

2. Iwate Medical University Department of Foreign Languages

The English Division is part of the Department of Foreign Languages, which is part of the Center for Liberal Arts and Sciences. The department also includes the German Division, although German was discontinued as a compulsory subject in 2009 following the retirement of the last full-time instructor. As of January 2014 the English Division consists of four full-time instructors: three associate professors and one assistant professor. In addition, four part-time instructors, all native speakers, are employed to teach conversation-oriented 1st-year classes in the three schools.

3. Iwate Medical University School of Medicine English Programme

3.1. Overall Objectives

At IMU we aim to equip our medical students with English skills that will help them to read cutting-edge research, publish research for an international audience, communicate with English-speaking patients and colleagues, and participate actively in international conferences and other gatherings.

3.2. Programme Structure

・3.2.1. Compulsory Courses

・**English Speaking and Listening（ESL）:** 1st-year students, 4 groups of 30 students each. 90 minutes X 28 lessons/year. Four instructors（one faculty member and three part-time instructors）rotate every 7 weeks so that all students experience classes with all four instructors.

・**English Reading and Writing（ERW）:** 1st-year students, 3 groups of 40 students each. 90 minutes X 28 lessons/year. Each group is taught by one full-time instructor for the duration of the course.

・医学英語入門（**Introduction to Medical English**）: 2nd-year students, 2 classes of 60–65 students, divided by 1st-year exam scores. 90 minutes X 26 lessons/year. Two full-time instructors each teach different content, swapping groups in the 2nd semester. The two groups thus each study the same content, but in a different order.

・医学英語（**Medical English**）: 3rd-year students, 2 classes of 60–65 students. 90 minutes X 22 lessons/year. As with the 2nd-year course, two full-time instructors each teach different content, swapping groups in the 2nd semester. The two groups thus each study the same content, but in a different order.

・3.2.2. Elective Courses

・科学英語（**Scientific English**）: 1st-year students, one mixed group of medical, dental and pharmacy students, maximum 30 students. 90 minutes X 14 lessons, one semester only.

・実践英語（**Practical English**）: 1st-year stu-dents, one mixed group of medical, dental and pharmacy students, maximum 30 students. 90 minutes X 14 lessons, one semester only.

・英米文化考（**British and American Culture Studies**）: 1st-year students, one mixed group of medical, dental and pharmacy students, maximum 30 students. 90 minutes X 14 lessons, one semester only.

The above three course are each taught by one full-time instructor.

・初年時ゼミ（**First-year Seminar: Skills Lab English**）: 1st-year students, maximum 8 students, restricted to students with confidence in English conversation, jointly taught by one English instructor and a professor of pathology.

3.3. Programme Contents

In the 1st year, classes focus on the four basic skills of speaking, listening, reading and writing, with a content focus on topics in health and science. Teaching materials for ESL are created by the course coordinator（Hobbs）and are based on *YouTube* videos that students can access from any Internet-connected device. Topics covered include *Laughter and Health*, *Sleep Disorders*, and *Preparing a First-Aid Kit*. Listening and vocabulary exercises are usually assigned for homework, with class time focusing on group discussions and other speaking activities, and the preparation and delivery of short oral presentations on topics related to the lesson content. The ERW course is based on the textbook *Science in Focus*（Seibido）and targets reading and writing on topics related to health and science, such as *Telemedicine*, *Vaccination*, and *Neglected Tropical Diseases*.

The elective courses in Scientific English, Practical English, and British and American Culture Studies range in content and focus from group-focused, speaking-oriented study of scientific topics, to TOEIC-based study designed to improve understanding of newspaper and TV English, to a more traditional translation-oriented reading class. This part of the programme offers 1st-year students the chance to tailor their English education to match their preferred learning styles and areas of interest.

In First-year Seminar: Skills Lab English, English is used to teach practical medical skills such as measuring blood pressure and performing CPR. It is discussed in detail in another paper in this issue of JMEE.

In the 2nd year, half of the Introduction to Medical English course gives students a solid grounding in medical terminology. This half of the course is based on the textbook *Medical Terminology: A Short Course* (Elsevier Saunders). There is a strong focus on pronunciation (an area in which even practicing doctors are often relatively weak), and many interactive speaking tasks are employed to keep motivation high. The other half of the course is based on the textbook *Lifesaver: Basic English in Medical Situations* (MacMillan LanguageHouse), and focuses on workplace communication skills such as explaining symptoms to patients, and communicating with colleagues. For the first time in 2013–14 we divided the students based on 1st-year exam results, believing that even if the core content is the same, better overall results could be achieved this way. At the time of writing it is too early to say whether this has had the desired effect.

In the 3rd year, half of the Medical English course is based on materials created by the teacher (Hobbs). It has a three-pronged focus on case reports (reading focus), research paper abstracts (reading focus), and history taking (speaking and listening focus). The other half is at present a more traditional translation-based reading course using reading material on health and medical topics.

3.4 Evaluation

Grading criteria are determined separately for each course. However, with the exception of First-year Seminar (assessed by performance in class only), end-of-semester exams account for 50–90% of the final grade, with some combination of in-class tests, presentations, submitted assignments, attendance, and effort making up the remainder.

4. Other Activities

IMU also has an active ESS that welcomes students from all three schools, and Skills Lab English is also offered as a flexible, irregular extracurricular course for small groups of high-achieving medical students in grades 2–6. Organised by the same teachers who take charge of First-year Seminar: Skills Lab English, this course enables students to learn practical medical skills through English, medical teachers to improve their English, and the English teacher

to improve his medical knowledge and interact more closely with teachers in the medical school. The university also organizes an annual 2-week study-abroad trip to Brighton, England, open to all students in the university, during which participating students (maximum 20) take an intensive course at a language school while each staying with an English family.

5. The Future

While no drastic changes in the programme are planned for the near future, the goals and content of each course are discussed, evaluated, and if necessary changed each academic year. However, the two Skills Lab English courses in particular are seen as a model for the future of medical English education, and it is our hope that more and more instructors in the medical school will become directly involved with the English education programme.

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Making sense of your work

Reuben M. Gerling

Use the first sentence of your discussion to sum up the work and main conclusion

Example 1（Discussion）
Altered systemic shear stress has been shown to have a detrimental effect on cardiovascular health. As an initial step in elucidating whether similar biomechanical forces adversely affect pulmonary vascular health, we quantified the mean WSS in patients with PAH as compared to age- and sex-matched controls. We found significantly lower wall shear stress in the pulmonary arteries of five subjects with moderate or severe PAH compared to control subjects using combined magnetic resonance imaging and computational fluid dynamics to visualize and quantify subject-specific, three-dimensional hemodynamic conditions.

Couple this with the last sentence of your introduction:

Example 2（introduction, same work as ex. 1）
We hypothesize that the abnormal anatomic and hemodynamic properties of the central pulmonary arteries will lead to a decrease in WSS which, as demonstrated in the systemic circulation, may lead to pulmonary endothelial cell dysfunction and abnormal gene expression. As a first step toward elucidating the role of shear stress in the pathogenesis and progression of PAH, we combined MRI and computational fluid dynamics to construct subject-specific pulmonary artery models in five PAH patients and five age- and sex-matched controls in order to quantify WSS and provide a basic range of normal WSS for future studies.
What we did→what we found out

(Examples 1, 2: Tang, et al. Pulm Circ. v.2（4）; Oct-Dec 2012)

Vocabulary speaks

In the introduction to the paper cited above（Example 2）the authors use the word *hypothesize* to mean that they have formed a theory and that the theory will be proven by their work. The example below shows how authors can use specialist vocabulary quite deftly to elucidate their point.

Example 3
Our recent studies of postoperative recurrence rates in Crohn's disease prompted us to suggest that there might be two different patterns of Crohn's disease, one inherently indolent, which tends to recur slowly, and the other inherently aggressive, which tends to recur quickly.[1] This concept was foreshadowed in 1971 by deDombal et al, who described early and late

forms of recurrence.[2] <u>We wondered</u> whether these two patterns of Crohn's disease could be characterised by differences in the indications which bring patients to surgery.

(Example 3: Gut, 1988, 29, 588-592)

Based on their observations the authors hypothesized that Crohn's disease has (not one, but) two patterns. They wish to give credit to deDombal et al. who indicated as much in 1971. For those suspicious or curious, the 1971 article starts its discussion thus,

Example 4

Previous studies of recurrent Crohn's disease (refs. deleted) <u>seem to have assumed</u> that recurrence is a homogeneous phenomenon. Our data, despite the problems inherent in a retrospective survey going back over 30 years, <u>throw considerable doubt</u> on this assumption for <u>they suggest</u> that at least two types of recurrence (early and late) can be identified according to the length of time that has elapsed between operation and the development of recurrent disease.

(Example 4: Gut, 1971, 12, 519-527)

Both authors chose the smooth path rather than be brush and dismissive. They thus use these terms:

Prompted us to suggest (led us to believe)
This was foreshadowed (suggested, predicted)
We wondered
Seem to have assumed
Throw considerable doubt
Suggest

This approach makes the whole presentation smooth and flowing, avoiding the chronic feeling of hiccups that tends to accompany the reading of many medical works.

Writing this piece prompted me to suggest that future writers ought to look for the softer, literate term to express themselves. This kind of writing is foreshadowed by the writers quoted abobe. I wonder if this will make the reading of the resulting work more enjoyable as well as instructive. Many writers seem to assume that by being brush and disparaging they are toeing the intellectual, scholarly way. Reading these and other examples throws considerable doubt on these notions. They suggest that the more careful and literate the writing, the better the resulting work.

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