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 Japan Society for
Medical English Education

Official Journal of the Japan Society for Medical English Education (JASMEE)

第 25 回 日本医学英語教育学会 学術集会 開催案内

第 1 報

このたびは、第 25 回日本医学英語教育学会学術集会のお世話をさせて頂く機会を賜り、大変光栄に存じます。

私自身、自分が勤務する大学では、英語で医学を学ぶことの重要性を主眼とした教育を行っておりますが、限られた視点・領域での EMP 教育であるかも知れません。日本の医学生が英語で医学を学ぶことの必要性のみでなく、その意義や有用性について教員の立場からあらためて考えてみる事が、私にとっても必要であります。

第 25 回の本学術集会は、現在の我が国における EMP 教育の様々な modality に目を向け、その課題を検討し、今後の展望に繋げていくことに役立つ企画ができれば、と考えております。

経験不足でご迷惑をかけることがあるかも知れませんが、尽力して参ります。多くの会員の皆様からご意見を賜ることができますよう、ご参加を心よりお待ちしております。

第 25 回 日本医学英語教育学会 学術集会

会長 青木 洋介

佐賀大学医学部 国際医療学講座・臨床感染症学分野

開催概要

学会名：第25回日本医学英語教育学会学術集会

日 時：2022年7月16日（土）・7月17日（日）

会 長：青木 洋介（佐賀大学医学部 国際医療学講座・臨床感染症学分野）

会 場：日本教育会館（〒101-0003 東京都千代田区一ツ橋2-6-2）

演題募集：2022年1月24日（月）～3月22日（火）

<募集テーマ> 英語論文作成・投稿, 国際的医学ジャーナルの動向, 国際的交流活動,
医療現場と医学英語, USMLE対策, 医学英語達成度評価,
医学英語教育における新たな取り組み, その他

* 筆頭演者は本学会の会員に限ります。非会員の方は演題提出前にご入会ください。

* 英語・日本語のどちらでも発表できます。学会ホームページよりご登録ください。

* 詳細は学会ホームページをご参照ください。

<https://jasmee.jp/25th-academic-meeting-2022-7-16-17/>

問合せ先

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First Announcement

The 25th Academic Meeting of the Japan Society for Medical English Education

It is a great honor for me to have the opportunity to take care of the 25th Annual Meeting of the Japanese Society for Teaching English to Medicine.

At the university where I work, I myself am engaged in education focusing on the importance of learning medicine in English, but this may be EMP education from a limited perspective and domain. It is necessary for me to reconsider not only the necessity for Japanese medical students to learn medicine in English, but also its significance and usefulness from the standpoint of a teacher.

We hope that this 25th Annual Meeting will be useful in looking at the various modalities of EMP education in Japan today, examining the issues, and connecting them to future prospects.

I am inexperienced and may cause some inconvenience to you, but I will do my best. We sincerely look forward to your participation so that we can receive opinions from many of our members.

Yosuke Aoki,
President of the 25th JASMEE academic meeting

Dates: Saturday, July 16 and Sunday, July 17, 2022
Venue: Japan Education Center
2-2 Hitotsubashi 2-chome, Chiyoda-ku, Tokyo, 101-0003 Japan
President: Yosuke Aoki, MD, PhD (Saga University)

Call for papers: Proposals for papers on the following subjects (or similar) should be submitted by March 22, 2022.

- Preparation and submission of medical English papers
- Trends in international medical journals
- Medical English in Clinical Settings
- USMLE Preparation
- Evaluation of Proficiency in Medical English
- New Developments in Medical English Teaching

Submissions will only be accepted from JASMEE members in good standing. To submit a proposal, please access the JASMEE homepage below.

<https://jasmee.jp/25th-academic-meeting-2022-7-16-17/>

Inquiries should be addressed to the JASMEE Secretariat (c/o Narunia, Inc. Attn: Ms. Tomidokoro)
TEL 03-3818-6450 FAX 03-3818-0554 E-mail jasmee@narunia.co.jp

Journal of Medical English Education

The official journal of the Japan Society for Medical English Education

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From the editor

It was unfortunate that we were unable to hold this year's Academic Meeting of the Society in Kanazawa as planned, in spite of the optimism the organisers felt at the beginning of the year. But at least the conference was held, albeit via Zoom, and the President, Professor Yoshiharu Motoo of Komatsu Sophia Hospital, is to be congratulated on putting together a wide-ranging and stimulating programme. The President of next year's Academic Meeting is Professor Yosuke Aoki of Saga University. Let us hope that it will be possible to hold it onsite so that we can enjoy not only the academic but also the social aspects of conference attendance.

Immediately after this year's conference, I invited all of the presenters to submit expanded versions of their presentations for publication in the journal. Seven of them responded in time for us to publish their writing in this issue, which means that for the first time since February 2020 we are able to include a proceedings section in the journal. The invitation is still open to any presenters who would like to submit accounts of their talks for publication in the February issue. The deadline for contributions to the proceedings section is 20th December and, as always, we will be flexible on the format of articles submitted for publication in this section. Authors are, however, requested to follow our author guidelines (<https://jasmee.jp>) on matters such as reference citations. Those submitting articles in Japanese are reminded that an abstract in English is required.

This current issue also includes three original articles and one short communication (teaching methods), for which I thank the authors. During the pandemic, we have received fewer submissions than normal, so I hope these four recent contributions signal a return to the normal level.

On an administrative note, I would like to thank Professor Clive Langham, formerly of Nippon University School of Dentistry, for his six years of dedicated service as Associate Editor of the journal, and to welcome as his replacement Professor Alan Hauk of Jikei Medical University, who has already served faithfully on the editorial committee for six years. Professor Langham's place on the committee will be filled by Professor Takako Kojima of Tokyo Medical University, who joins us after a short stint as one of our review editors. In addition, thanks are due to Professor Takaomi Taira of Tokyo Women's Medical University for his long years of service as Japanese Editor (in charge of submissions submitted in Japanese). Professor Saeko Noda of Tsuda University will step into his shoes, and Professor Taira's place on the committee will be filled by Professor Shinobu Hattori of Suzuka University of Medical Science.

T.D. Minton OBE

Editor-in-Chief

Journal of Medical English Education



Assessing the English needs of Japanese nurses through focus group interviews

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Abstract

In English for Specific Purposes (ESP) education, needs analysis plays a central role in formulating learning goals, teaching methods, teaching materials, and forms of assessment. In order to maximize the validity of a needs analysis survey tool, it is essential to combine various sources of information, including “domain insiders” (those working in a specialized field) and “domain outsiders” (those without direct experience of the specialized field, such as language teachers). The authors received a grant to conduct a nationwide needs analysis of nursing English, focusing on identifying the general English needs of nurses for professional development, and more specifically, on identifying the tasks that nurses need to carry out in English in the course of their work. Having already created a draft questionnaire in consultation with language teaching professionals and nursing educators (domain outsiders), we conducted a series of focus group interviews with working nurses (domain insiders). It was hoped that these group interviews would enable us to revise and improve the draft questionnaire, prior to its use in a pilot study. Interviews were set up as semi-structured discussions to elicit details of the English needs of nurses for professional development and for their provision of healthcare to non-Japanese patients. This paper reports on focus groups as part of the triangulation of sources and methods in order to produce a valid survey instrument. Finally, we exemplify the ways in which the domain insiders provided insights into the tasks carried out by nurses in Japanese hospitals, and their use of English for professional development.

J Med Eng Educ (2021) 20 (3): 25-32

Keywords English for Specific Purposes, English for Nursing Purposes, focus group interviews, needs analysis

1. Introduction

1.1 Background

The needs analysis is a critical component of any ESP curriculum.¹ In the emerging field of English for Nursing Purposes (ENP) instruction, numerous studies have described needs analyses conducted for nursing students and working nurses in such contexts as Taiwan, Jordan, and the United States.²⁻⁴ The English language needs of Japanese nurses have also been reported in papers that largely involved questionnaire surveys of working nurses.^{5,6} However, these papers typically do not show what measures were taken to inform the content and design of questionnaires used in the surveys. This paper will report on the use of focus group

interviews with working Japanese nurses as a means of informing and improving a draft version of a questionnaire to be used in a pilot study survey of the English language needs of nurses working in Japanese hospitals.

1.2 Pilot study survey questionnaire

This project began in 2018 when the authors received a three-year grant-in-aid from the Japan Society for the Promotion of Science to conduct a nationwide survey on the English language needs of nurses working at Japanese hospitals. Our purpose was to identify the general English language needs of nurses in carrying out their work with patients, performing other nursing duties, and for their own professional development. The underlying aim of our project was to gather information that would inform ENP curricula and materials, with the ultimate goals of proposing recommendations for a unified ENP core curriculum and supporting the development of an ENP proficiency examination; currently, in Japan, there are no consistent, nationally recognized criteria for their implementation.

The pilot survey was to be carried out using an online

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questionnaire which included items derived from three sources: 1) a review of previous research related to nursing English needs analysis and nursing education; 2) input from teachers of nursing English; and 3) feedback from nursing educators. Source 1) provided data about items related to the clinical duties of Japanese nurses,⁷ as well as information about the potential scope of nurses' language use, both within and beyond the hospital context.⁸⁻¹² Source 2) provided input regarding practical implications from a pedagogical perspective, specifically how survey items could be categorized from a linguistic standpoint.¹³⁻¹⁵ Together, sources 1) and 2) enabled the development of broad categories and a provisional taxonomy of tasks for a draft version of the questionnaire. After conducting research with sources 1) and 2), source 3) facilitated further revision of the draft version by providing confirmation of item suitability (particularly regarding clinical tasks), advice about procedural aspects of communicating with nursing staff, and clarification of nursing roles, particularly with regard to the first section of the questionnaire, relating to participants' backgrounds.

Based on this review and feedback, our revised draft questionnaire consisted of five sections, enabling us to gather information on a wide range of situations in which nurses working in hospitals or clinics might use or need English. Respondents to the proposed pilot study would now be required to provide information on the following areas:

1. Their backgrounds
2. Use of English with patients
3. Use of English for research activities
4. Use of English with colleagues
5. Feedback on the survey instrument

However, it is important to note that input on the draft questionnaire was not obtained from working nurses themselves. A methodology that includes the triangulation of mixed sources and consultation with both domain insiders and outsiders has gained favor in the needs analysis literature.¹⁶ Domain insiders, or professionals within a discipline, give the assessor an understanding of objective needs, while domain outsiders (for instance, ENP teachers and patients) elicit subjective needs.¹⁷ Many needs analyses published in Japan focus on the perceived needs of university students, or pre-service learners; however, we sought to avoid a student focus as pre-service learners may have a flawed understanding of their own needs.¹⁸

Even nursing educators, who possess professional nursing credentials, may not be fully aware of working nurses' actual needs as a result of their separation from clinical settings. Thus, our approach of identifying items for the survey without the input of working nurses risked the possibility that only a limited number of items would be identified and subsequently measured. Obtaining input from domain insiders and identifying potentially significant questionnaire items after the survey had been carried out

would mean that their value could not be measured as part of the original survey. This flawed approach would compromise the validity and effectiveness of the pilot survey, so we decided that prior to conducting the pilot survey, we would aim to further improve and validate our questionnaire by conducting interviews with working nurses. We judged the focus group interview to be the most suitable means of achieving this objective.

1.3 Focus group interviews

The use of focus group interviews has become increasingly common in the needs analysis literature. Focus groups "aim to leverage the group dynamics by taking advantage of the fact that participants exist as part of a larger social community; ...they try to understand how people co-create knowledge and share their experiences with one another."¹⁹ During focus group interviews, participants compare their own outlooks and experiences with those of the other participants, which can allow the researcher to observe not only what participants think but their reasons for thinking as they do.²⁰

In addition, for our purposes, focus groups were felt to offer several advantages. First, focus groups would enable us to get information from a broad range of working nurses in Japanese hospitals, providing data informed by first-hand experience. The involvement of focus group participants from a variety of backgrounds and with varied expertise would stimulate new topics for discussion. Moreover, the use of focus groups would be cost-effective and less demanding of time and human resources than conducting individual interviews in varied geographic locations. Focus groups would enable us to obtain up to four opinions at one sitting. Perhaps most importantly, the focus group format would limit the role of the interviewer/mediator, allowing more space for nurses to express themselves in a dynamically interactive manner, generating more insights than standard, one-off semi-structured interviews.²¹

2. Methods

2.1 Focus group recruitment and composition

As domain outsiders (English teachers), one of the biggest challenges we faced was the recruitment of volunteers. Ideally, group members would have been selected by stratified random sampling; however, the limitations of the researchers' domain insider contacts rendered this option impractical. Ultimately, four groups were selected by convenience sampling methods, with 3-4 nurses in each group indirectly recruited as volunteers by chief nurses who were known to the researchers and who had agreed to act as go-betweens. This approach limited the variety of hospital type and size in which participants worked, though the 15 volunteers were drawn from diverse departments: outpatient ward ($n = 5$); obstetrics/gynecology

Table 1. Focus groups and participant nurses

Number	Hospital	Main Department	Nursing experience (Years)
N1	H1 (FG1)	Outpatient Dept.	13
N2	H1 (FG1)	Outpatient Dept.	9
N3	H1 (FG1)	Outpatient Dept.	12
N4	H1 (FG1)	Outpatient Dept.	31
N5	H1 (FG2)	Obstetrics & Gynecology Dept. (Midwife)	30
N6	H1 (FG2)	Pediatrics Ward	13
N7	H1 (FG2)	Emergency Dept.	5
N8	H1 (FG2)	Nursing Dept. (Administrative)	29
N9	H2 (FG3)	General Ward	20
N10	H2 (FG3)	Regional Cooperation Office (Outpatient)	29
N11	H2 (FG3)	General Ward	20
N12	H3 (FG4)	Neurosurgery Dept.	3
N13	H3 (FG4)	Obstetrics & Gynecology Dept. (Midwife)	9
N14	H3 (FG4)	Eye Clinic	30
N15	H3 (FG4)	Respirology/Gastroenterology	24

N = Nurse; H = Hospital; FG = Focus Group

($n = 2$); general (community care) unit ($n = 2$); emergency ($n = 1$); pediatrics ($n = 1$); administrative ($n = 1$); neurosurgery ($n = 1$); clinic ($n = 1$); and respirology/gastroenterology ($n = 1$). All nurses were female, and the mean work experience was 16.3 years (see **Table 1**). The focus groups were held at three hospitals (H1, H2, H3), all located in western Japan. Two were held at H1 (490-bed), and one each at H2 (110-bed) and H3 (590-bed). The nurses working in the larger hospitals (H1 and H3) were not well acquainted with each other; however, the nurses from H2 had worked together in a limited capacity, and were all familiar with each other's work.

English proficiency and experience working with non-Japanese patients were not essential selection criteria, as we sought insights into the actual English language needs of nurses, not their practical English abilities. However, only nurses with at least three years of hospital experience were selected to increase the likelihood that participants would have experiences to share. Token remuneration in the form of small individual gifts (ballpens) was offered according to the research guidelines of the first author's institution.

Further practical challenges involved contacting the hospitals, obtaining permission to interview the nurses, arranging suitable facilities in which to carry out the focus groups, and scheduling. This study was approved by the Ethical Review Board of Hiroshima Red Cross College of Nursing (#1811). Informed consent procedures were strictly followed.

2.2 Focus group procedures and researcher roles

The four focus group interviews took place in three cities in western Japan over three days in June and July 2019 (two were done in the same hospital on the same day). Each lasted between 87 and 95 minutes and was fully recorded. The interviews were conducted by two researchers working in tandem, in Japanese. The interviewer (or moderator) asked planned and follow-up questions, and managed participation

in the discussions. The second researcher was responsible for audio recording and note taking and maintained a real-time log of the main ideas expressed by the speakers, recording each speaker's identity, and the timing of their comments.

The focus groups were conducted as semi-structured interviews (see **Appendix 1**) and sequenced as follows: Greetings → obtaining final verbal consent → welcome → topic → guidelines → opening question → transition question → key questions → final questions and summing up → thanking participants.

A potentially problematic area lay with in-group dynamics. It was feared that some participants may dominate discussion, or that some participants may hesitate to speak freely with other nurses present. However, careful preparation and effective interview management minimized this issue. No participants were noticeably silent, and the interviewer ensured equitable opportunities for all members to speak, as well as facilitated intra-group discussion where appropriate.

2.3 Interview questions

The opening question required each participant to provide a brief self-introduction, including years of experience as nurses and their current assignment. In each case this was followed by a transition question: When do you need English at work? Subsequent interactions were initiated in the following key question areas: (1) use of English in the following situations or while carrying out certain nursing tasks: a. in first meetings with a patient; b. when asking about symptoms and lifestyle; c. when explaining illnesses, wounds, and treatment; d. when providing psychological support; and e. when educating patients; (2) the most frequently occurring language problems; (3) the biggest obstacles in communicating with non-Japanese patients, such as cultural differences; (4) and research activities. The groups concluded with two closing questions: What advice would you give to nursing English instructors? What was the most important topic we spoke about today?

2.4 Post-focus group procedures

After the conclusion of each focus group interview, summary transcriptions were translated into English and potential areas of interest were identified and categorized. A thematic analysis was then carried out using a multi-phase process as advocated by Nowell et al.²² In this process, the researchers first familiarized themselves with the data, generated initial codes, sought out and identified themes, and then reviewed and revised these themes. Themes were defined and named, and existing survey items were compared to the themes that emerged from data analysis.

3. Results and discussion

During the coding phase, we identified four principal themes, which related to 1) language; 2) environment; 3) the individual; and 4) the institution. These four themes were subsumed under two broad categories to denote the challenges faced by nurses when using English, namely linguistic and cultural challenges. **Table 2** shows these categories and the specific themes which were identified, as well as their code and frequency in the data set.

As already identified from the nursing literature and our previous discussions with nurse educators, nursing tasks and research needs were generally as we had anticipated; however, several areas discussed by focus group participants revealed aspects that had hitherto been missing or lacked nuance in the draft version of our survey questionnaire. These included:

1. Views on the limits of technology;
2. The need for nuanced communication in task-related and functional language;
3. Avoidance of English-based research;
4. The wide range of cultural issues, and the need for diversity awareness;
5. The importance of everyday second language communication skills;
6. The importance of a positive attitude;
7. The variation of needs between departments.

Below we will discuss these issues with illustrations of the various themes identified in the data set in **Table 2** and using representative statements from participants. All statements have been translated from the original Japanese

by the authors of this paper.

1. Views on the limits of technology

Participants in our focus groups had access to communication technologies, which in this case consisted of software applications for translation and interpretation on hospital-provided tablets or their own smartphones. There was concern that foreign language output from these applications was not accurate. A nurse reported that “we used a tablet, but it was not reliable and some translations were strange. I wasn’t sure if [the patient] understood or how much, or if they left without really understanding.” (N1)

One participant suggested that this created additional pressure for nurses without sufficient language skills to check the accuracy of the foreign language output from one of these applications. She commented: “I am used to it, but others who aren’t may feel pressure or additional stress. You have to be more careful than usual...[because] some expressions may be taken the wrong way, or the way something is said may be misinterpreted...So some people who can’t speak English may pull back or avoid this situation.” (N11)

Overall, these software applications were seen by the participants as useful for their dictionary and pronunciation features, helpful for simple questions and responses and statements, but ineffective for “helping [the nurse] provide psychological or emotional support for a patient.” (N6)

2. Ability to use nuanced language

Section 2 (Use of English with Patients) of the pilot survey described in 1.2 above examined nurse-patient spoken interaction from two perspectives: nursing tasks and communicative functions. Overall, participants’ comments

Table 2. Themes identified in focus group interviews

	Code	Themes and definitions	Item frequency
	<i>Themes related to language</i>		
Linguistic challenges	L	General comments about language use	70
	Lc	General English language communication skills; denoting non-specialized English (e.g., small talk)	41
	Lf	Function-related language use (e.g., explaining, introducing, persuading)	120
	Lt	Task-related language use; focusing on tasks carried out by nurses	104
	Lap	Language for academic purposes, including reading, writing papers, professional development	28
	Lmt	Language using medical terminology and circumlocution	19
	Lwc	Language used with English-speaking colleagues (excluding hospital English classes)	8
	Nvc	Nonverbal communication, including using and interpreting facial expressions, gestures, etc.	31
		<i>Themes related to the working environment</i>	
Linguistic challenges	Ef	The nature or environment of the facility	9
	Ea	The area of nursing specialization or hospital ward	56
	Er	Resources available to nurses in the workplace, including language resources such as volunteers, medical staff, interpreters, devices, etc.	70
	Es	Supporter; the availability of a family member, patient’s colleague, etc.	22
	<i>Themes related to the individual</i>		
Cultural challenges	C	General comments about culture	16
	Ck	Knowledge-related issues	33
	Cg	Gender-related issues	5
	Pa	Attitudes and emotions	52
	<i>Themes related to the institution</i>		
Cultural challenges	Cf	Flexibility, cultural accommodation	22
	Cr	Resources available, such as prayer rooms, wide-ranging menus	2

about task-based and functional English language use with patients were in line with the items created for section 2; however, participants expressed a desire to be able to use more nuanced language in the accomplishment of these tasks and functions.

The importance of nuanced language use in the performance of a nursing task (collecting information about a patient's condition) was stressed by the following participant who described talking to a patient about pain.

"Gestures can't be used to express the level of pain or provide us with answers to the more nuanced questions we want to ask. We have things we want to know, and they want to give more detailed information, but we need English to understand their nuance." (N3)

A second participant agreed and added that she would like to be able to ask more about location and timing of pain.

Functions identified by the researchers when designing the pilot survey included reassuring or encouraging a patient or showing empathy to a patient. A participant who was assigned to an emergency room was concerned about providing emotional support to arriving patients. In her case, she was confident in her ability to tell a non-Japanese patient with a possible spinal injury not to move, but she was unable to reassure that patient as she would a Japanese patient. She explained: "Everyone comes in an ambulance, and they're all worried, when they come for an examination or for an operation. In Japanese, it's easy to reassure them and tell them not to worry, but that doesn't come out so naturally [in English]." (N7)

Another participant imagined the difficulty she would have in caring for a foreign patient being treated for cancer. Although she had not experienced such an assignment before, she felt that she would be frustrated due to her inability to understand and respond to the emotional needs of the patient, claiming that, "If it's something like a possible cancer diagnosis where additional tests are required, we'd want to know [the patient's] current feelings and we'd want to be able to provide psychological support." (N2)

3. Avoidance of English-based research

As part of their continuing professional development, nurses in Japan, especially those at large hospitals, may have at least one mandatory research project early in their careers. They may also have opportunities throughout their careers to conduct individual or group research projects and report upon them, either within the hospital or at a conference. Participants in the focus groups expressed conflicting attitudes about using English in their research activities, which focused almost exclusively on reading journal articles.

One participant indicated that using English resources in one's nursing research was something her co-workers could be doing in graduate school. She commented that "It depends on the individual, but I do know of people who are gathering information by reading English research literature

for personal reasons, like going to graduate school." (N1) At this hospital (H1.1), nurses were required to form groups, select a research topic, and complete a research report every two years. Describing this process, the same participant explained that these groups rarely look at English research and that she, herself, had never searched for any English research articles.

On the other hand, some participants in the focus groups viewed research articles in Japanese as narrowly focused and Japanese translations of English articles as unnecessarily complicated. Reading research articles in English was described as a way to "get more out of it." (N15) This participant, who had completed graduate studies in England, noted that: "Japanese research is too narrow. I think it's better to read foreign research...When I was thinking about evidence-based nursing, I wouldn't have gotten far with Japanese only. Countries focus on different areas that they are good in... we can read about those areas and think about how they can be introduced in Japan. Or, when an idea is introduced, go to the source to really understand it." (N15)

Another participant explained that English research articles were useful when reflecting on one's own nursing practice and theory: "When you're caring for a patient, you have to reflect on the care you provided, so you might use English literature for reflecting on your nursing skills. I think quite a lot of Japanese do that...for nursing theory, we use it quite a lot." (N9)

Those advocating for the benefits of using English research articles tended to be more experienced nurses with higher English language abilities. What this indicated was summarized best by this participant: "It takes a lot to read in English and there's some internal resistance to taking it on, a feeling of not being any good at it." (N7)

4. The wide range of cultural issues, and the need for diversity awareness

Before 2017, university nursing education had not yet responded to the increased diversification of patients at Japanese hospitals, and international nursing often focused on Japanese nurses working abroad. This changed with the model core curriculum for university nursing education introduced in that year.^{23,24} All of the focus group participants completed university prior to 2017, so it was not unusual that cultural diversity training was not a part of their nursing education. A younger participant commented that she studied about religious differences in high school, but another participant in the same focus group responded in this manner: "Maybe that kind of thing, about religion, was taught in social studies, but there wasn't anything specialized like that in nursing school." (N13)

Participants shared a wide range of experiences they had had with foreign patients which required some cultural knowledge and competency. Participants seemed to rely on accumulating knowledge about cultural differences from encounters, either personal or collective, to manage

interactions with foreign patients. One participant, a midwife, explained: “We get it all from experience. That with Islamic patients we do this, and Hindu patients aren’t allowed pork. (sic) And milk, we were asked if the milk is halal...patients who’ve had a C-section, their baby goes into an incubator, so they can’t breastfeed at night, so we have to give them milk, we get asked that, so we have to reassure them that the milk is OK.” (N13)

One participant realized that this approach left gaps in cultural knowledge that could affect care: “We wouldn’t think to ask about something like diet unless they were obviously Islamic, but, if they were Chinese or American, we’re not even aware that there could be differences like being vegetarian. I think we don’t really ask about lifestyle differences and it’s something that we could miss when they are admitted.” (N2)

5. Importance of everyday second language communication skills

Being able to make casual conversation with patients was seen as more important to some participants than being able to use nursing-specific language. Looking at a patient’s appearance and facial expressions could provide a nurse with important information about that patient. A participant explained that she “distracted [Japanese] patients with questions about topics unrelated to their condition,” (N11) in order to evaluate their faces and learn more about them. Another participant spoke of how casual conversation could alleviate anxiety. This nurse said: “Foreign patients are more nervous than Japanese patients because they’re not in their own country and they’re worried about their condition. Although they’ll usually smile back at you when you enter their room, it actually seems like they’re very worried...so casual conversation is important ... just basic things.” (N9)

However, some nurses expressed misgivings about their basic English ability. One participant recalled a time she wished she had been able to make casual conversation with the family of a foreign patient who was undergoing an operation: She explained: “I can make a lot of casual conversation with Japanese patients but conversations with foreigners are shallow and I feel bad about it...I wish I could do something more, but I can’t and hesitate.” (N8) Misgivings expressed by nurses about their own English skills have been noted in separate needs analyses.⁶

In addition to small talk, the appropriate use of polite English expressions was also seen as a challenge. When speaking in Japanese, nurses are trained to use polite and honorific expressions with patients. One participant imagined a situation in which she was escorting a patient from the waiting room to the physician’s office for a consultation. She described the situation and her feelings: “I worry that I’m being rude and even though I just want to be able to say, ‘come here,’ politely, I end up being unable to say anything in English because I think that I need to use polite, formal English. So, then I use gestures instead. Of course, it

would be nice to be able to speak at a higher level, but even more than that, I would like to be able to use simple, polite English at a lower level.” (N1)

6. The importance of a positive attitude

Unexpected encounters with non-Japanese patients can cause nurses to hesitate due to perceived communication difficulties. According to interviewees, first impressions are important for setting the right tone for the nurse-patient relationship and displaying a positive attitude is essential. One nurse described this as, “smiling to help [a patient] feel relaxed, not being arrogant...creating an atmosphere where it is easy for them to share information.” (N11) Another participant, who worked at a small ophthalmology clinic and was solely responsible for non-Japanese patients, stated that smiling and a willingness to listen were key in her approach with non-Japanese patients. She explained: “When I first started, I was worried about how I was going to translate for [non-Japanese patients], and that distracted me and made my face look serious, but it’s very important to be able to greet them with a smile. So, I welcome them with a smile and then ask about their symptoms. I try to repeat what they’ve told me, to show them that I’ve understood. And I smile and try to relax them.” (N14)

Rather than strong English ability, a willingness to listen, understand, or help may produce the mind-set necessary to approach non-Japanese patients proactively. One participant said, “Even if you can’t speak English, you have to have the right attitude about communication, maybe you could call it being welcoming. You have to try to bring this into the interaction.” (N13) Another participant explained: “Even at a place such as this [hospital]...even with an inpatient, I don’t think you need to know difficult words. You need to be willing to communicate... willing to try and communicate, try and talk.” (N12)

However, confidence was also seen as essential during these encounters. One participant remarked: “I think we need confidence to speak with foreign people. I think the most important thing is the feeling of trying to understand [the patient] even though we don’t speak English. If you want to know [the patient], you could use gestures or a textbook, anything, so it’s the courage to go and talk [to the patient].” (N3)

7. Variation of needs between departments

Variation in nursing tasks between outpatient and inpatient wards was a consideration when creating the nursing task items in Section 2 of the pilot survey. Participants were affiliated with a variety of hospital departments and their experiences indicated ways in which affiliation could affect English language use and therefore needs. For example, one participant worked in the pediatrics ward. She explained how her interactions may include parents and require the use of modified language with children: “I take blood samples and set up drips, but I’m treating young kids, usually under the age of three. They often can’t keep still, so I need to communicate with mothers

to explain to help keep them still.” (N6)

The types of cases encountered by the midwives in our focus groups also indicated the unique nature of their work, which, as one midwife described: “is different from other areas of internal and external medicine. Although there are some similarities with internal medicine, it’s still different, and a little specialized.” (N13) In addition, the stories shared by midwives in Item 4 (above) were more likely to highlight the need to be aware of the cultural backgrounds of patients and how it could influence the situation.

The insights gained in these seven areas caused us to consider whether important aspects of English use were being neglected, and raised questions such as:

1. Does lack of English skills hinder research and career development?
2. Does lack of English skills cause nurses to lean into or lean away from encounters with foreign patients?
3. Are we addressing issues related to technology?
4. Does the survey provide for adequate exploration of cultural issues that may affect nursing care?
5. Have we adequately considered the importance of phatic communication, the everyday language of social interaction?

This led to an objective re-evaluation of our survey instrument and a subsequent broadening in the scope of the questionnaire. This was particularly evident in the area of “functional” language -- language used, for example, to reassure, to inform and to encourage patients -- which needed to receive greater emphasis. It also led to the addition of questions addressing nurses’ attitudes towards their interactions with foreign patients, their awareness and experience of cultural differences, and a reconsideration of their attitudes towards research activities involving English. Having thus finalized the survey instrument, we were ready to conduct our pilot survey, which is presently underway. We expect to be able to publish the questionnaire and our results at the conclusion of the study.

One further, unexpected benefit of carrying out focus group interviews with (domain insider) hospital-based nurses was that the interactions provided the researchers (domain outsiders) with a more immediate and deeper understanding of the work carried out by nurses, and the challenges that they face when caring for patients, regardless of nationality. Beyond a data-gathering exercise, the focus group experience was both stimulating and rewarding, and gave the researchers an even greater appreciation for the care that nurses and healthcare workers provide to all patients.

4. Conclusion

For their role in the triangulation process and as a practical means of gathering data, the use of focus group interviews proved invaluable to our research project. As part

of the triangulation process, conducting the focus groups provided important benefits, firstly in a confirmatory role, reassuring the researchers that areas already identified were indeed valid for further enquiry, and secondly, in providing objective data that brought to light areas which had hitherto been unexamined or dismissed as less worthy of exploration.

This study has also revealed that several nurses involved in the focus groups harbor concerns about the accuracy of interpreting tools when communicating with non-Japanese patients, and about their effectiveness in providing English language support in the workplace. We believe that these findings confirm the value of ENP education to Japanese nursing students and should motivate ENP instructors to continue to seek ways to bolster students’ professional and interpersonal communication skills so that they do not need to rely exclusively on such tools when they work as nurses, and so that they can approach any situations requiring English skills with greater confidence and proficiency.

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Appendix.

Semi-structured interview protocol

- i. Consent (Give consent forms and receive signed copies)
- ii. Welcome (Thank participants; Introduce interviewer and assistant.)
- iii. Topic (Explain the project and purpose of the focus groups; Explain why they were selected.)
- iv. Guidelines (Explain there are no right or wrong answers; Explain that the interview will be recorded so try to

speaking one at a time; It’s okay to have different opinions; Cell phones off; Interviewer and assistant will guide the discussion but will try not to interfere or add our opinions; Participants are encouraged to talk to each other.)

Opening Question – Ask participants to introduce themselves. Where do they work? How long have they worked there?

Transition Question – (This question asks participants for a general impression)

1. In what situations do you need to use English in your work?

Probing Q (If necessary): Does anyone else have a similar experience? Does anyone else feel the same way?

(Do you have the same impression?)

Key Question

3. For the next question, I'd like you to think of a foreign patient you've had or imagine that the patient you're going to have is a foreigner. Then, for each of the five situations, please tell us about your experience and any challenges or issues you encountered.

First, a. When you first meet the patient

b. When asking about symptoms and lifestyle

c. When explaining the disease, injury, nursing care, or treatment

d. When you want to offer emotional support to the patient

e. When you want to teach the patient

Show target task types and ask if anything is missing or seems unnecessary.

4. What are the most frequent language-related difficulties you face in your work?

5. What do you consider to be the biggest obstacle in communicating with foreign patients?

Ending Questions

6. What advice would you give foreign language teachers working with nursing students?

7. Of all the things we discussed, what to you is the most important?

Summary Question – Provide a brief summary of main points in focus group interview.

8. Is this an adequate summary of the topics we talked about today?

Final Question

9. Is there anything you would like to add or correct in your answers so far?

Integrating in-service and pre-service learning through online English classes

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Abstract

Over the past several years we have been running in-service English classes for medical faculty and staff at our university hospital, and in 2020 we had planned to continue developing these classes. Due to the pandemic, however, face-to-face instruction became impossible, forcing us to revise our plans. Our in-service classes were shifted to an online format using Zoom, which necessitated changes in the design, content, and procedures for recruiting participants. In this paper we will describe how these classes were conducted and how we grappled with obstacles such as attracting participants and overcoming technical difficulties. Our classes developed a freer structure than what we were accustomed to when classes were held in classrooms, and we will describe the pros and cons of this new style. Reflections from participants will be included. Our conclusion is that Zoom is a promising means of integrating in-service English education with pre-service learning during periods of remote distance learning and perhaps at any time, though caveats need to be considered.

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Keywords applied improvisation, community of practice, in-service education, remote distance learning

1. Background

Several years ago, we conducted a large-scale English needs analysis of medical doctors (MDs) and registered nurses (RNs) working at hospitals in western Japan, in which we learned that these MDs and RNs feel a strong need for the English speaking skills that they were unable to gain in university.¹ Drawing from these findings, we launched a three-year project to develop in-service English classes for medical faculty and staff at our university hospital in Kagawa prefecture.

In the first year, we ran two weekly series of classes that focused on developing participants' general English communication skills;² the classes offered in the second year aimed to develop English skills needed for participants to attend international conferences as both attendees and presenters. Due to attendance and dropout problems in the first and second year, for the third and final year of this project we had intended to develop weekend English seminars and a conference club to focus on the specific

needs of highly motivated participants.

However, with the Covid-19 pandemic beginning in early 2020, these plans had to be put on hold. As occurred across the world, all face-to-face classes at our university were shifted to remote learning systems, primarily Moodle and Zoom, and in-service English classes for medical faculty and staff became impracticable. We knew from the previous two years that there was a strong interest in English communication skills among a small group of faculty and staff, and so rather than put our project on hiatus until conditions settled we opted to plug ahead and offer online English classes instead. This paper will first provide an overview of these classes, in terms of design, participants and content. Then we will describe how classes changed in three distinct phases throughout the year, and show what we learned from participants' feedback and our own reflections on the experience. In concluding, we will state how this experience is relevant to EMP educators in Japan working with in-service or pre-service learners.

2. Overview of classes

In total, thirteen online English classes were offered over the 2020 academic year, which can be divided into three phases: May–June; July–September; and November–February. The classes were titled *English Online*. Eleven of these classes were held on a weekday from 18:00 to roughly

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Table 1. English Online classes and the number of participants (2020–2021)

Class	Date	Time	Faculty/staff	Graduate students	Office staff	Students	Total
Phase 1	1 May 21 (2020)	18:00–18:40	6	3	0	0	9
	2 May 28	12:30–13:00	0	0	0	4	4
	3 June 4	18:00–18:40	5	1	0	0	6
	4 June 11	12:30–13:00	0	0	0	2	2
	5 June 18	18:00–18:40	2	1	0	0	3
Phase 2	6 July 16	18:00–18:40	2	4	2	0	8
	7 July 30	18:00–18:40	4	1	1	4	10
	8 August 27	18:00–18:40	0	1	1	4	6
	9 September 10	18:00–18:40	0	3	1	5	9
Phase 3	10 November 26	18:00–18:40	2	1	1	1	5
	11 December 22	18:00–18:40	1	1	0	3	5
	12 January 21 (2021)	18:00–18:40	2	2	2	1	7
	13 February 18	18:00–18:40	3	0	1	0	4
			29	18	9	24	78

18:40, and two classes, attended primarily by students, were held from 12:30 to 13:00. The breakdown of classes and participants (categorized as faculty/medical staff, graduate students, office staff, and undergraduate students) is shown in **Table 1**. The total number of participants in all classes was approximately 80 (29 faculty/medical staff, 18 graduate students, 9 office staff, and 24 undergraduate students). When considering those who attended more than one class, the total number of individual participants was approximately 40 (12 faculty/medical staff, 10 graduate students, 2 office staff, and 16 undergraduate students). As we will discuss later, it is difficult to give a precise number of participants, due to technical problems and the manner in which some participants observed rather than participated in classes.

In terms of content, these classes were similar to the ones we ran in the first year of our project. The focus was on developing speaking and discussion skills using general academic topics.² Activities taken from the emerging concept of “applied improv” were also included, as these activities promote active listening, collaboration, and impromptu speech skills (an example activity will be provided in the next section).³ Last, we did not produce a syllabus before classes began but allowed for an emergent design in our classes, in which activities were planned and adjusted as we gauged the needs, abilities, and expectations of participants.⁴

3. Phase 1: May–June

The first several *English Online* classes were influenced by the manner in which we had planned face-to-face classes in previous years. Before launching classes, we first sent an inquiry email message to participants from the previous classes (a total of 56 faculty/medical staff and graduate students) to announce that we were considering conducting English classes online. We asked if they could let us know whether or not they were interested in joining and what day/time would work best for them. Several responded and

most expressed a high interest in joining the classes. Based on the responses, we settled on holding classes on Thursdays between 18:00 and 19:00. We thought that after 45 minutes Zoom fatigue would start to set in and therefore planned to wrap up classes in less than an hour if possible.

In face-to-face classes, we had set a final date for classes, as it was felt that limiting the number of classes would encourage participation, since participants then could not put off the decision to attend the classes. We followed the same approach for our online classes, and planned three evening classes, two weeks apart, from May to June. One thing we wanted to do, which we had not attempted in the first two years, was to involve medical and nursing students, who at the time were taking English classes primarily through asynchronous systems, such as Moodle, and irregular Zoom sessions. Undergraduate students were not getting the practice in English speaking and listening that we felt they needed, including those in our EMP courses, and our hope was to provide a learning space for students who wanted to further practice these skills. Fearing that it would be difficult to conduct classes with both medical faculty/staff and undergraduates, we set aside two lunchtime classes primarily for the undergraduate students, whom we contacted separately through the online course administration system. Medical faculty/staff were informed of these lunchtime classes and invited to join (though none did). A few days before each class, previous participants and undergraduate students were sent the Zoom URLs and passcodes by email.

Having learned from face-to-face classes that some participants want to have time to think about topics or questions to prepare for activities, we sent a list of discussion questions before each class, along with the Zoom information. To provide an example, **Figure 1** shows questions that were used in the first class.

In general, our plan was to begin with one or two simple warm-up questions (for example, “What have you been having for lunch?”) and then to break participants into

Topic One: Discussion Questions (Theme: The Pandemic)

1. How has the pandemic affected your life and work?
2. What did you want to do during Golden Week? What did you actually do?
3. How do you feel about being at home more often?
4. What has the pandemic and the state of emergency taught you?
5. How do you think the world, and Japan, will change from this pandemic?
6. When the pandemic finally passes, what are the things you most want to do?

Figure 1. Discussion topics used in the first Phase 1 class

Breakout Rooms of three to four people to do the discussion activity. Each person was to give a short answer to each question, moving around the group until all questions had been answered by all participants. After the breakout rooms closed, we would briefly discuss the questions as a class, so that some participants could experience speaking before a larger group of people, and then conclude with a short speaking task or applied improv activity in breakout sessions. For instance, in one of the most well-known improv activities, known as “yes, and...”, participants would be given a topic, such as “good things about technology,” and one person would have to make a statement about this topic. The next person would begin with “Yes, and...” and make another statement on the topic, continuing in this fashion for about two minutes before a new topic was provided.

As occurred in our face-to-face classes, attendance numbers dropped with each successive week (from nine in the first class to three in the last, with two to three teachers present). Poor attendance and dropout are a commonly noted problem in in-service education,⁵ and the online format did not appear to remedy this problem.

4. Phase 2: July–September

By the time we moved into the second phase, we had become more comfortable using Zoom, and ready to move away from the methods we had used for previous courses. For Phase 2 classes, we wanted to make the URL for each class available to all medical faculty, staff, and students (graduate and undergraduate) who were interested in joining, rather than those who had joined previous courses or who contacted us directly. This meant we would no longer be able to make a roster of participants or be able to contact participants easily. From then on, we would not contact participants directly. Rather, we would notify an office staff member of the dates for classes and Zoom URLs, and this person would send an email message to all faculty, staff, and graduate/undergraduate students (approximately 1,200 people) with medical faculty email accounts. By doing so, *English Online* would become less of a formal class and more like the open access classes offered in our university’s Global

English Online: July 30, 2020 (18:00~18:40) Theme: Summer**Part I: Warm-up** (* in breakout rooms or as a class; 5–6 minutes)

1. Do you like summer? Why or why not?
2. What do you usually do during the summer break?
3. What will you do during this summer break?

Part II: Summer words (* breakout rooms)

1. (2 minutes). Think of as many *summer words* as you can in your group. You should use the Chat function to list the words.
2. (6–8 minutes). Each person should *choose one word* and *say something about it in 1–2 minutes*: what you think about the word, or what it means to you, or a memory or story about the word.

Part III. Vocabulary for talking about figures (*as a class)

1. Instructors will give expressions for talking about figures and charts. “As you can see...” “It is interesting that...” “One surprising finding is...”
2. Participants will practice speaking them.
3. Participants will receive a file through Chat showing three Statista® figures.
4. Participants should take turns talking about features of each figure using the expressions (*6–8 minutes; breakout rooms)

Part IV: Wrap-up: Discuss figures as a class (*3–4 minutes)**Figure 2. Sample lesson plan from a Phase 2 class**

Café. It was hoped that a freer atmosphere would attract a greater diversity of participants, including faculty, staff, and graduate/undergraduate students. Moreover, we hoped that poor attendance and dropout would no longer be issues, as there were no set participants for each class. In order to test this new system, we planned to offer five bi-weekly classes.

In addition, this time we hoped to involve both staff and undergraduate students in the same classes, rather than separate them as had been done in Phase 1. We thought that undergraduate students would benefit from hearing medical staff and their own instructors speaking in English, as this would help them to see the value of English to their future selves. However, we heard from a few undergraduate students that they wanted to join the classes but were afraid to do so, fearing that their English skills would be insufficient. To encourage students to attend, we stated in our announcements that participants could join as observers if they liked. By keeping their microphones and video off they would be able to indicate their status as observers, and when they felt ready to join the activities they could switch on their cameras and microphones.

Last, these changes meant it no longer felt appropriate to provide discussion questions or other class content to participants in advance, as we thought this went against the freer atmosphere we were attempting to create. Instead, we resolved to increase the number of activities in classes, and to make better use of Zoom’s various features, such as the Chat, Breakout Rooms, and Share Screen functions. Each class was typically given a theme, which activities would center around. An example lesson plan on the theme of “summer” is shown in **Figure 2**.

Typically, we would begin with general warm-up topics and end with tasks that incorporated a professional or academic angle, such as discussing figures (e.g., those on *statista.com*) or pictures of medical scenes from Google or Shutterstock. We tried to give participants practice in expressions that would be useful in describing these figures and pictures. These expressions would also be useful in case presentations, as well as the speaking sections of English proficiency exams such as the IELTS or TOEFL, which some undergraduate students at our institution must take in order to study abroad.

5. Phase 3: November–February

We felt that Phase 2 had been successful in the respect that more undergraduate students joined our classes than in Phase 1. Two office staff members who worked in the international affairs section also joined for the first time. However, it should also be noted that no medical staff attended the last two online classes (although the last two classes of our face-to-face classes for medical staff were also poorly attended). For Phase 3 classes, we planned to make the attendance system even freer by eliminating the set beginning and final date for classes. We felt a pre-determined period might place pressure on participants to join, as well as on ourselves, as participants might expect a specific outcome at the end of the series of classes. In addition, we judged that one class per month would be enough to maintain participants' interest.

Also, uncertainty over who would attend each Phase 2 class had made preparing for classes difficult. We have written elsewhere that in-service courses involve unpredictability in terms of who will participate,² but too much unpredictability threatened to undermine the efficacy of our classes. We therefore used the registration function of Zoom for Phase 3 classes to eliminate the element of surprise. The registration link was included in the announcement for each class sent out to all medical faculty, staff, and graduate/undergraduate students, and interested participants would have to register themselves before joining each class. In this way we were able to learn participant names and email addresses before classes, which

helped us to better estimate the number of faculty and graduate/undergraduate students who would attend.

In addition, we eliminated the observer system which had been allowed in Phase 2 classes. The appearance of several silent participants—simply black screens with names on them—made for an awkward atmosphere, and dividing participants into Breakout Rooms became time-consuming and caused some uncomfortable dead time. Initially we had hoped that participants would observe for a while before deciding they were ready and joining class activities, or joining the next class. In fact, this rarely happened, and we judged that this system had served no clear purpose.

In terms of content, Phase 3 classes were roughly the same as those in Phase 2. We did, however, attempt to liven up classes by including more applied improv tasks,⁶ particularly those that make use of Zoom's features. By searching for Zoom-based improv activities on YouTube we were able to find a wealth of videos showing simple improv games and activities for virtual meetings or classes. Examples of three such activities, with simple descriptions, are shown in **Table 2**. These activities were done in the main session, with a small number of participants, or in Breakout Rooms.

Perhaps due to the registration system, Phase 3 classes saw an increase in medical faculty/staff and graduate students and a decrease in the number of undergraduates. One problem with the registration system, we soon learned, was that those who registered did not necessarily join. Guessing that some people may have simply forgotten, as occurred in our face-to-face classes, we began sending reminder messages to registered participants a day or two before each class, and this helped to reduce the number of no-shows. Also, we still had several "ghost" participants, who came either to observe a class or who joined and could not connect due to technical problems. Typically, we were unable to reach these participants orally or through Chat and left them alone. After a while they would usually disappear. The main technical problems we experienced, in all three phases of classes, were caused when participants attempted to join by smartphones, with insufficient battery power, weak wi-fi connection, and non-functioning video or sound being the most common.

Table 2. Three applied improv tasks that can be done on Zoom

Task	Description
1. What did I say?	One participant will turn off his/her microphone and say something simple. The other participants should watch and guess what was said. This task encourages close attention to body language and promotes empathy.
2. Grab and share	Each participant should find something nearby that they can show to other participants, and then speak for 1-2 minutes about what it is and why it is important to them. 1-2 minutes of preparation time (videos and mikes off) should be allowed. This task promotes impromptu speech and flexibility.
3. Who said what?	Each participant should change his/her name to "..." (using the name-change function), and then the instructor (or a group leader) will ask a few questions. For each question, participants should answer using the Chat function. Class/group members should then try to guess who said what. This task requires that the instructor prepare several questions before the class (for instance, "What country would you like to visit?"). This task promotes empathy and quick response.

6. Feedback

Feedback on our classes was obtained through a focus-group interview held after the end of Phase 2 classes, which was attended by one MD faculty member and one faculty member in the natural sciences (the only two participants who volunteered to join when a message was sent to all former participants). The two interviewees stated that the classes were meaningful and that they hoped to continue to join whenever their schedules permitted. Also, they suggested that we continue to focus on general academic topics and provide participants opportunities for basic speech practice and discussion. It should be noted that both interviewees were regular participants with a high degree of English proficiency and motivation for using English. Their views may thus not be representative of the entire population of participants.

In order to gather feedback from a broader range of participants, all *English Online* participants were invited to fill in a simple post-course survey using a Google Form in February 2021, after the last class of the year was held. To ensure anonymity, respondents could elect not to enter their names when filling in the Form. Respondents were required to enter their occupational status (medical faculty/staff; office staff; graduate student; or undergraduate student); to select the approximate number of times they had joined the classes (1-2; 3-4; or 5 or more); and to answer two free-response questions: 1) What did you like about the classes (if anything)?; and 2) How do you feel the classes could be improved? (What were the weak points?).

Responses were received from 18 participants, including 7 medical faculty/staff members; 2 office staff members, 4 graduate students, and 5 undergraduate students (majoring in medicine and nursing). Ten respondents had joined the class 1-2 times; 5 had joined 3-4 times; and 1 had joined 5 or more times. Responses were mostly in English though we had stated that both English or Japanese could be used. In reviewing responses, we identified the three most common/salient points for each of the free-response questions. These points are shown in **Table 3**.

These responses gave us three main themes to consider

in planning future classes: the importance of speaking-oriented activities; the need for increasing participants' individual speaking time; and how to combine staff and graduate students with undergraduates. First, regarding course activities, we felt that participants evaluated the general speaking activities and themes positively. We had tried to avoid difficult or complex topics, such as attitudes towards vaccinations, at least for extended periods of class time, and perhaps participants were able to speak their minds more freely in the fairly relaxed atmosphere that resulted. A shift away from a principal focus on conference preparation also made sense in a pandemic, as people were unable to travel across prefectural borders and conferences were being cancelled or shifting online. Our sense was that participants primarily wanted a space to practice speaking English, and our classes may have been able to satisfy that need.

Although respondents stated that they appreciated the opportunity to speak English, several wanted *more* opportunities to speak English in the classes. When we began teaching these online classes we were not yet accustomed to using Zoom and used Breakout Rooms less frequently and efficiently than we could have used them. As we became more comfortable with the format, we made better use of Breakout Rooms by setting time limits and trying to break into groups at least twice per class. However, we still held on to our old face-to-face methods in which class begins and ends with a brief warm-up and cool-down as a group, to provide a sense of closure. We realized that we needed to let go of this method and dive right in with group activities, and perhaps smaller groups, from the beginning to the end of each class, to ensure that participants receive the maximum possible speaking time. Perhaps once a month was insufficient, and it would be better to return to a bi-weekly class schedule (though the monthly schedule was a relief to us as instructors and, we felt, made each class more special). However, rather than worry about the number of classes, we believe it is important to make good use of the technology and limited class time in order to maximize participants' speaking time. Extending class time from 40 minutes to one hour is also possible, as we all have become more used to the

Table 3. Strengths and weaknesses of *English Online* according to participants

Item	Three most common/salient responses
What they liked	<ol style="list-style-type: none"> 1. It was fun for me to talk with students in other grades or staff. They all have different backgrounds and their opinions were quite interesting. (Undergraduate student) 2. I love the style of talking freely to other people in English class, talking theme was not so difficult, so I felt easy to join. (Medical Faculty) 3. I can take the class at any place. (Graduate student)
What could be improved	<ol style="list-style-type: none"> 1. Dividing into small groups works better but still I felt some students ashamed to speak in English then sometimes I couldn't have discussion with some of them. (Undergraduate student) 2. More speaking in English. (Medical faculty) 3. I hope that I can have more classes. (Graduate student)

technology and it takes longer for Zoom fatigue to sink in.

Last, we felt that more planning is needed to hold classes comprising both staff and undergraduate students. On the one hand, as one undergraduate student stated in **Table 3** above, it could be a positive experience for students to interact in English with other students and their own professors in English. Helping undergraduate students to see how English is important to people in their professional lives is a crucial means of enabling them to view themselves as participants, albeit peripheral ones, in a professional community of practice,⁷ which could motivate them to further improve their English skills. From the perspective of faculty or staff, however, speaking English alongside undergraduate students whose English skills and overall life experiences may be markedly more limited than their own can be a less positive experience.

One survey respondent suggested that we break classes into different ability levels; separating faculty and students would be another option. However, we are teaching these courses in essentially a volunteer capacity, and adding more classes to our teaching load would be a substantial burden. As there are usually two to three English instructors joining each class, one option would be to divide students into Breakout Rooms according to their English ability levels, and to have instructors work with the lower-level group or groups.

We will continue to experiment with means of bringing pre-service and in-service learners together in English courses and encourage other instructors to do so as well, if it is possible. Involving medical experts in pre-service classes, currently taught primarily by laymen English teachers, would help to increase authenticity in EMP education, one of the foremost unresolved issues in our field.⁸

7. Conclusion

The experience of *English Online* has shown us that it is possible to continue English courses for medical staff and faculty during periods of remote distance learning, and, moreover, that the technology may be able to facilitate

integrating in-service with pre-service learning—an exciting prospect. Having classes on Zoom made it easier for participants as well as the instructors to join these classes as location becomes unimportant; many first-year students, as well as two of the *English Online* instructors, spend most of their time at the main university campus, over ten kilometers from the medical campus. For this reason, we will likely continue with Zoom classes, at least periodically, even when remote distance learning becomes unnecessary. As with many people, the pandemic has made us aware of opportunities that we would not otherwise have considered, which is exactly what we hope English does for our learners.

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Advanced Topics in Biotechnology and Medicine: An intensive literature-based course to encourage critical thinking in science and build academic English skills

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Abstract

Over the past decade, the Japanese government has encouraged universities to engage in international activities and build partnerships with universities overseas to enhance their international competitiveness. In this report, we will introduce one such activity, the Advanced Topics and Biotechnology and Medicine Course, which has been held annually at partner universities in Southeast Asia. This literature-based, journal club-style course is an intensive three-day program of study designed to help medical science students develop their scientific critical thinking and scientific English communication skills through close analysis and discussion of scientific papers on a specific topic and through the creation and presentation of research proposals on that topic. Our analysis of feedback from participants reveals that it has been successful in fulfilling both its educational and internationalization goals.

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Keywords medical science, academic English, overseas exchange program, critical thinking

1. Introduction

In 2014, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) introduced the “Top Global University Project” to encourage Japanese Universities to enhance their international competitiveness and compatibility through educational and governance reform.¹ The University of Tsukuba was chosen as a “Type A” university—a selection of 13 Japanese universities aiming to be ranked within the world’s top 100 universities through a high standard of education and research. Part of the initiatives expected of Type A universities was the promotion of international activities and development of partnerships

with universities overseas. As part of the university’s efforts to internationalize through reaching out to partner institutes in South East Asia, the first Advanced Topics in Biotechnology and Medicine Course (herein referred to as the Advanced Course) was held in 2014 at the University of Science, Vietnam National University, Ho Chi Minh City (HCMC), and since then has also been held at the University of Indonesia, Jakarta, and Udayana University, Bali.

The Advanced Course was a very intensive, three-day, journal club-style program in which students discussed and, with careful explanation, were guided through their understanding of selected scientific papers. It was designed for graduate students and its aims were to: (i) engage them in cutting-edge scientific topics, (ii) develop their critical and scientific thinking, (iii) equip them with the skills to generate their own original hypothesis and research proposal, and (iv) develop their scientific communication skills including their confidence and ability to communicate in English. By doing so, it was hoped that the students would grow in their scientific understanding and enthusiasm for research and be better equipped for

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applying to international graduate schools.

Willey et al., in their needs analysis of medical professionals, found that doctors considered English to be a necessary skill for their profession, necessary for publication, presentation, international exchange, and study abroad.² Likewise, English is a necessary skill for the scientist,³ especially for those wishing to pursue further studies overseas or a career in scientific research. Thus, in the training of medical scientists, alongside the necessary scientific skills and knowledge, academic English skills such as presentation, discussion, reading, and writing are also vitally important. Therefore, in the planning of the Advanced Course, it was decided that dedicated English language instructors would work together with science instructors, to encourage the students in their development of academic English skills alongside their critical and scientific thinking skills. This educational approach is perhaps closest to content and language integrated learning (CLIL), in which students gain knowledge of a particular subject through the medium of a second/target language.⁴ As in the Advanced Course, CLIL is a content-first approach, with language being the secondary emphasis.

The Advanced Course is one of the many international courses conducted in South East Asia by the University of Tsukuba's Faculty of Medicine, which encompass the fields of clinical medicine, nursing science, medical science, and scientific English. In previous reports, we have discussed the efficacy of two of our graduate and undergraduate student-exchange programs in medical science.^{5,6} These programs also adopt a CLIL approach, with English instructors working with science instructors to scaffold the students' academic language skills. Unlike these previously reported programs, however, the Advanced Course was not a *student* exchange, but rather a *faculty* exchange program in which instructors from the University of Tsukuba taught students of our partner universities, which allowed us to focus on and prioritize their specific needs. That said, this course format could easily be adapted to include Japanese students in an exchange program setting or primarily target them in a domestic intensive course. Furthermore, this course could also be leveraged for the development of faculty teaching skills, by giving instructors the opportunity to teach their subject area in English.

The purpose of this report is to outline the proceedings and experiences of holding the Advanced Course, as it may be of interest to those involved in organizing international exchange programs or those who have an interest in sharing their expertise with students overseas. To this end, we will introduce the course in detail as it was held at the University of Science, HCMC, in 2016 and include feedback from participating students gathered from a questionnaire survey carried out after completion of the course. The 2016 course was selected for description and analysis in this report because it was the year with the largest group of

participating students and at that point had become well established in the host institute.

2. Description of the course

Figure 1 shows a typical course schedule, which included lectures, journal-club discussions, chalk-talk and slideshow presentations, and feedback sessions. Alongside the scientific content, the course included lectures and support to develop the participants' ability and confidence in academic English, particularly scientific presentation skills. The course culminated in final presentations in which the students presented their original research proposals and then discussed those proposals with their peers. The course did not require a laboratory or specialist equipment and, thus, was relatively simple to administer in a standard classroom setting. This was distinct from our previously reported medical science exchange programs, which were experimental courses held in laboratory facilities overseas.

2.1 Instructors and participants

The scientific content of the Advanced Course was taught by the heads of medical science laboratories in charge of major research projects at the University of Tsukuba, who volunteered their time to be a part of this course. During the course, these instructors worked independently to teach their particular scientific topic to a group of students. In the 2016 Advanced Course, three science instructors each taught a group of seven or eight students (26 in total). A small group size was preferred as it allowed for a deeper level of individual discussion and instruction. A specialized scientific English-teaching instructor, also from the University of Tsukuba's Faculty of Medicine, supported the instructors and participants in their English communication and also delivered lectures during the course on scientific English writing and presentation skills.

The course was open to graduate students studying medical or biological sciences. Enrollment of eligible participants was done initially through an application process through the partner university. The application materials of the short-listed applicants were reviewed by the instructors who made the final selection. Participants were then divided into groups based on their preferred area of study. As a side note, in 2016, those students who did not make the final selection were put into a separate class and taught by a professor of biomedical science the University of Science, HCMC. This fourth group did a parallel course of study, followed the same schedule, and participated in the activities including the final presentations on the last day of the course.

2.2 Topics

Since the first Advanced Course in 2014, various subject areas have been covered including bacteriology,

Day 1	Events	Day 2	Events	Day 3	Events
9:00	Course outline	8:30 - 11:30	Study session to formulate experimental plans	8:30 - 9:30	Presentation Lecture
9:10 - 9:30	Topic 1 lecture			9:30 - 11:45	Discussion & Preparation for Presentation
9:30 - 9:50	Topic 2 lecture				
9:50 - 10:10	Topic 3 lecture				
10:15 - 10:30	break				
10:30 - 11:45	Journal Club (first paper)	11:45 - 13:15	Lunch	11:45 - 13:15	Lunch
11:45 - 13:15	Lunch				
13:15 - 15:00	Journal Club (second paper)	13:15 - 15:00	Preparation for Chalk Talk	13:15 - 15:00	Presentation Practice
15:00 - 15:30	Break	15:00 - 15:30	Break	15:00 - 15:30	Break
15:30 - 16:00	English Lecture	15:30 - 17:00	Chalk-Talk (30 - 40 min each)	15:30 - 17:00	Final Presentation
16:00 - 17:30	Discussion and take home assignments	16:30 - 16:45	Presentation Advice		
		16:45 - 17:30	Discussion for Revision		
				17:00 - 17:15	Feedback from instructors
				17:15 - 17:30	Certification

Figure 1. Schedule of the Advanced Topics and Biotechnology and Medicine Course

neurobiology, molecular biology, cancer biology and bioinformatics. Within these subject areas, the specific topics for the Advanced Course were chosen primarily based on the area of expertise of the science instructors involved, but they were also chosen for their relevance for the target students. A list of topics that have been taught in the Advanced Course from 2014 to 2019 is presented in **Table 1**.

2.3 Pre-course assignment

Students who registered for the course were given a pre-course assignment to complete before participation. In this pre-course assignment, the instructor provided two to three papers relevant to the topic of the course. Students read the papers and then wrote reports in answer to questions, posed by the instructors, that corresponded to the papers. To give an example of the pre-course assignment for the

molecular parasitology topic from the 2016 course, students assigned to that group were sent three papers that focus on the subject of messenger RNA decapping and recapping.⁷⁻⁹ For this topic, the questions to be answered in the pre-class report were: (a) Outline the three enzymatic steps in mRNA cap formation, universal to all eukaryotic cells; (b) How is trypanosome gene expression different from the other eukaryotes? Specifically, discuss why would trypanosome rely on post-transcriptional processing to regulate gene expression; and (c) The mRNA recapping enzyme pathway has been proposed in mammalian cells. How is it different from the trypanosome recapping pathway?

For each of these questions, students had to write a short (200- to 400-word) answer. These reports were emailed to the science instructors, who assessed them for scientific understanding. This insight allowed the science instructors

Table 1. List of topics discussed in the Advanced Topics in Biotechnology and Medicine Course from 2014 to 2019

Year	Subject Area	Topics
2014	1. Bacteriology	Natural transformation of DNA
	2. Neurobiology	Ubiquitination in neurons
	3. Molecular Biology	Mechanism of CRISPR-mediated gene silencing
2015	1. Bacteriology	Staphylococcal Biofilm Formation
	2. Cancer Biology	IDH and TET2 mutations in acute leukemia
	3. Molecular Biology	Mechanism of CRISPR-mediated gene silencing
2016	1. Bioinformatics	Circulating Cell Free DNA
	2. Cancer Biology	Gene regulation in CALM-AF10 leukemias
	3. Molecular Parasitology	Messenger RNA recapping in trypanosomes
2017	1. Bacteriology	Natural Competence for DNA Transformation in <i>Staphylococcus aureus</i>
	2. Molecular Biology	CRISPR/Cas9 and bacterial immunity
2019	1. Cancer Biology	Function of REV-ERB- α and REV-ERB- β in cancer

to more accurately prepare for the course by assessing the respective needs and levels of the students. The reports were also read by the English instructor to assess the students' respective levels of English and identify areas of weakness that should be addressed in the English-focused sections of the course.

2.4 Course outline

The schedule for the teaching component of the Advanced Course, as it was held in 2016, is shown in **Figure 1**. On the first day, following a brief introduction and orientation, each instructor gave a lecture about their topic. These lectures were given to all three groups together so that each participant had some background information about the topics of the other groups. This knowledge was useful for understanding the other group's final presentations. Following the lectures, the three groups separated into different classrooms to discuss the research papers provided in the pre-course assignment. This journal club-style discussion, led by the science instructors, encouraged the students to analyze the data presented in the papers, and understand the figures, tables, conclusions, and experimental design. Students were encouraged to analyze the methods and data, and discuss the findings and study limitations. **Figure 2** shows the flow of questions addressed and the skills developed by the participants as they progress through the course.

Following the journal club sessions, the three groups gathered for a lecture on scientific English in which the English instructor addressed some of the common mistakes in scientific writing that were identified from the students' pre-course assignments. The second half of the lecture included tips for improving English conversation skills that would be helpful for the discussion tasks of the Advanced Course.

In the morning session of the second day, each group worked with their respective science instructors to formulate experimental plans that would build on the findings of the studies analyzed on the first day. After working out several plausible experimental plans, the students prepared to

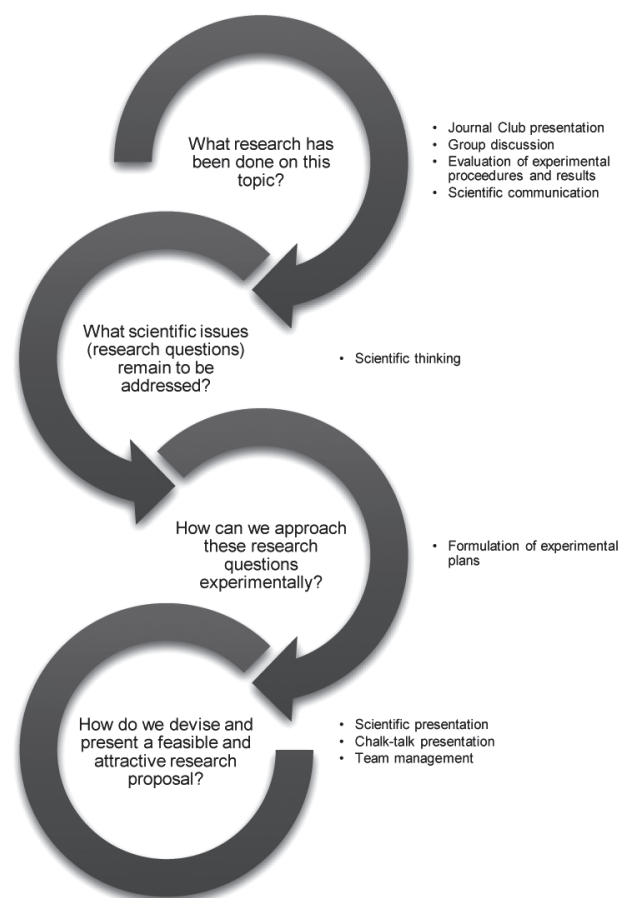


Figure 2. Work-flow diagram of the questions addressed and skills developed through the course

present their research plans. During the afternoon “chalk-talk” session, each group presented their experimental plan to the rest of the group using a chalkboard. This low-tech, traditional presentation method, forced the students to explain their ideas in a simple and straightforward way. Each chalk-talk was followed by a question and answer time, which helped the presenters to evaluate their own experimental plans. Following the chalk-talk session, the instructors gave feedback and advised the students on how to improve their plans and presentation skills. Finally, based

on this feedback, the students revised and fine-tuned their experimental plans in preparation for the final presentation.

On the third and final day of the course, each group gave slideshow presentations of their proposed experimental plans and hypothesized the outcomes. In preparation for this, the day began with a lecture by the English instructor on how to give a scientific presentation, covering various aspects of presentation such as structure, delivery, and slide design. Presentation skills were chosen as a focus of the English component of this course because a slideshow presentation incorporates various oral, written, and visual communication skills. Moreover, students entering graduate school will be expected to make presentations about their research throughout their degree program. The rest of the morning and early afternoon was used for preparation and practice of their presentations, with the instructors giving advice on both the scientific and English aspects of the presentation. In the final session, each group was given 10 minutes to make their presentation, followed by a 5-minute question and answer session. After instructors evaluated the presentations and discussion sessions for each group, awards for best presentation, best discussion, and a special “Young Scientist Award” were given during the final closing session. This final award came with an all-expenses-paid trip to Tsukuba to join the university’s annual Summer Research Program.

3. Feedback and discussion

Feedback from participating students was routinely gathered via a questionnaire survey carried out after completion of the course in order to measure: (i) the student’s level of satisfaction and enjoyment of the course; (ii) its impact on their knowledge and enthusiasm for science and English; and (iii) identify any ways in which the course might be improved. Some items on the survey were answered on a 5-point Likert scale (e.g., “How satisfied were you with this course?”); other questions asked for a written response (e.g., “What was the most interesting part for you?”); while others were multiple choice questions (e.g., “Would you like to take this course again? Yes or No?”). From the 2016 course, a total of 34 anonymized questionnaires were collected and analyzed. Numeric and multiple-choice data were tabulated (**Table 2a**). For the items with written responses, content analysis techniques were used to codify and quantify the students’ answers (**Table 2b**). Below follows an analysis of the information gathered from the questionnaire, including separate examination of the course’s impact from scientific and English education perspectives.

3.1 Overall satisfaction

Regarding overall satisfaction, the questionnaire revealed that the students had high levels of satisfaction (Question 1) with and enjoyment (Question 3) of the course. All but one

student said that they would like to take the course again (Question 14) and all said that they would recommend it to a friend (Question 15), which collectively indicate high levels of satisfaction and enjoyment. One student summarized their experience of the course in the following comment: “This course has helped me improve a lot of knowledge in scientific research. In addition, through this course, I have improved a lot [in my] specialized knowledge of English. This method of learning is significant.”

3.2 Scientific Education

With respect to the scientific aspects of the course, Question 7, which asks students about their perceived increase in understanding of the scientific topic that they studied, showed a large, albeit self-reported, increase in understanding. Similarly, Question 8, which asked about increased enthusiasm for studying science, also indicating a significant increase in motivation. We consider this increase in enthusiasm to be of particular importance given the importance of motivation in the learning process.¹⁰

In some of the general questions, several students mentioned the scientific aspects of the course. When asked to identify the most interesting part of this course, approximately two-thirds of the students wrote answers related to the scientific content of the course, such as discussing scientific ideas, planning experiments, and learning about the topic. For example, one student wrote: “The professor helps us to analyze the papers and to understand the research process (how ideas are formed, how scientists carry out experiments, and then how all of these processes show in the research papers).” A further third of students mentioned that presenting their experimental plan in the chalk talk and/or final presentation was the most interesting thing for them. On the other hand, over half of the students said that the scientific aspects were the most difficult part of the course, while one-fifth said that the presentations were the most difficult. This overlap between “difficult” and “interesting” is important because it shows that the students were challenged by the difficulty of what they were being taught while remaining engaged in the subject.

In answer to Question 6, which asked students to reflect on the most interesting thing that they learned, all the students wrote about scientific issues, such as learning new techniques, critical thinking, and analyzing papers. For example, one student wrote: “I like what I learned about capping, decapping, and recapping mRNA and I like the way sensei advised our group on its ideas.” The survey further revealed that the students believed the things they learned in this course would be very helpful for their futures. When asked to explain which things would be useful for their future, most students mentioned science-related skills that they had learned. As one student noted: “We learned how to analyze an article, create and realize an idea, and present

Table 2a. Questionnaire survey results from the participating students of the 2016 Advanced Topics in Biotechnology and Medicine Course, Ho Chi Minh City, Vietnam – Items with numeric/multiple choice responses

Questionnaire items	Mean*	Median*
1. How satisfied were you with this course?	3.97	4
2. How satisfied were you with your performance on this course?	3.09	3
3. How much did you enjoy this course?	4.26	4
7. How much do you think that your understanding of your scientific topic improved?	3.53	4
8. Do you think that your enthusiasm for studying science has increased?	4.15	4
9a. Do you think that that the things that you learned in this course will be helpful for your future?	4.18	4
10. How much do you think that your English ability improved?	3.47	3
11. Do you think that your enthusiasm for studying English increased?	4.12	4
	Too short	Just Right
12. How was the length of this course?	23	11
	Yes	No
14. Would you like to take this course again?	33	1
15. Would you recommend this course to your friends?	34	0
16. If you had the opportunity would you be interested in coming to the University of Tsukuba?	33	1

*Questionnaire items were scored on a 5-point Likert scale with higher values indicating higher levels of satisfaction, enjoyment, increase in motivation, improvement, etc.

Table 2b. Questionnaire survey results from the participating students of the 2016 Advanced Topics in Biotechnology and Medicine Course, Ho Chi Minh City, Vietnam – Items with written responses

Questionnaire Item	Codified Responses			
	Journal club, Communicating with professor (n)	Presentation, Chalk talk, Group work (n)	Discussing new ideas, Experimental design (n)	English (n)
4. What was the most interesting part for you?	12	11	13	8
5. What was the most difficult part for you?	12	7	11	14
6. What was the most interesting thing that you learned in this course?	18	9	17	6
9b. Please explain which things will be useful for your future	16	10	28	6
13. How can this course be improved?	The course should be longer/is too short ($n = 17$); Vietnamese teaching assistants/language barrier ($n = 4$); More English ($n = 3$); Other ($n = 8$)			

that idea to other people. I think these are necessary skills to be a scientist." These questionnaire responses indicate that the Advanced Course was successful in its goal to develop scientific knowledge, critical thinking skills and increase the students' enthusiasm for studying medical science. Although these assertions are based on the self-reported responses in the questionnaire, they are supported by the science instructors' observation of the progression and development in the students' understanding over the three days of the course.

3.3 English education

The Advanced Course's secondary educational objective was to improve the students' ability to communicate in English about science-related topics through discussions, presentations, and writing. To this end, the entirety of the teaching for the course was done in English, and as mentioned earlier, specific lectures and training on scientific English was built into the program. The results of the questionnaire survey revealed that while some students found the English the most interesting part of the course, more found it the most difficult part. For some students

the English appears to have been a stumbling block, which perhaps hindered their enjoyment of the course; however, for others, that difficulty gave them some motivation. For example, one student wrote: "My speaking is not good, so it's hard for me to discuss with professors and other people. However, this greatly motivates for me to improve my English." The questionnaire also revealed a significant increase in enthusiasm for studying English among the participants, as well as a fair increase in self-reported improvement in English ability. Given the qualitative nature of a survey, it is difficult to demonstrate this increase in proficiency in more quantitative terms. Nonetheless, we believe that this feedback reflects well the participants' increased confidence to use English.

3.4 Improvement of the course

The course was very intensive, being held over just three days with activities from 8:30 to 17:30 and assigned homework. In responses to Question 13, which asked the participants' opinion on how to improve the course, over half the respondents wrote that they would like the course to be longer. Likewise, in answer to Question 12, which

asked about the course length, about two-thirds of students said it was “too short”, while the remaining said it was “just right.” Course duration is an issue that has been debated by the organizers of this program. Generally, we feel that the program being considered “too short” is more positive than it being thought “too long.” Some science instructors have also said that the course would be better if it were one day longer. However, considering the levels of student satisfaction and the achievements of the participants, three days seems to be the optimal time for this course, primarily because of its non-experimental nature. In 2019, at Udayana University in Bali, Indonesia, we ran the Advanced Course as a two-day course, concluding with the chalk talk on the second day. This shortened version, while not as well-rounded as the three-day version, was successful in fulfilling some of its goals, leading to some excellent scientific discussion among the participants.

Another suggestion for improving the course included the desire to have Vietnamese-speaking teaching assistants (TA) in each group. One year we were able to take along a Vietnamese doctoral student of the University of Tsukuba (also a former graduate of the University of Science, HCMC) to act in this TA role and, as expected, it was very helpful for students who were struggling to understand the scientific content of the course. While there is a danger that students would become too reliant upon the Vietnamese TA and not make improvements in their English communication, this approach may be not only beneficial for the students but also be good teaching experience for the TA.

One student suggested that we include practicing experiments; however, this was outside the design of the Advanced Course. As mentioned in the introduction, we do hold other courses overseas, including some in Vietnam, which are experiment-based and held in laboratories properly equipped for those experiments. The advantage of the Advanced Course is that it can take place in a regular classroom without any experimental equipment and yet still engage students very deeply in the scientific topic being studied. That said, it would potentially be very effective if the Advanced Course could somehow be paired with a follow-up experimental course.

3.5 Educational reflections

Journal clubs have long been used as a teaching tool within medical education¹¹ to expose students to current literature in the field, stimulate an interest in research, and develop critical thinking skills.¹² A consensus statement on critical thinking describes it as a “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological or contextual considerations upon which judgment is based”.¹³ Thus, critical thinking is a multifaceted skill that involves not only cognitive reflection on ideas, but also oral skills

of discussion and expression of those ideas. The various activities of the Advanced Course, journal club, chalk talk, presentations, etc. encourage participants to develop these key skills of critical thinking. Teaching critical thinking is an increasingly important educational strategy.¹⁴ It moves beyond the traditional lecture-style forms of pedagogy towards a more interactive approach to learning that teaches students *how* to think rather *what* to think.¹⁵ The skills related to critical thinking, while important at all stages of education and areas of study, are of particular importance for students engaging in graduate-level research in the sciences. The proposal of a practical, effective, and original research project requires a high level of proficiency in critical thinking skills. Being only three days in length, the instructors of the Advanced Course cannot slowly nurture critical thinking over an extended time period, as with a traditional university class. However, the intensity of this course, is more of a “total submersion” in the world of scientific discourse and critical thinking. While the efficacy of this approach is difficult to quantify objectively, the feedback from the students, the quality of their achievements, and the enrollment of many of our participants to graduate schools across the world testifies somewhat to its success.

3.6 Limitations

There are a number of limitations to this report. The first limitation is the small number of participants that were included in the analysis. The students surveyed here were the participants who joined the 2016 course. Having a larger pool of surveyed participants, perhaps including students from different countries, might help to give more generalizable and concrete conclusions about its efficacy. Secondly, the findings presented in the discussion and feedback section are based on subjective, self-reported measures and individual reflections. While these qualitative measures are useful, for future studies it would be interesting to gather more objective quantification of the course’s impact on improvement in student understanding of the subject, critical thinking ability, and academic English skills.

4. Conclusion

Since the first Advanced Course, its overall structure and components (journal club, chalk talk, presentation, etc.) have not changed significantly. Results of the questionnaire survey used in this report suggest very high levels of student satisfaction, with a significant (albeit self-reported) increase in understanding of their particular scientific topic and English ability. As well as meeting its educational goals, the Advanced Course has also helped to fulfil its goal towards the internationalization of the university by attracting some students to join our graduate programs. The presence of international students has had a profound impact on our

Japanese students, who interact daily with their lab mates from overseas and take classes taught only in English.

In summary, we were able to identify the following strengths of the Advanced Course. Firstly, being a literature-based program, it was easy and inexpensive to implement in any classroom setting and did not require specialist equipment. Secondly, the combination of scientific and academic English training, with specialized instructors, made the program very practical by meeting these two vital educational needs. Third, the three-day intensive format seems to be the optimal length of time, and allows for a challenging yet rewarding deep-dive into the scientific topic and scientific English. Additionally, this course concept and format is adaptable and could potentially be used to teach any subject area or student group. Finally, being a faculty exchange program, the course could also provide an opportunity for faculty development of teaching skills in English whilst meaningfully contributing to the education of students overseas.

Note

The authors were all involved in the teaching and planning of this course and contributed to the data collection, planning, writing, and critical review of this manuscript.

Declarations

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Consent to participate

Data presented in this manuscript were collected through questionnaire surveys. Survey participants were informed that their responses would be used for educational research purposes and consent was indicated by the return of a completed survey.

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Duration, frequency, chronic/acute, and plurality: The syntax of symptoms

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Abstract

The notions of duration and frequency are fundamental to effective history taking. However, what might initially appear to be a simple matter to proficient English speakers can cause numerous problems for Japanese medical students. In this short communications paper, I will discuss some of the problematic areas of eliciting duration and frequency that EMP teachers should be aware of.

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Keywords history taking, duration, plurality, chronic/acute, frequency, symptoms

1. Introduction

Many, if not most, EMP teachers in Japan will at some point deal with the issues of symptom duration and frequency. These may appear in history taking, where the duration and frequency of symptoms constitute primary pieces of data, but they are also central to clinical case reports and case presentations, as the prioritization of surrounding data is often affected by the duration/frequency of both the chief complaint and associated symptoms.

However, in my own EMP teaching experience, helping Japanese students understand, and more importantly expand upon, the notions of duration and frequency, opens a Pandora's box of potential confusion requiring a sense of nuance and flexibility and, further, impinges upon other clinical categories such as chronic/acute, and recurrence. It is not as simple as merely translating the Japanese 期間 (*kikan*) or 頻度 (*hindo*) and having students then construct standardized history taking questions, such as, *How long have you had (symptom)?* or *How often does it appear?*

In this Short Communications paper, I will discuss some of the problems that tend to arise when Japanese students are dealing with issues related to symptom duration and frequency in English, as well as how EMP teachers might best manage these in the classroom.

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1.1 Multiple notions of duration

There is a tendency to think of duration in clinical history taking as referring only to the time between the onset of the chief complaint to the present. For example:

Doctor: *How long has this back pain been bothering you?*

Patient: *For about a month, I suppose.*

The salient point here, which most EMP teachers will quickly recognize, is the necessity of using the perfect tense to express the notion of duration (as using the simple past tense would indicate that the pain is no longer occurring). However, if we alter the example slightly, some degree of complexity arises:

Doctor: *How long has this back pain been bothering you?*

Patient: *It started about a month ago, I think.*

In the example above, the patient has chosen to respond by stating the time of onset, thus necessitating the use of the past tense. Of course, nothing in terms of clinical detail has changed but the shift from perfect to past can unnerve many Japanese students. This often manifests itself in flawed constructions such as the response below:

Doctor 1: *How long has she had it?*

Doctor 2: *One month ago.*

The response is not only grammatically incorrect but semantically rather confusing. If the speaker does wish to pursue a questioning of the onset event, he/she has instead to revert to the past tense:

When did you first notice it?

1.2 Plurality

An even more troubling situation can arise if we adjust the initial exchange once again. Take the following example:

Doctor: *How long have these back pains been bothering you?*

Patient: *For about a month, I suppose.*

Here, the notion of plurality (*pains*) has been introduced. This can be particularly vexing for Japanese students, as the distinction between singular and plural is usually not rendered explicitly in Japanese. However, for those proficient in English, the difference can be both semantically and clinically quite profound.

For example, if the pains are recurring, a standard subsequent history-taking question is to ask about the duration of each 'attack' of pain: *How long do they last?*

An example of the importance of this type of recurring duration question can be noted in measuring the contractions of a woman about to give birth. If it can be determined both when the contractions started (duration from onset) as well as how long the subsequent contractions are lasting (duration of each event) attending healthcare workers can make accurate estimates regarding the imminence of delivery and prepare accordingly. Likewise, if a recurring headache is increasing in length over time it serves as a clear indicator that the patient's condition is worsening.

Such recurring cases, of course, require a shift to the use of the present tense form of the verb, which conveys habitual or repeated activity. While this point may seem fundamental and trivial to many English teachers, the difficulty it can cause Japanese medical students should not be underestimated. After all, there are no similar grammatical functions in Japanese, which can lead to medical students confusing the two, as in the common error:

How long do you have these symptoms?

Japanese medical students are often further confused by the distinction between duration from onset and duration of each attack/event, precisely because they are not clear on the ramifications of singular vs. plural.

Medically speaking, it is often the case that a singular, continuous medical condition is the product of a recent and highly specific cause. For example, a night of heavy drinking produces a persistent headache. A knock on the head during a recent sporting event can result in the same. In such cases, healthcare workers will tend to focus upon the onset event or environment as a clue to diagnosing the condition. However, if the patient is experiencing multiple attacks or manifestations that take place over a longer period, these hint at a more systemic problem that demands a stronger diagnostic focus upon a review of systems, as opposed to any singular onset event.

1.3 Frequency, chronic, and acute

It is also at this point that the problem of chronic vs. acute symptoms comes into play. Chronic and acute conditions are often presented as a binary choice. If the symptoms do not indicate that the condition is chronic, it is likely to be considered acute, and vice versa. This occurs too in Japanese with the binary terms 急性 (*kyusei*) and 慢性 (*mansei*).

Acute tends to be associated with sudden, short-

term, and recent developments, chronic with the long-term. However, the nature of plurality and the real-world complexity of symptoms can also present clinicians with a continuum of intermediate cases.

For example, *chronic* tends to refer to persistent or continuous cases, but these too can include a wide range of temporal characteristics. A chronic symptom may appear with some regularity, in which case it makes sense to ask rather static frequency questions, such as *How often do they/does it come on?*, which is answerable with a formulaic response like *Twice a week* (although frequency is rarely stated so precisely in actual clinical cases).

Often, however, chronic symptoms are more random or inexact in their manifestations, as can be noted in patients using softening or hedging forms (e.g., *about, I think*) in patient responses. If there is no pattern of regularity, such chronic symptoms might be better described as *intermittent, episodic*, or as *coming and going*. Such cases must therefore be clearly distinguished from those in which the symptoms are continuously present, even though both could be loosely described as *chronic*.

Then there are those clinical cases that were at one point acute but have since evolved into something approximating a *chronic* state:

Although the pain is no longer constant, it does tend to appear after any type of exertion.

The point to be made here is that frequency is rarely as fixed as the simple chronic/acute dichotomy suggests, and students should be made aware of the nuanced continuum that often exists between them. This can be managed by having students probe the patient's immediate past history (often abbreviated to IPH). If the frequency of a symptom has increased or decreased over a recent period, this dynamic quality should be expressed explicitly and will also tend to include duration:

It's become worse/more frequent over the past two weeks.

The same considerations should be applied to symptoms that have shifted between acute and/or chronic status:

It only came on from time to time before, but now it's constant.

2. Conclusion

Effective clinical history taking and case reports/presentations require accuracy in asking about or expressing nuanced notions of symptom duration and frequency. These can be particularly troublesome areas for Japanese medical students, as the Japanese language often does not frame experience or perception using the same structural mechanisms that English does. Sensitivity in teaching and practicing these points in EMP classes can lead not only to improvements on the linguistic side of medical English education but also help the learner develop skills in the management of patients or the reporting of clinical cases in English.

Names, shapes, and sounds: Little things that mean the world

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Abstract

What students find memorable or significant in an EMP course may not match the teacher's expectations. However, student choices regarding what they have found valuable can positively impact future teaching content. In this short article, the author highlights some of the common medical and nursing student choices regarding interesting or memorable items based on a course-final assignment. Interestingly, many of these revolve not around English structure or clinical English terminology but, rather, 'peripheral' items such as using names accurately, the management of other basic patient data (particularly the differences between dialogic and written document forms), and healthcare worker-client interpersonal features.

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Keywords history taking, clinical English, medical data, interpersonal skills, clinical dialogues, foreign patient care

1. Introduction

For the past twenty years, I have concluded all my 1st-year medical and nursing English courses by giving my students a short homework assignment entitled *My Top Ten*. For this assignment, all students are required to compile a list of the ten most important, interesting, and/or significant things they had learned in my class. They are asked to list a variety of item types from a number of lessons and not to merely list newly learned single-word clinical items from a few lessons. Moreover, they are encouraged to include a mixture of grammatical, lexical, clinical, cultural, or interpersonal content that has arisen during the course.

Students are asked not only to list the ten items chosen but also to add a comment for each item, explaining why it is important or significant to them, which demonstrates that they understand the chosen item accurately. This assignment is graded in order to make sure that students take it seriously and to ensure a deeper consideration of their choices.

The purpose of this exercise is not only to find out

what items are considered of import or interest by the students, which may well differ from what the teacher considers priority content, but also to highlight possible misunderstandings. Both of these factors can influence how the course is taught and/or managed in the future.

2. Items of note

Interestingly, common among the most frequently cited items are those that are neither fully clinical nor cultural but have otherwise surprised the students or caught their interest. Most salient among these are the use of names and other patient data, the management of health care worker-patient interactions, and clinical body language. In the eagerness to start teaching core clinical English such as history taking or case reports, these basic items may be overlooked by many EMP teachers. Therefore, I will cite several in this article, divided into three sections.

3. Personal data

3.1 Names

Students often cite problems involving non-Japanese names, both in terms of spoken address forms and formal written renderings. The most widespread problem involves the notion of a first vs. a last name, as in Japan (and some other non-Western countries) the family name precedes the given name, thus effectively having the 'last' name come 'first'. This is compounded by the fact that in Japanese, a given name is rendered as *shita no namae* (literally 'under name'). Things become even more complicated when students

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see formal written documents in English, wherein Western names are very often written in the Japanese order (family-to-given). Since many Japanese believe that the Western name order is always the opposite of their own, there is a wide tendency to transpose the order and use awkward verbal forms such as, *Mr. Michael* or *Ms. Linda*. Moreover, cultures in which names typically include three items, as in Korea, or in the Western propensity to include a middle name can further complicate matters.

It is considered good practice to use a patient's family name during consultations in order to establish rapport and to personalize the encounter, but this can be performed confidently only if the speaker is clear as to which is the patient's family name (or, in other cultures, what the most appropriate address form might be). Students express both surprise and relief at coming to understand how non-Japanese names are used most appropriately in clinical contexts.

Another name-related item often cited by students is the advice to avoid the practice of introducing themselves in the Japanese manner, which typically would include just a family name (*I am Murakami*) or a rapidly-spoken combination of both names (*I am Murakamiryunosuke*), which becomes an acoustic blur to anyone unfamiliar with Japanese names. A number of students also express surprise that they can (or even, should) refer to themselves as *Doctor + family name* in English, as one resolutely does not use titles to refer to oneself in Japanese.

3.2 Gender

Students often cite the newly learned fact that the standard short form designations for gender are M/F and not M/W, and that in stand-alone forms, genders are rendered as males/females and not as men/women (e.g., *number of males: 23, number of females: 25*). Although W may be seen at certain locales, such as public toilets, it is not the norm on documents (where it could conceivably even be misunderstood as 'widowed').

3.3 Marital status

Basic patient data in many countries requests the patient's marital status, often in order to better understand the patient's support system and physical/social environment. This is almost never a prerequisite question in Japan, and as such, makes an impression upon many students.

3.4 Birthdates

A number of students note the distinction between birthdays and birthdates, with the latter including the year of birth (and thus being crucial to basic patient data). The order of writing versus speaking is also regularly cited. In speech, the month usually precedes the day, while in completing documents, it is often – although not always –

the opposite case, followed by the year (January 4th, 1959 -- 04/01/1959).

3.5 Null responses

In Japanese, a negative response to a spoken question such as *Do you have any allergies?* is written as *nashi*. In English documents, Japanese medical students often incorrectly render such a response verbatim as *No*, or as *nothing*. Several have remarked that learning *none* as the correct written form was helpful for them.

4. Environment, body language, and verbiage

4.1 Examination room entry

In Japan, it is most often the case that the patient is called into the doctor's room, where the doctor is waiting. In Western countries however, the reverse is often true – patients are placed in an examination room and it is the doctors who have to enter (*May I come in?*). Over the years, this has been the second most commonly cited item in the assignments.

4.2 Seated posture

Sitting with crossed legs is considered too informal, casual, or even rude in Japan. It is associated with arrogance, and professionals are dissuaded from adopting such a posture. However, in many other cultures (not only in the West) it can also indicate confidence, composure, and a relaxed demeanour, so it should not automatically be considered uncouth in non-Japanese settings (although it is also considered uncouth in some other East Asian milieus).

Conversely, the 'polite' posture that is adopted by many Japanese, particularly by lower-ranking practitioners, in worker-client scenarios can come across elsewhere as appearing too submissive, indicating a lack of confidence and/or professionalism, or as a formal rigidity that does not enhance rapport. Of all the social items discussed in my classes, these 'shape' items are the most commonly mentioned in the 'My Top 10' assignments.

4.3 Aspiration

It is common for Japanese (males in particular) to verbalize difficulty or confusion through audible aspiration or a rising and prolonged *Ehhh?* Often in Japan service encounters, these habits can indicate that the provider is considering the situation seriously and deeply. However, in Western cultures in particular, such behaviors may be perceived as indications that the provider does not understand the field well enough and/or is completely flummoxed by the situation. Neither will engender confidence in a Western patient and should therefore be suppressed.

5. Dialogic features

5.1 Backchanneling

It is standard practice in most cultures to provide communicative feedback to an interlocutor. In Japanese, this is referred to as *aizuchi*. However, Japanese medical students may feel that using responses such as *I see*, *Mmm-hmm* and *Ah-hah* should be is too casual or even intrusive. Further, the eagerness to make an accurate diagnosis from history taking may lead young doctors to neglect this important rapport-building interpersonal skill, resulting in an encounter that may be more akin to a police interrogation than a clinical interview.

5.2 Vagueness

In role-play simulations, students often assumed that patients had set answers for each and every question, such as pain being said to appear precisely *three times a day*, or that one drinks alcohol *six times a week*. In reality, patient responses tend to be rather inexact. Several medical students have thus stated in the assignment that they should expect and prepare for vagueness in patient responses.

5.3 Empathy

While most medical and nursing students indicate an awareness of the importance of showing a humane

concern for the patient's condition, some display the habit of responding too dramatically (this can often result from copying examples from textbooks and other teaching materials). These are often overblown attempts at sympathy (*Oh, that's too bad. It sounds terrible.*). Instead, it is widely agreed that expressing empathy (*I'm listening and trying to understand*) is a more appropriate interpersonal approach. Numerous students have mentioned the importance of this distinction in clinical encounters.

6. Conclusion

While many of my students expectedly refer to newly-learned clinical terms, phrases, expressions, and structural forms as being among the most significant or important new items they have learned in my 1st-year EMP/ENP classes, a surprising number have mentioned the type of items described above, neither structural nor lexical and not specifically clinical, but rather items related to accurate and appropriate reporting of basic patient data and health care professional-patient non-verbal interactions. These are features that EMP teachers may find easy to gloss over, and yet it is apparent that many students find these significant and helpful. I hope that readers who teach EMP might find it beneficial to introduce some of these items into their own classrooms.

The impact of the COVID-19 pandemic on medical science students' motivation to study: Preliminary findings

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Abstract

The COVID-19 pandemic has had profound, largely negative, impacts on education worldwide. But for students of medical science, who have suddenly seen their profession in the spotlight, how has this pandemic affected their attitudes towards their studies? In this paper, we investigate the impact of the COVID-19 pandemic on Japanese medical science students' motivation to study. Data were collected through essays written in English by a group of 37 second-year undergraduate medical science students. Content analysis techniques were used to quantitatively and qualitatively examine the essays for indications of motivation and underlying motivators or demotivators regarding their attitude towards studying medical science. The results showed that students overwhelmingly had increased motivation to study medical science and that the main motivating factors were related to increased awareness of the importance of their profession. In this paper, we present the findings of this study and discuss its pedagogical implications.

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Keywords COVID-19, motivation, medical science, pandemic, education

1. Introduction

The COVID-19 pandemic has doubtless had far-reaching effects on education worldwide, costing universities stress and money to rapidly upscale online learning.¹ The impact of the pandemic on student education, including motivation to study, is perhaps harder to quantify, especially considering the limited efficacy of online learning,² and, for students of nursing, medicine, and medical science, the irreplaceable clinical¹ and laboratory experience. At the University of Tsukuba, the pandemic forced our classes for the spring semester of 2020 to go completely online, and our overseas programs,^{3, 4} which have been invaluable for motivating

students in their medical science and English studies, were all cancelled. As educators, struggling to come to terms with the new realities of Zoom, Microsoft Teams, and other technology, we were concerned about how this new learning paradigm was affecting our students, particularly in terms of their motivation for studying.

Since the advent of the pandemic, medical science has been thrown into the spotlight of the mainstream media, and medical science-related technical terms like "PCR" and "mRNA", are now commonplace. We sought to determine whether the pandemic and emphasis of medical science in the media was having a positive or negative effect on our students' feelings towards their studies. Thus, we formulated the following research questions: (1) How did the COVID-19 pandemic affect medical science students' motivation for studying? (2) What are the reasons (factors) behind any change in motivation? and (3) What lessons can we learn from the above? In this paper, we will present preliminary findings of this on-going study in follow up to the presentation made at the 24th JASMEE Academic Meeting in July, 2021.

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Some of the findings of this study were presented at the 24th JASMEE Academic Meeting, held online in July, 2021.

2. Methods

2.1 Participants

This study involved a group of 37 second-year undergraduate students (25 female) studying medical science at a national university in Japan. The main goal of this undergraduate degree is to train students to become certified hospital technologists; however, from the third year, about one-third of students opt into the international program of study that is taught entirely in English and focuses on medical science research. The surveyed students were studying a compulsory TOEFL preparation course, which was taught entirely online due to the pandemic. Participating students gave their informed consent to participate in the study.

2.2 Survey

The data were collected in August, 2020 as part of the coursework for the TOEFL preparation course. At this time, students were just beginning the summer vacation following 4 months of online classes. The students were given the task of writing a TOEFL-style independent writing essay of at least 500 words on the following question:

This year COVID-19 has had a terrible impact worldwide. Now the world is focused on medical scientists hoping that they will find a cure and vaccine for this disease. As a medical science student, how does the COVID-19 pandemic make you feel? Does it make you more or less motivated to study medical science? Please write about your ideas and feelings.

The essay-writing exercise was delivered and returned via the university's online course management system. Students were given a two-week deadline in which to complete the essay. The returned essays were then collated, anonymized, and given an identification number before content analysis.

2.3 Data analyses

Content analysis techniques⁵ were used to examine statements related to motivation and identify any pertinent factors affecting motivational changes as reflected in the essays. Codes were initially identified by one researcher, based on ideas expressed in the essays, then independently read and coded by two other researchers for verification. Codes were confirmed by consensus between at least two of the three researchers.⁶ Quantitative assessment of the data involved calculating the counts and frequencies (%) of each motivational statement type and code.

3. Results

In total, 37 essays were returned, but one essay was excluded from the study as it was off-topic. **Figure 1** shows the results of the analysis of 36 surveys regarding changes in student motivation due to the COVID-19 pandemic. Of the 36 students in the final analysis, the overwhelming majority ($n = 28$; 77.8%) reported increased motivation, one reported decreased then increased (fluctuating) motivation, while five gave no clear responses.

Findings regarding the results of the coding investigation into the factors affecting changes in motivation are presented in **Table 1**. Of 124 total responses identified across the 17 codes that indicated motivating factors, the most frequently occurring code was *Save* ($n = 20$; 55.5% of participants), which refers to statements that express the desire to protect, help, or save lives through medical science. One student, for example, expressed this sentiment as follows: "I strongly felt that there is a need for medical science in society and that what I am learning will greatly help save lives."

The second most frequent response was *Knowledge* ($n = 18$; 50%), where students felt frustrated by their lack of knowledge and expressed a desire to increase knowledge and skills to deepen their understanding, classifying the pandemic situation as a responsibility or good opportunity

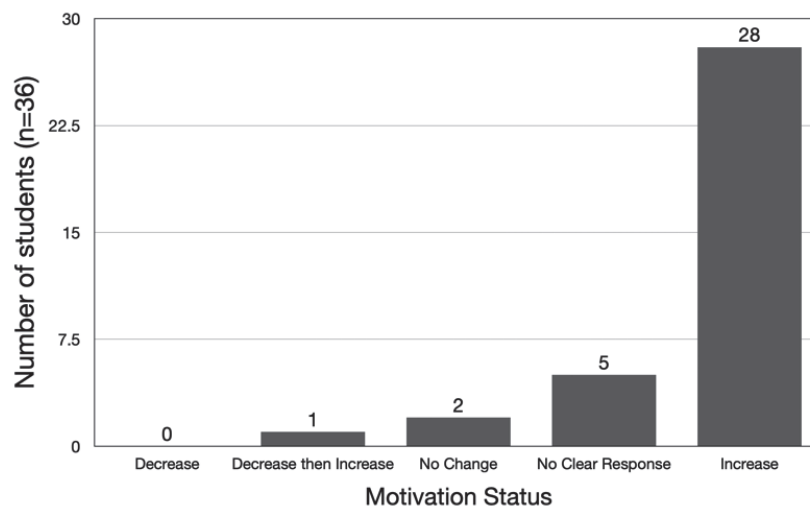


Figure 1. Changes in student motivation to study due to the COVID-19 pandemic

Table 1. Results of the coding analysis showing factor related to changes in student motivation due to the COVID-19 pandemic

	Code	Explanation	No. of responses (%)
Motivating factors	<i>Save</i>	Protect, help, benefit, save lives/people/the world (through medical science)	20 (55.5)
	<i>Knowledge</i>	Frustrated by lack of knowledge/want to increase knowledge/skills/deepen understanding, responsibility/opportunity to study	18 (50)
	<i>Heroes</i>	Recognized the importance of medical science/scientists/technologists Respect for/be proud of health care workers medical technologists, heroes	17 (47.2)
	<i>Truth</i>	Importance of having/collecting/disseminating correct information/knowledge	13 (36.1)
	<i>Mission</i>	Pandemic made me think about life/medicine/medical science/gave a sense of mission, responsibility/aware of infectious diseases	12 (33.3)
	<i>Innovation</i>	Contribute to the development of medicine, medical science/ improve COVID testing/ Want to play a part as a medical technologist/medical worker in the future	11 (30.5)
	<i>Vaccine</i>	No vaccine/cure has been found/want to create a vaccine/cure	9 (25)
	<i>Skills</i>	Impressed that medical technologists' skill (PCR testing) is contributing to COVID prevention	6 (16.6)
	<i>Solution</i>	Find solution for the pandemic/a future pandemic	5 (13.8)
	<i>Link</i>	Saw a link between pandemic and my studies	4
	<i>Research</i>	Became interested in research	2 (5.5)
	<i>Online good</i>	Online classes are good/have benefits/less commuting time	2 (5.5)
	<i>Vision</i>	Can visualize/have an image of the work of a medical technologist/vision for the future	1 (2.7)
	<i>Success</i>	Achieve success	1 (2.7)
<i>Developing countries</i>	Want to contribute to those in developing countries	1 (2.7)	
<i>Challenges</i>	Become a person who stands up to challenges	1 (2.7)	
Demotivating factors	<i>Career</i>	Medical science work offers a stable future/ will be needed more in the future	1 (2.7)
	<i>Fearful</i>	I feel anxious/sad/worried/fearful/scared/danger/helpless	10 (27.7)
	<i>Lonely</i>	Feeling lonely/can't meet friends/grief	4 (11.1)
	<i>Discrimination</i>	Demotivated/angry about by discriminatory attitudes towards patients and doctors	3 (8.3)
	<i>Experiments</i>	Demotivated to study because cannot do experiments/practical training	3 (8.3)
	<i>Online bad</i>	Online Classes/lectures are boring/bad/have more disadvantages than advantages	3 (8.3)
	<i>Government</i>	Demotivated/frustrated by government response	2 (5.5)
	<i>Memories</i>	COVID robs me of my time/memories/good times	2 (5.5)
	<i>Screens</i>	Tired of looking at the screen	2 (5.5)
	<i>Stress</i>	Being home is stressful/can't travel/depressing/claustraphobic	1 (2.7)

to study. One student, for example, wrote "Few days ago, I was asked about medical terms. For example, the PCR test and the coronavirus and so on. However, I couldn't answer these questions completely. I didn't have enough knowledge. I was so frustrated by my lack of knowledges despite studying medical science."

The third most frequent code was *Heroes* ($n = 17$; 47.2%), representing statements in which students recognized the importance of medical science, medical scientists, or medical technologists and felt respect for or were proud of health care workers as "heroes." As one student wrote: "I often saw the news that a lot of medical staffs in the hospitals worked to cure patients with COVID-19 despite the risk of infection. Every time to see the news, I respect them, and I felt them like a hero."

Another frequent code was *Truth* ($n = 17$; 47.2%), where students acknowledged the importance of having, collecting, or disseminating correct information and knowledge. This was well illustrated in one student response as follows: "we can save the world by getting the right information out there. With this COVID19 pandemic, there was a lot of information about the COVID19 flying around. People were confused as to which was the correct information. [...] by disseminating the right information, we can prevent the spread of infection [...]."

Among the other important codes were: *Mission* ($n =$

12; 33.3%), where students stated that the pandemic made them think about life, medicine, or medical science and gave a sense of mission or responsibility and an awareness of infectious diseases; and two somewhat-related codes *Innovation* ($n = 11$; 30.5%) and *Vaccine* ($n = 9$; 25%), where students stated that they wanted to contribute to the development of medicine, medical science, and improve COVID testing or that no vaccine or cure has yet been found and they wanted to create one.

From 31 total responses with nine demotivating factors, almost one-third of participants had the code *Fearful* ($n = 10$; 27.7%), where they shared feelings of anxiety, sadness, worry, fear, scaredness, or a sense of danger or helplessness. A similar code, *Lonely*, in which students confessed to feeling lonely because they cannot meet friends or family, had four (11.1%) responses.

4. Discussion

In general, we found that the COVID-19 pandemic motivated our medical science students in their studies. This contrasts with the findings of other studies where the pandemic has been shown to have a largely negative impact on student motivation. Meeter and colleagues, for example, found that university students felt less motivated

and reported fewer hours spent studying, suggesting that the decrease in motivation was connected to online education and that a lack of social interaction was a major factor pertaining to dissatisfaction with their online studies.⁷ Online learning alongside screen fatigue were also demotivating factors brought out in this study but they were not prominent.

In contrast, the vivid reality of the pandemic has enabled our medical science students to see the importance of, and take pride in, their chosen profession while igniting a sense of mission to help and save people through medical science innovation; they were able to see a vision of their future-selves as medical scientists. The coverage of the pandemic in the media and—perhaps more importantly—in social media has highlighted the importance of having and disseminating correct information and knowledge. As students of medical science, the participants could see a direct link between the pandemic and their studies but felt frustrated by their lack of knowledge in this area. Some students wrote about being asked medical science-related questions by family and friends and being unable to answer them, thus motivating them to study.

The responses with demotivating factors, while not as frequent as the motivating factors, must not be overlooked. Our findings suggest that many students felt anxiety, fear, loneliness, and other negative emotions as a result of the pandemic. We suspect that the prolongation of the pandemic, lockdown, and social distancing measures might have increased these demotivating factors, which might have had a negative impact, not only on student education, but also on their mental health. Indeed, the data for this study were collected just 4 months after the state of emergency was declared in Tokyo and it would be interesting to study the long-term effects of the pandemic on medical science student motivation to study.

4.1 Implications

What can we, as educators, learn from the findings of this study? The students' increased motivation largely stems from the pandemic giving a window into the students' future-selves as medical scientists, showing the importance of that profession, and allowing them to take pride in it. This self-awareness of being a medical scientist encourages a sense of responsibility towards studying in the present and towards the people they could help as professionals in the future. This is something that educators should seek to encourage. As one student wrote:

“My teacher told me that you are one of the people who can stop the spread of corona virus, in the class which I took. Then, I thought I have to have awareness as a medical scientist. At the same time, I reflected on the fact that I had never been aware of myself as a medical scientist. I realized that the quality of my studies was completely different if I was not aware of it.”

4.2 Limitations

Considering that students were writing in a foreign language and in full knowledge that their essays would be assessed, it is also possible that some social desirability bias may have affected the students' responses. Furthermore, the subjective nature of the self-reported data presented in this paper would be strengthened through triangulation with objective data such as students' grades. As mentioned earlier, the data were collected at a single time point 4 months after the state of emergency was declared; therefore, a longitudinal study would offer insights into the long-term effects of the pandemic on student motivation. Finally, the number of participants was small and were all from a single institution; thus, larger-scale studies involving other institutes in Japan would be useful to confirm the generality of our findings.

5. Conclusion

In summary, the findings of our study indicate that, for our study population of undergraduate medical science students, the COVID-19 pandemic had a strongly positive impact on their motivation to study. The pandemic threw medical science into the spotlight of the mainstream media and gave students a vision of their future-selves, a sense of pride in their vocation, and a mission to save and help people. Taking opportunities to encourage and develop a sense of professionalism may help educators increase their students' motivation.

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Foreign Language Anxiety and online learning: Opportunities and potential problems

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Abstract

Foreign Language Anxiety (FLA) can be described as “the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening and learning”. Very little research has been done on the effects of online learning on FLA, but we can make some predictions based on research done in traditional classrooms. Classroom structure, uncertainty, the models used in class, and physical location can all affect the levels of FLA experienced by students. This knowledge can be used to help reduce FLA in online classes.

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Keywords Foreign Language Anxiety

Foreign Language Anxiety (FLA) can be described as “the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening and learning” (MacIntyre and Gardner, 1994). High levels of FLA have been linked to lower speeds in learning and processing, underestimating English language ability, avoiding risk by speaking less and only attempting simple messages, and general academic underachievement. The causes of FLA can be classified as individual or situational. Individual causes revolve around learner beliefs, such as: that the language is difficult to learn, that the student believes they are not intelligent enough, or that accuracy is all-important. Situational causes include communication apprehension, the perceived inability to express oneself adequately, the fear of negative social evaluation, and test anxiety.

Very little research has been conducted on the effects of online learning on FLA. However, we can make some predictions based on the research done in traditional classrooms. First, classroom structure influences FLA. In a traditional classroom, seating arrangements can have

a major impact on the amount of communication. Online classes have a structure, too. The main room in Zoom, for instance, can be an intimidating place for students to ask questions, but they seem far more comfortable to speak in the breakout rooms.

Additionally, communication anxiety has been linked to uncertainty. Online classes use technologies that the students may not be familiar with, so it is important to explain to them exactly how the technology is used. Online classes give opportunities to decrease uncertainty by passing on information in both verbal and written forms.

Another factor that can cause FLA is the use of models in class. Students exposed only to recordings of native speakers tend to show higher levels of FLA. Online classes make it easier to use a mixture of native and second-language speakers by showing YouTube or student-made videos.

Test anxiety is another common cause of FLA. Since familiar locations tend to reduce anxiety, taking tests at home should be less stressful than at university, which should in turn lead to improved results. On the other hand, performing under stress may be part of the test, and there may be more opportunities for cheating when taking a test at home.

One of the major drawbacks of online learning is that students will need to speak English in person during their careers. By removing the chance to speak to people face-to-face, online classes may be storing up problems for later. Medical students will need to take patient histories and speak in public in their future careers, and online classes are not the best way to prepare for this.

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Assessment of student impressions regarding the online delivery of clinical English course during the COVID-19 pandemic

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Abstract

As part of a reorganization of the medical education curriculum, Showa University School of Medicine started a compulsory clinical English course for all fourth-year medical students in 2019, with the final assessment including a medical interview with English-speaking standardized patients (ESSPs). In 2020, the novel coronavirus forced students ($n = 123$) to take the course online, including performing video-conference interviews with ESSPs. Pre-recorded lectures were posted online in January, and clinical interview assessment was done through Zoom. To assess students' evaluation of this course, we administered questionnaires before and upon completion of the course, and 75 students completed both. Compared to the start of the course, students' confidence in providing medical care to English-speaking patients ($M = 2.1$) and interacting with English-speaking medical professionals ($M = 2.1$) increased. Students also said that this course increased their motivation to improve their medical skills in English ($M = 3.7$). Regarding the online format of the course, most students preferred it to traditional in-person classes ($M = 3.9$), primarily because they could view the teaching materials at any time and watch lecture videos more than once. However, conducting the medical interview online was rated less favorably ($M = 3.2$), with students reporting difficulty in reading body language/nonverbal cues from the patients and challenges with maintaining appropriate eye contact. Overall, these findings indicated that students valued learning about clinical English skills. Although used out of necessity, the online format also offered benefits to English education that could be utilized for future course iterations.

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Keywords COVID-19, clinical English education, online delivery

1. Introduction

In recent decades, medical education in Japan has undergone several major changes to keep up with global trends (especially those originating in the United States), such as the establishment of residency programs for postgraduate training, incorporation of problem-based learning, and evaluation of clinical skills with Objective Structured Clinical Examinations (OSCE).¹⁻³ Japanese

medical schools have also begun to further expand English education and study-abroad opportunities into their curriculum, due to students' growing interest in pursuing medical training outside of Japan and a desire to prepare students for medicine that is becoming increasingly global.⁴⁻⁷

Starting in 2019, Showa University School of Medicine implemented a new compulsory clinical English course for fourth-year and fifth-year medical students, called Medical English for Clinical Purposes A and B. The goal of these courses is for students to acquire advanced oral and written communication skills in English so that they can be actively engaged in healthcare globally. Therefore, a major component of both courses is a clinical interview conducted by each student with an English-speaking standardized patient (ESSP) as part of their final assessment. In course A, fourth-year students learn basic history-taking skills, while course B includes both more advanced clinical interview topics and delivery of an oral case presentation in English to a medical faculty member.

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For the 2019 Medical English for Clinical Purposes A course, 123 students completed a nine-minute clinical interview assessment with an ESSP as part of their final assessment. As one half of the students completed the clinical interview, the other half would take the final exam, and then the two groups switched. In total, these assessments took approximately 4 hours for students to complete.

1.1 COVID-19 and change to online format

Due to the COVID-19 pandemic, it was decided that for the start of the 2020 academic year in April, students would not be allowed to enter campus. As a result, classes would need to change to an online format. For our Medical English for Clinical Purposes A course, this meant that the classes became pre-recorded videos that were then uploaded to a “virtual classroom” through Google Classroom where students could watch them on demand. In total, 12 hours of educational content was delivered to students through the Google Classroom platform throughout January 2021.

The clinical interview assessments with ESSPs also had to undergo a transition to online events. They were all held remotely as online Zoom meetings, which were organized into 11 groups with 11-12 students per group. Each student was given a Zoom link for their group, as well as the specific time that they needed to log in to conduct their clinical interview. In the morning of the clinical interview assessment, all students signed into their group’s Zoom meeting to confirm with their faculty evaluator that their audio/video worked and to quickly go over the day’s schedule. Students then left the Zoom meeting and signed back in during their assigned time, during which time the ESSP and the faculty evaluator (whose video was turned off during the clinical interview) would also log into the meeting remotely. As in the 2019 course, students were given nine minutes to obtain the full medical history, followed by an additional one minute to provide a summary to the patient. Afterwards, the ESSP had one minute to give feedback to the student, and then five minutes to evaluate the student before the next student signed into the Zoom meeting.

1.2 Evaluation of course

As we had to suddenly adopt an online format for this course (something that the instructors had very little prior experience of), we were concerned about how students would react to these changes. Therefore, we administered a questionnaire that evaluated students’ impression of this course, particularly the online delivery. In this report, we provide details of the students’ assessment of the online course, and based on these results, we discuss what elements educators might want keep or remove after the pandemic.

2. Methods

2.1 Participants

Participants were fourth-year medical students at Showa University who took a required course on clinical medical English (Medical English for Clinical Purposes A) in January 2021, and completed two online questionnaires about the course and its conversion to an online format. Of the 123 students on the course, 75 (61%) completed both the pre-course and post-course questionnaires during the allotted time. There were 31 men and 44 women (mean age = 22.9, range 21-27 years).

2.2 Procedures

Before the first lecture was uploaded and approximately two weeks after the end of the course, participants were instructed to complete two online questionnaires to provide feedback on the new class format to the instructors. Afterwards, we received approval from our medical school’s institutional review board to publish this data for research purposes, pending consent from the students. All students were notified of this change and were given the opportunity to opt out by requesting that their data not be used for this research.

2.3 Online questionnaire

The two online questionnaires were administered through the course’s Google Classroom. In the first questionnaire, which students completed before the course (“pre-course questionnaire”), they reported their current confidence in speaking English with patients and medical professionals. The second questionnaire was completed at the end of the course (“post-course questionnaire”) and assessed students’ current confidence in speaking English in medical settings, plus their perception of the course on three general topics: 1) the course as a whole, 2) online delivery of the course, and 3) online delivery of the final assessments (in particular, the clinical interview with an ESSP). The questionnaires included multiple-choice and free-response items, all originally written in English and then translated into Japanese. Translation of the questions was a collaborative process by the authors of this paper, who include two native-speaking English speakers (MM and KS) and two Japanese speakers fluent in English (MH and YH). Questions were translated by members individually and then compared. Any differences in translations were discussed and a final translation for the question was agreed upon by the group.

3. Results

3.1 Class performance

The average final score for the course was 83.6 ($SD = 9.2$) out of 100. This was slightly higher than for the 2019 course

($M = 81.5$, $SD = 7.2$), which used the same evaluation criteria as the 2020 course but was conducted in a traditional in-person, classroom setting. Similarly, the average score for the clinical interview component ($M = 3.8$ [$SD = .73$] out of 5) was also higher than that for the 2019 course ($M = 3.6$, $SD = .64$). Independent sample t-tests found that the clinical interview scores differed significantly between the 2019 and 2020 courses.

3.2 Questionnaire data

3.2.1 Current English confidence

Paired-sample t-tests showed that students' reported confidence in providing medical care to English-speaking patients significantly improved from before ($M = 1.47$) to after ($M = 2.11$) the course, $t(74) = 7.76$, $p < .001$. Students' reported confidence in interacting with English-speaking medical professionals also showed a similar improvement from before ($M = 1.59$) to after ($M = 2.07$) the course, $t(74) = 5.54$, $p < .001$. However, although statistically significant, these increases were modest and still well below the midpoint, which in these scales were a 3 and meant "moderate" improvement.

3.2.2 Student's perception of the class as a whole

Overall, most students found that this course motivated them to improve their medical skills in English, with 70.7% ($n = 53$) agreeing or strongly agreeing with this item. Similarly, 82.7% ($n = 62$) agreed or strongly agreed with the statement that English is important in the development of their career. When asked to identify the specific benefits of this course from a list of seven possible options, the most frequently chosen responses were that they could learn how to provide clinical care for English-speaking patients ($n = 58$, 29.3%) and that they could learn medical expressions in English ($n = 51$, 25.8%).

We also asked students to select any barriers to their motivation in this course from a list of six possible options. Most students reported that there were no barriers to their

motivation ($n = 39$, 52%), although some reported a lack of interest in studying abroad ($n = 17$, 22.7%), or that they did not plan to interact with English-speaking professionals ($n = 15$, 20%).

3.2.3 Online delivery of course

Compared to similar classes taught in-person, 73% ($n = 54$) of students rated this online course as slightly better or much better. A majority ($n = 55$, 74%) of students also indicated that they preferred to have the course conducted online. From a list of six possible benefits of having the course online, the most common responses from students were that they could watch the lectures at any time, they could watch the lectures more than once, and that they could go through the materials at their own pace (**Figure 1**).

However, students did report some downsides of having the course online. As **Figure 2** shows, the most common response was that there was no opportunity to interact with fellow classmates in person, with a few also noting internet connectivity problems and no group activities. Also, some students reported technical problems in submitting the final exam and/or downloading documents from Google Classroom.

One of our biggest concerns in turning this course into an online format was that students would experience serious technical difficulties, because using this technology was mostly new to them — and the faculty! So, we asked students to select any problems that they experienced during the course from a list of 6 possible options. Fortunately, aside from a few who had issues in submitting the final test ($n = 15$, 20%) or downloading some documents ($n = 10$, 13.3%), the vast majority of students reported no technical difficulties during the online course ($n = 61$, 81.3%).

3.2.4 Online delivery of the assessments

From this section of the questionnaire, we report data related to the students' assessment of the online clinical interview with ESSPs. A large majority of students ($n = 62$;

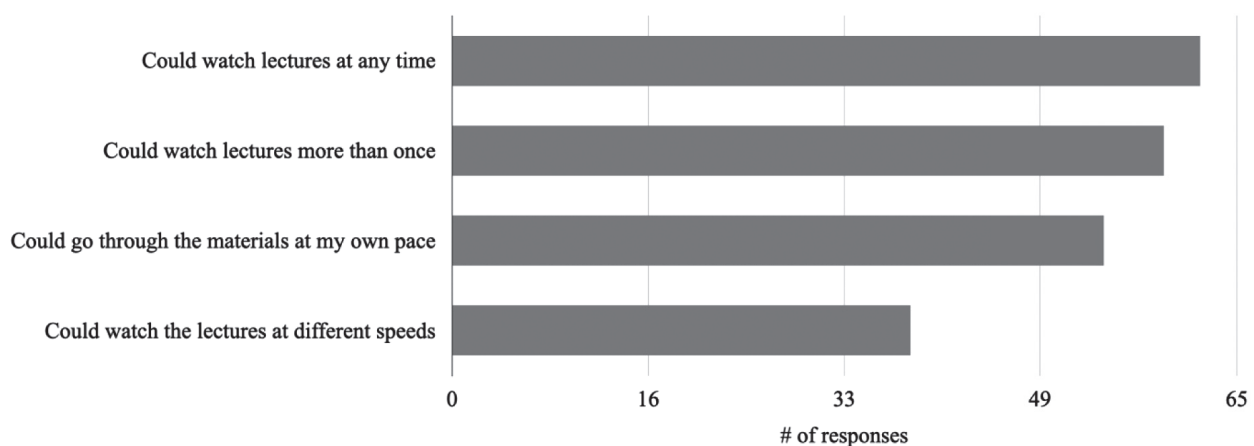


Figure 1. Students' responses regarding benefits of the online delivery of the 2020 Medical English for Clinical Purposes A course

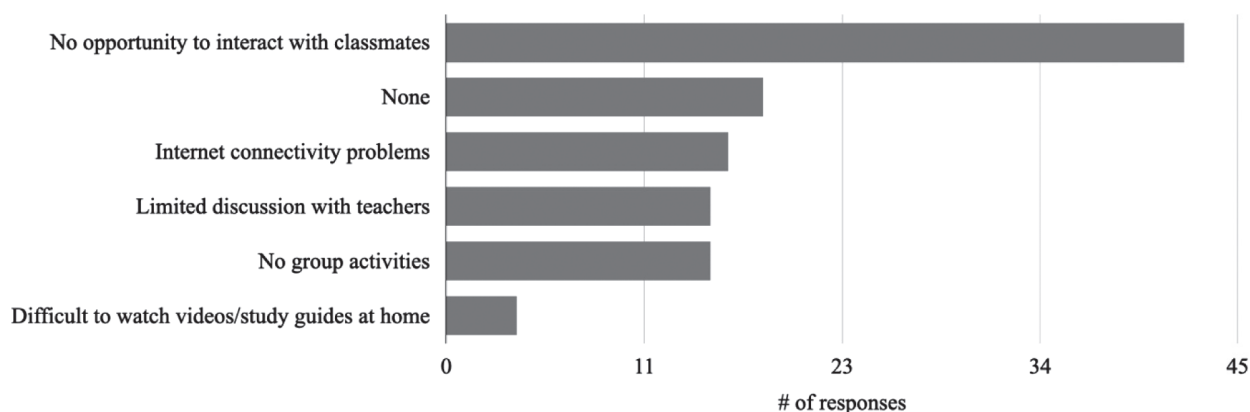


Figure 2. Students' responses regarding downsides of the online delivery of the 2020 Medical English for Clinical Purposes A course

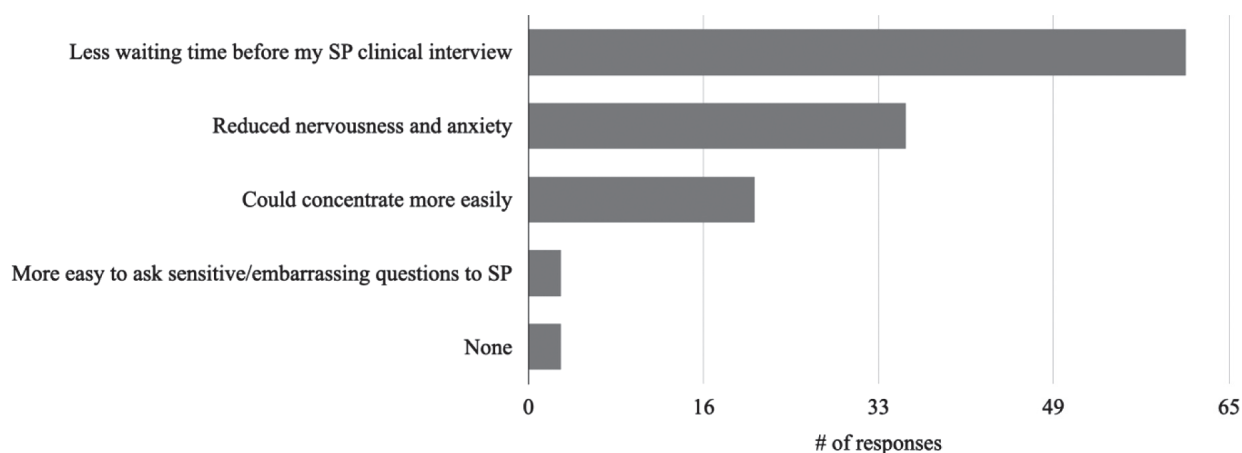


Figure 3. Students' responses regarding benefits of online clinical interview in the 2020 Medical English for Clinical Purposes A course

83%) agreed or strongly agreed that the use of ESSPs was effective in improving their clinical history-taking skills. However, just a third of students ($n = 31$) preferred or strongly preferred the online method of conducting a clinical interview to the traditional in-person format, and the most common response ($n = 24$) was "neither agree nor disagree" (in contrast, only 19 students responded negatively on the online method). From a list of five possible benefits of the online clinical interview, the most common response selected by students was that there was less waiting time before their clinical interview, and the second most common was that it reduced their nervousness and anxiety (Figure 3).

In contrast, the most common critique of the online format of the clinical interview reported by students was that when interacting with the ESSP on a screen, they did not know how to make eye contact with the ESSP ($n = 45$, 60%). Similarly, they reported that it was difficult to read the ESSPs body language ($n = 21$, 28%) and to create a rapport with them ($n = 21$, 28%). More generally, since this was their first time doing a clinical interview online, students reported feeling nervous and confused about how to do it ($n = 41$, 54.7%). Finally, most students reported no technical problems during the clinical interview ($n = 42$; 56%), but of

those who did report a problem, slow transmission/time lag ($n = 22$, 29.3%) and poor audio quality ($n = 15$, 20%) were the most common complaints.

4. Discussion

The worldwide spread of COVID-19, which reached pandemic level in early 2020, required us to quickly change the format and structure of our clinical English course to an online format that was mostly unfamiliar to our students and faculty. This situation played out in universities around the world, as campuses were shut down and students were forced to study remotely. After surveying our students about this course and the format changes, we concluded as below.

4.1 Students value clinical English, although their confidence is remains low

In spite of being a compulsory course and concerns that the COVID-19 pandemic may have dampened their evaluation of the long-term value of learning medical English, we were pleasantly surprised by the larger number of students who reported that they valued learning about clinical English and taking this course, although confidence

in their English-speaking ability remained low. A common theme that emerged from the free-response items was that our medical students view learning medical English as something beneficial for them and their future career, and consequently, are increasingly motivated to study it. For example:

"I felt that it would be useful in the future if I learned English conversation that I often use in medical examinations." (m1)

"I felt like I wanted to be able to see patients from overseas." (m2)

"I thought that there would be situations where English is needed in the medical field, but I was very poor at English, so I have avoided English until now. This time, I realized the importance of English again, so I decided to study hard." (m3)

Regarding students' relatively lower confidence in speaking medical English, it should be noted again that this course only delivered 12 hours of educational content over one month. Given the shortage of time, it is understandable that students' confidence levels were still low, but their motivation was certainly a positive sign that they would be interested in expanding this content, if scheduling permitted it.

Increased motivation may also partly explain why students' performance in this course was better than that of the 2019 students. During January, 2021, the fourth-year students' clinical rotations had been canceled, and many found themselves at home with more free time to study. With this extra free time, they may have been particularly motivated to study and prepare for the online clinical interview. This academic year (2021), our fourth-year students have been vaccinated and are able to do their clinical rotations, but this course will still be taught online, as in 2020. With students back to their normal course load, it will be interesting to see if their scores for the course remain high or revert back to 2019 levels.

4.2 Online format offers real benefits for English education, but also notable downsides

The online format provides several benefits for English education that we should consider continuing even after the COVID-19 pandemic. Notably, students really seemed to enjoy the freedom of choosing how and when to study the lessons. Specifically, students could rewatch part of the lesson to understand the English, or as one student wrote in a free-response item: *When I received it in (this) form of delivery, it was good that I was able to rewind and listen to the English that I could not understand.* (m4)

Especially for a large compulsory course like this one taken by nearly 130 students, the online format allowed students with varying English abilities to study the materials in a way that was suitable for them. In a traditional in-person course, it can be difficult for the professor to find a teaching

pace that is suitable for all students. A large class can also be intimidating for students who may feel that they are being compared with their classmates, which might explain why many of our students reported that the online format of the clinical interview made it less embarrassing and anxiety-provoking for them. A recent article reported a similar result from medical students who conducted clinical interviews in Japanese, suggesting that it is not specific to the language used.⁸ It is possible that being alone to do the clinical interview, rather than in a large group of their classmates, or being physically separated from the ESSP may have made the situation less nerve-racking for students, but we do not have the data to confirm that at this time.

However, the main downside of online formats, especially the on-demand videos, was that it prevented social interaction among the students. Not only did students rate this as the biggest downside of the online format, but from the free responses and informal discussion with some of them, it appears that several students enjoyed the online clinical interview because they could actually talk to someone face-to-face. Thus, it seems likely that the online format increases students' social isolation and may put them at higher risk for stress and depression. A 2020 article from our colleagues in the Department of Medical Education surveyed the level of distress in all our medical students, and they found that 28.5% of their sample scored at a level indicative of psychological distress, which was higher than the rates found in previous studies.⁹ Therefore, we should consider how to re-introduce some form of social interaction into the online format. Although imperfect, the use of breakout rooms in Zoom might allow a chance for students to interact in small groups, or if possible, the professor might want to consider implementing a hybrid classroom, where some content is taught online and other content is still taught in person. Of course, much of this depends on the COVID-19 situation and how much social interaction would be allowed.

Additionally, with the introduction of any new technology, there is a learning curve for both students *and* faculty, which means that it might take some time for people to become proficient. It also may require additional preparation work or education, such as a lecture on telemedicine or training sessions for professors on using Zoom or Google Classroom. Unfortunately, it might be difficult to add such lectures or training sessions to people's already full schedules.

4.3 Online format opens accessibility to ESSPs

Finally, the online format really opens accessibility to ESSPs for institutions who wish to add more English medical educational content. For example, when we conducted the final assessment of the 2020 Medical English for Clinical Purposes B, we recruited ESSP's from outside of the Kanto region, and one of our evaluators even conducted his assessment from the United States. As long as the time

zones match up and you have adequate internet connection, your access to English speakers can dramatically expand. This may be especially beneficial for smaller universities or universities located in areas where there are few local foreign residents.

5. Conclusions

Although the COVID-19 pandemic required us to suddenly convert the course to an online format, we were able to successfully administer a clinical interview in English assessment via Zoom; our students performed as well as, and in some cases even better than, students who took this course in a traditional, classroom setting. Indeed, we learned that there are some clear benefits to the online format, such as providing students more freedom to study the material in a way more suitable for them and making the recruitment of ESSPs easier. However, face-to-face interaction in the classroom is still important, so we need to strive to create a class environment that balances students' health/safety from COVID-19 infection with their psychological needs for social interaction/community with their classmates.

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Investigating case reports for integration into an EMP curriculum

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Abstract

Case reports are an important way of communicating information on unusual cases or innovations in treating patients. In this article, case reports are analyzed from both a discourse perspective to establish the overall structure and purpose of each section and by using corpus analysis of 108 case reports to explore regularly occurring lexical items. This analysis is combined with consideration of how case reports can be incorporated into a medical English curriculum for third-year students. The authors briefly discuss how a self-study course can be built using their university's learning management system, and how writing tasks that focus on case presentations and abstracts can be incorporated into the classroom.

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Keywords case report, discourse, corpus analysis, medical English curriculum

1. Introduction

Case reports, which document a single clinical observation (case), play an important role in medical literature, being a powerful tool in the dissemination of information on unusual clinical syndromes, disease associations, or unexpected responses to treatment. Although they are only a small part of the literature, they have an important part to play in medical education. They have a wide audience, are easily accessible, and can provide a valuable learning experience for both author and reader. They are also a convenient source of teaching material.

In this article, we summarize our current work at Hiroshima University on analyzing medical case reports through both discourse and corpus analysis, and show how this research has informed the development of materials for an online course. The authors are members of a small institute of applied linguists, and mainly provide general English courses to undergraduates. A team from the institute also teaches English for Medical Purposes (EMP) to medical

school undergraduates, primarily in the form of an intensive course that employs a flipped-learning approach.

Our previous research¹ focused on the transition from general English studies to EMP, resulting in the creation of 14 units of material with a strong anatomy/physiology base as well as a glossary of approximately 2,000 words. This material forms the core of the medical English curriculum for third-year medical undergraduates, with the institute's team teaching 7 units through flipped learning involving self-study online and taught classes. In our new research, the aim is to build on the existing curriculum by adding material that utilizes medical case reports.

From a pedagogic perspective in EMP, the case report is one of the most appropriate types of medical paper for undergraduates: It is short, so that in terms of reading it is of a manageable length for students, and it generally does not involve inferential statistics; there is a clear structure to it, and the case presentation section of the report links strongly to our existing curriculum at the university. Also, in interviews with senior staff, case reports were suggested as materials that students could potentially study in their English language courses. An additional important reason for our focus on case reports is that, although there is some research linked to case reports,^{2,3} they have not received as much attention in EMP as clinical studies. If features of the discourse, text-structuring phrases, and key general terms can be identified, they can be incorporated into learning materials for students.

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2. Collection of case reports

As an initial move, it was important to gather a wide range of case reports; to achieve this, senior medical staff members were approached and asked if the medical school could gather approximately 100 reports. A variety of medical school members collaborated to provide a range of such articles, which were then sent to the research team. A total of 108 case reports were received in PDF format. They were categorized into 23 areas of medicine (Table 1) by the doctors themselves, according to their own field of specialization. For most of the areas, there were 5 or 6 articles.

In total, 72 different journals are represented, ranging from highly regarded publications such as *The Lancet* to less prestigious, more specialized journals. All the journals are published in English, originating from a range of countries including the US, UK, Australia, and Japan; many are international, open-access journals. Some are dedicated to the publication of case reports, while others publish a variety of medical articles. Most of the reports are very recent, with the date of publication ranging from 1995 to 2020, and more than one third being published in either 2019 or 2020. One interesting exception is *A case of inter-uterine and extra-uterine pregnancy*, published in 1886! There is also a small amount of variation among them; for example, some are descriptions of a case in the form of letters to the editor or 'correspondence'. Others describe several cases, and these might be considered as small case studies rather than case reports. For the purposes of our research, however, these

were not excluded; the features of a report dealing with the description and discussion of several cases were deemed to be sufficiently similar to those of one involving a single case. The case reports in our corpus ranged from 1.5 to 12 pages in length, with a typical report comprising four pages. We take the general definition of a case report as:

... a detailed report of the symptoms, signs, diagnosis, treatment, and follow-up of an individual patient. Case reports usually describe an unusual or novel occurrence and as such, remain one of the cornerstones of medical progress and provide many new ideas in medicine. Some reports contain an extensive review of the relevant literature on the topic. The case report is a rapid short communication between busy clinicians who may not have time or resources to conduct large scale research.⁴

3. Methods

In this article, we combine discourse analysis with corpus analysis to identify some of the main features of case reports, and then describe how these features impact materials development. The discourse analysis of three articles provides a general understanding of the structure of the case report and the purpose of each section as well as some of the features. The corpus analysis provides a more detailed understanding of the features at the word, phrase, and sentence level.

For discourse analysis, three articles from different journals were selected from the corpus in PDF format: (1) *Case Reports in Gastroenterology*,⁵ (2) *The Journal of Foot and*

Table 1. Areas of medicine represented in the case report corpus

Area of medicine	No. of reports
1. Clinical Immunology and Rheumatology	3
2. Endocrinology and Diabetic Medicine	4
3. Endoscopy	5
4. Proto-oncogene Surgery/Thoracic Surgery	5
5. Respiratory Medicine	5
6. Surgery	5
7. Pediatrics	5
8. Radiation Oncology	6
9. Diagnostic Radiology	6
10. Emergency and Critical Care Medicine	4
11. Orthopedic Surgery	4
12. Urology	5
13. Gastroenterology and Metabolism	6
14. Gastroenterological Transplant Surgery	5
15. Obstetrics and Gynecology	5
16. Dermatology	4
17. Ophthalmology	5
18. Psychiatry	5
19. General Medical Department	5
20. Otorhinolaryngology-Head and Neck Surgery	3
21. Neurology	5
22. Nephrology	4
23. Anesthesiology	4
TOTAL	108

Table 2. Top 100 words in the case report corpus (range over 40)

1. case	26. mg	51. hospital	76. ml
2. et al	27. CT	52. both	77. her
3. patient	28. clinical	53. cell	78. during
4. after	29. day	54. normal	79. years
5. were	30. however	55. syndrome	80. lesions
6. patients	31. our	56. all	81. reports
7. no	32. reported	57. study	82. than
8. treatment	33. it	58. department	83. related
9. we	34. may	59. other	84. tomography
10. fig.	35. findings	60. old	85. used
11. not	36. diagnosis	61. his	86. biopsy
12. cancer	37. has	62. she	87. without
13. are	38. year	63. figure	88. examination
14. have	39. revealed	64. university	89. although
15. report	40. performed	65. can	90. one
16. left	41. months	66. using	91. diagnosed
17. tumor	42. blood	67. imaging	92. received
18. cases	43. because	68. treated	93. two
19. therapy	44. there	69. high	94. up
20. disease	45. he	70. due	95. type
21. showed	46. associated	71. such	96. cells
22. been	47. pain	72. present	97. small
23. had	48. these	73. symptoms	98. rare
24. right	49. also	74. negative	99. following
25. which	50. surgery	75. first	100. time

Table 3. Top 50 words in the case report (range)

1. patient (103)	14. hospital (77)	27. disease (71)	40. history (65)
2. case (100)	15. performed (77)	28. high (71)	41. review (65)
3. report (98)	16. present (77)	29. any (70)	42. up (65)
4. patients (92)	17. study (77)	30. one (70)	43. blood (64)
5. however (89)	18. associated (75)	31. without (72)	44. months (64)
6. showed (88)	19. first (75)	32. due (69)	45. rare (64)
7. reported (87)	20. findings (74)	33. including (70)	46. tomography (64)
8. treatment (86)	21. such (74)	34. therapy (69)	47. more (63)
9. clinical (84)	22. there (74)	35. than (68)	48. most (63)
10. received (81)	23. accepted (73)	36. treated (68)	49. who (63)
11. revealed (81)	24. normal (73)	37. examination (67)	50. left (62)
12. cases (80)	25. can (73)	38. diagnosed (66)	
13. diagnosis (78)	26. although (74)	39. two (66)	

Table 4. Top 50 multiword terms in the case report corpus

1. case report	26. X ray
2. computed tomography	27. blood pressure
3. follow up	28. imaging MRI
4. lung cancer	29. resonance imaging MRI
5. case reports	30. risk factors
6. magnetic resonance	31. literature review
7. CT scan	32. adverse events
8. cell carcinoma	33. pathological findings
9. radiation therapy	34. physical examination
10. lymph nodes	35. tumor cells
11. magnetic resonance imaging	36. drug induced
12. resonance imaging	37. blood cell
13. long term	38. chest X ray
14. tomography CT	39. intensive care
15. soft tissue	40. medical history
16. computed tomography CT	41. pleural effusion
17. contrast enhanced	42. surgical resection
18. blood flow	43. clinical features
19. normal range	44. laboratory tests
20. clinical course	45. surgical treatment
21. emission tomography	46. C reactive protein
22. positron emission	47. enhanced computed tomography
23. small cell	48. hematoxylin and eosin
24. positron emission tomography	49. MRI findings
25. differential diagnosis	50. reactive protein

Ankle Surgery,⁶ and (3) *Medicine*.⁷

For corpus analysis, the PDF files, including abstracts and references, were converted to text format and combined, resulting in a corpus of 223,334 running words (tokens). The corpus analysis software *AntConc 3.5.8*⁸ was used to produce lists of the most frequent words and multiword items. It was also possible to determine the range of the items (i.e., the number of case reports in which each item was found to occur). *AntConc*'s concordance function was used to show how particular words were used in context.

The *AntConc* software produced a list of all the words in the corpus, which could be ranked according either to their total frequency of occurrence or to their range. The unit of counting was the individual word form rather the word family or lemma, because our purpose was to gain insight into the ways the words are used in the text.

Table 2 lists the 100 most frequent words, excluding

Table 5. Key text-structuring phrases

(in) the presence of	we herein report
(in) the absence of	we describe (a)
in this case	based on (the)
in the present case	due to (the)
in our case	the onset of
as well as	on the other hand
(in) the present study	on behalf of (the)
(had) a history of	is characterized by
(there was) no evidence of	on the basis of
(for) the treatment of	to our knowledge (this is)
the (differential) diagnosis of	to the best of our knowledge (this is)
the risk of	the first report (reported case) of
at the time of	the role of
here we report	we believe that
we report a case	with regard to

articles and the most common function words; all the listed words are found in at least 40 of the articles, meaning that they are used in a wide variety of clinical sub-fields. **Table 3** shows 50 of the most frequent words ranked by range, and **Table 4** shows the most frequently occurring multiword terms in the corpus, many of which are markers of the different stages of the case report narrative: *literature review*, *medical history*, *risk factors*, *physical examination*, *laboratory tests*, *surgical treatment*, *adverse events*. **Table 5** shows some of the most frequently occurring discourse-structuring expressions, many of which can be considered to be prefabricated units of language in the sense of lexical chunks,⁹ lexical phrases,¹⁰ or formulaic academic phrases (FAPs):¹¹ groups of words that are working as set units, rather than being constructed through the use of syntactic rules.

In terms of course creation, the impact of COVID-19 has meant that the overall approach to delivering medical English courses has changed, with the university's learning management system (LMS), Blackboard Learn 9 (Bb9), playing an increasingly important role. Learning management systems such as Blackboard, Canvas, and Moodle are sophisticated web-based software applications, and can be used to deliver a variety of content, tasks, and messages to students online. With students becoming more

familiar with studying on an LMS, materials development for case reports has started online with the building of a Bb9 course.

4. Analysis

In this section, we combine discourse and corpus analysis, and then consider its impact on materials development. We start by investigating the overall structure of a case report, then examine three main sections of the body (introduction, case presentation, and discussion), and finally we consider the abstract. While we follow the logical order of the body, it should be noted that for third-year students, the section offering the most possibilities is the case presentation because it offers greater opportunities for productive skills work than the other sections of the body, which are more for appropriate for receptive skills.

4.1 Overall structure

All three case reports consist of an abstract and a body, with the body comprising an introduction, the case presentation, and a discussion section that includes a conclusion. There is also a list of references in end notes; in the writing of the case reports, researchers are occasionally cited in the body of the article, but more often readers are referred to the end notes should they wish to check. This makes the case report quick to read. As per the definition above, the three case reports communicate ideas and suggestions, based on treatment of an unusual case.

From a course-building perspective, an opening unit of materials needs to sensitize students to this structure. For the main task in this component, an open access case report can be re-ordered with most section headings removed. Students will be required to match the section headings to the sections. This can be preceded by a task of matching section headings to their descriptions.

4.2 Introduction

The introduction provides a short general description of the medical problem that the case is about and a possible treatment. At the end of the introduction, there is a key statement about the particular case, for example:

Here, we report a case of small bowel metastasis of HCC detected by CE and double-balloon endoscopy (DBE) as a pedunculated epithelial polyp.⁵

Herein, we report a case of EGFR mutation-positive putative lung adenocarcinoma presenting as CUP showing good response to EGFR-TKI therapy.⁷

In all three papers, the pronoun 'we' is used as a clear marker to describe the actual case study. In the two examples above, 'we' is collocated with 'report', preceded by 'here' or 'herein', while in the third paper the key phrase is: "In the present report, we describe...". Using the whole corpus of 108 case reports, concordance analysis shows that 'we' most

commonly occurs in the present tense constructions *we report a case* and *we describe a case*.

Another interesting observation emerging from the corpus analysis is that *rare* occurs with high frequency and in many of the reports. Examples of its use are "We report a *rare* case of metastasis of hepatocellular carcinoma (HCC) to the small bowel that presented as a pedunculated epithelial polyp", and "Eagle syndrome is a *rare* and poorly understood clinical condition caused by an elongated or disfigured styloid process"; one of the most common reasons for publishing a case report is to describe an unusual or novel occurrence.

Regarding the Bb9 course itself, several introduction sections from open access journals can be used along with conventional multiple-choice comprehension questions, gap-filling tasks and matching tasks to focus students' attention on key sentences, words, and phrases.

4.3 Case presentation

In the case presentation section, the patient is immediately introduced and relevant background information given, including health history, and current problems:

A 67-year-old man with a 147 pack-year smoking history presented to a hospital with chief complaints of paresis of right lower extremity, dysarthria, and memory disturbance.⁷

A 39-year-old Japanese female with a 5-year history of RA had been treated for severe erosive arthritis with 12 mg/wk of methotrexate. She complained of left ankle pain and left elbow pain that was especially notable when she experienced left ankle pain.⁶

This information is followed by descriptions of diagnosis and treatment, and of tests and drugs administered. **Table 3** lists words that are very relevant for the case presentation. What stands out in this list are the verbs, in their past forms: *reported, showed, received, revealed, performed, accepted, treated, and diagnosed*. With the exception of *accepted*, which is used primarily in the sense of 'accepted for publication', these all have important roles to play at the different stages of the case presentation narrative, including diagnosis, testing, treatment, and follow-up.

From the corpus analysis, one striking feature pertaining to the case presentation is the number of terms that relate to diagnostic imaging. This finding underlines the important role that imaging techniques such as magnetic resonance imaging (MRI) or computed tomography (CT) scans play in tracking the progress of an ongoing condition.

The case presentation section offers the most possibilities for English language study in the third year of the medical program. The existing third-year medical curriculum includes anatomy/physiology, signs, symptoms, disease words, tests and treatments, and the language from these areas can be deployed in writing up a case. Third-

year students are unlikely to be in a position to write a full case report involving all three sections (introduction, case presentation, and discussion), but they should be able to write a case presentation, and for productive skills they may derive more benefit from writing up a normal case than an unusual one. With this in mind, the research team is experimenting with simulated patient data that can be tabulated so that students can practice converting the data into a case presentation. It should also be noted that on the receptive skills side, a number of books for medical students focus on cases, an example being *100 Cases in Surgery*,¹² requiring readers to make a diagnosis, and then to read a long answer providing a likely medical explanation. A similar approach can be used in the Bb9 course.

4.4 Discussion

In this section, the authors explain why the case is interesting, usually citing other literature to put the case in context, and suggesting tentative hypotheses. The last paragraph is usually a short conclusion of their key hypothesis, with recommendations for future care:

In conclusion, we reported a case of small bowel metastasis of HCC detected by CE and resected by EMR to control continuous bleeding from the tumor. As in this case, there is possibility of small bowel lesions as the cause of gastrointestinal bleeding and anemia in patients with liver cirrhosis and HCC. We suggest that CE should be actively performed in the search for small bowel lesions in those patients.⁵

Modal verbs have an important role to play in the discussion section, and the corpus analysis shows us that *may* and *can* are the most commonly occurring modals (*should* appears just outside the top 100). These verbs frequently collocate with *be*, as in the following examples: “High doses to the portal vein also *may be* a risk factor for portal vein thrombosis through vascular injury”; “Other signs and symptoms, such as epiphora, anosmia, headache, facial pain, and visual disturbances, *can also be* present”; and “LA resistance *should be* considered and investigated when well-performed regional anesthesia fails”. The modals *may* and *can* are typically used epistemically, but *should* is generally found in its deontic, or instructive, role in recommending future courses of action.

From a pedagogic perspective, a focus on the wording of a concluding paragraph and work with modal verbs is clearly important, and receptive skills work can follow a similar set of tasks to the introduction.

4.5 Abstract

In the corpus articles investigated here, the length of the abstract varies considerably (from 135 to 267 words), but in each report it provides a brief overview of the case, stating why it is important and what conclusions can be drawn. A longer abstract can also include sub-sections, as is found

in the third paper, where it is divided in the following way: rationale, patient concerns and diagnoses, interventions and outcomes, and suggestions.

In relation to course construction, the abstract offers important opportunities for both receptive skills and productive skills work. As an abstract is a short summary of the main body of the article, it is possible to set writing tasks for the students in which they are asked to produce an abstract based on a short case report.

5. Conclusion

With the COVID-19 pandemic, materials development for case reports has been slow due to the arduous task of converting existing classroom-based courses to online ones. The practical model for course delivery used by several members of our institute is now flipped learning, using a self-study component on Bb9 and a taught component on Zoom or Teams. Regarding the course for third-year medical students, while all sections of the case report can be used for receptive skills tasks on Bb9, two sections, the case presentation and the abstract, have the potential for use in productive skills tasks.

While the Bb9 course under development is primarily oriented towards a third-year curriculum, it may have wider application. Our research team is considering how it might be combined with one-day workshops on corpus analysis and case studies for graduate students and doctors at the university.

As we have noted, a case report is essentially a short, written communication to inform medical practitioners of insights and innovations pertaining to a single case. It is valuable for students and practitioners to develop their language skills to write such reports in English. Through our research on case reports and through materials development we hope to aid students in the process of mastering these skills.

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Writing と医療面接に力点を置いた東北医科薬科大学の 医学英語教育：対面授業と遠隔授業の違いを含めて

Writing and medical interview-centric medical English education at Tohoku Medical and Pharmaceutical University with commentary on face-to-face vs. remote classes

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Abstract

In this report, we will introduce the medical English education program in Tohoku Medical and Pharmaceutical University. The school was newly established in 2016 with a mission of producing doctors who can contribute to health care in underserved communities. We will also discuss the differences between face-to-face and remote classes in the context of the COVID-19 pandemic. After considerable discussion, a curriculum with an emphasis on writing and medical interview skills was developed, with the aim of enabling graduates to write case reports, even in local hospitals, and to provide medical services to the growing number of patients who speak only English. In the 5-week English course given in the first semester of the 3rd year, teachers give students Japanese abstract assignments and have them create English abstracts using any tools except for online translation software. Teachers then make corrections and offer feedback. In the second semester of the 3rd year, medical interviews in English are taught for 5 weeks, and an OSCE-style examination is performed on the final day with the help of non-Japanese simulated patients. The outcomes of the abstract writing and medical interview instruction were fairly good, based on the examination scores and questionnaire responses by students and teachers. Although the differences between face-to-face and remote classes were minimal for lectures, the correlation coefficients among the scores in four competencies, including vocabulary and reading comprehension, were lower in 2020 (remote classes) than in 2019 (face-to-face classes), suggesting difficulties in obtaining valid evaluations using online testing.

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1. 緒 言

医学教育モデル・コア・カリキュラム（コアカリ）¹や医学教育分野別評価基準²に「医学英語」が記述されていないなか（これらが欧米の基準を台本にして作成された経緯と関係していると思われる）、医師国家試験に英語問題が含まれるようになり、2020年11月の「医師国家試験改善検

討部会報告書³には「…外国人患者への診察を行う際に必要な基礎的な英語の能力であることから、これらを医師国家試験における英語問題の出題の中心とすることが望ましい」と記載され、英語教育を重視する方向性は明示されつつある。このなかで、2015年に本学会において医学英語教育ガイドラインが策定され、vocabulary (V), reading (R), writing (W), communication (C) の4領域における到達目標が提示された。⁴ 「卒業時に全員が習得すべき内容」を Minimum requirement, 「さらなる向上のために習得が望ましい内容」を Advanced requirement と定義された。策定に際して特に強調されたコンピテンシーは、「最新の医学情報（多くは英語によって発信）を速やかに読んで理解できる能力」と「英語しか話せない患者の初期診療をある程度できる能力」の2つである。一方、筆頭著者は、2013年の本学会のシンポジウム「医療現場は医学英語教育に何を期待するか」のオーラルプレゼンテーションの演題に対してライティング教育の重要性を3つの理由を挙げて主張した。⁵ 第一にテクニカル・ライティングを身につけ、それなりのトレーニングを加えれば、オーラルプレゼンテーションはできるようになること、第二に地域医療に従事していても珍しい症例に遭遇して症例報告を書く機会が多いこと、第三に（これが最も重要だが）ライティング教育にはパラグラフ・ライティング等の「型」があり、大学教育で日本を背負っていく人材を育てるうえで「ロジックとレトリック」を含んだライティング教育は（英語教育や医学教育に限らず）一般教育において最も重要な要素の一つであることを挙げた。

東北医科薬科大学医学部は、1939年に創立した東北薬学専門学校を前身とする東北薬科大学を母体として、2016年4月に、日本では37年ぶりの医学部として新設された。「地域医療を担う医師の養成」を重要な使命とする。⁶ 1学年の定員は100名（地域枠55名、一般枠45名）である。本学の医学英語教育のコンピテンシーは、「地域医療を担う医師の養成」の使命に基づき、本学会のガイドラインを参考に、筆頭著者も加わり策定された。まず、「最新の医学情報を英語で読む能力」の必要性には異論がなかった。次に、英語による医療面接能力であるが、英語しか話せない患者は地方（過疎地域）でも増えつつあり、初期対応力は全員が身につけるべきコンピテンシーと判断された。一方、「世界に羽ばたく研究者養成」を目標とする一部の大学⁷と異なり、研究発表の英語によるプレゼン能力養成の優先度は高くないと考えられた。そして、上述の「地域医療に従事していても珍しい症例に遭遇することは多い」こと等を理由に、「英語で論文を書く力」の養成に力を注ぐ方針とした。授業は、1年前期の「医学英語Ⅰ」から3年後期の「医学英語Ⅵ」まで半期ずつ6科目が設定され、「医学英語Ⅰ・Ⅱ・Ⅳ」は英

語系教員、「医学英語Ⅲ」は外国人教員が担当している。臨床医学をすでに学び始めた3年生を対象とする「医学英語Ⅴ、Ⅵ」は、筆頭著者を含む医学系教員が担当している。本学の医学英語教育の集大成に位置づけられる「医学英語Ⅴ、Ⅵ」の授業を紹介し、その成果を検証するのが本論文の第一の目的である。

さて、2020年1月に始まる新型コロナウイルス感染症は、大学の授業の形式に大きな変貌をもたらした。⁸ 本学の「医学英語Ⅴ、Ⅵ」も他の授業と同様に、遠隔授業を実施せざるを得なかった。⁹ アンケート・成績等から、対面授業と遠隔授業の長所・短所が見えてきたため、（厳密な比較検証には程遠いが）気づいた点を報告するのが本論文の第二の目的である。

2. 方法と結果

「医学英語Ⅴ」と「医学英語Ⅵ」は、それぞれ3年前期と後期に週1回3コマ（1コマ70分）連続の授業を5週行う短期集中形式である（計15コマ）。本学会ガイドラインに対応した目標および全体のアウトライン、スケジュール例を表1に示す。それぞれの授業の最終日に科目共通の学生による匿名授業評価（6項目＋自由記載）を行い、適宜、実名・匿名アンケートを実施している。また、それぞれの科目終了1～2週後に全担当教員で反省会を行いその後の授業改善に役立っている。以下に、授業内容の詳細と成績・アンケート結果を示す。なお、統計学的解析にはStatcel 3を用いた。

2.1 「医学英語Ⅴ」初日講義「医学英語を学ぶコツ」

メインのアブストラクト添削・英語論文読解に先立って、初日の2コマで、医学英語を学ぶにあたって以下の4つのtipsを伝えている。

(1) NHK ラジオ講座継続的視聴の推奨

NHK ラジオの英語講座から5種を選び、そのさわりの部分の録音を4～5分ずつテキスト付で聞かせ、自分に最もフィットするものを毎日継続して聴くように勧めている。あまたの英語教材の中でNHKラジオ講座を推奨する理由として、「選りすぐりの講師」「低コスト」「継続的学習の習慣づけ」の3つを挙げ、特に毎日の継続的学習の重要性を強調している。

(2) Science の Editors' Choice の配信

毎日のreadingの題材として、筆頭著者が、Scienceの“Editors' Choice”（世界の研究トピックス7編の紹介）のうち約3編（医学・生物学のみならず、物理学・化学・生態学・心理学・教育なども含めて）に日本語のコメントを付けて、希望する東北医科薬科大学の学生（一期生64名、

表 1A. 医学英語 V・VI のアウトライン

本学会ガイドラインに即した到達目標	授業内容
<p>〈メイン〉</p> <p>W-Minimum 3b：英文アブストラクトを自分で書ける</p> <p>R-Advanced 2b：診療や研究に関する英語資料の内容がおおむね理解できる</p> <p>C-Minimum 1b2：挨拶・患者確認、および基本的な医療面接を行える</p> <p>V-Minimum 1a：「身体の部位と機能」、「症状、徴候」、「検査、診療行為、診療器具」、「疾患、診断」に関する基本的な専門用語*を理解し使うことができる。</p> <p>〈サブ〉</p> <p>W-Advanced 2a：英語論文を指導のもとに書ける。</p>	<p>〈メイン〉</p> <p>「医学英語 V」アブストラクト添削</p> <p>「医学英語 V」英語講読</p> <p>「医学英語 VI」英語による医療面接</p> <p>「医学英語 VI」 vocabulary</p> <p>〈サブ〉</p> <p>「医学英語 V」</p> <p>初日講義「医学英語を学ぶコツ」</p> <p>最終日講義「症例報告の書き方」</p>

表 1B. 医学英語 V のスケジュール例 (2019 年度)

	1 コマ (9:00-10:10)	2 コマ (10:20-11:30)	3 コマ (11:40-12:50)
第 1 週 4 月 10 日	講義「医学英語を学ぶコツ」(亀岡淳一)		abstract 演習 1 (担当 A)
第 2 週 4 月 17 日	英語講読 1 (担当 E)		abstract 添削 1 (担当 A)・演習 2 (担当 B)
第 3 週 4 月 24 日	英語講読 2 (担当 F)		abstract 添削 2 (担当 B)・演習 3 (担当 C)
第 4 週 5 月 8 日	英語講読 3 (担当 G)		abstract 添削 3 (担当 C)・演習 4 (担当 D)
第 5 週 5 月 15 日	特別講義「症例報告の書き方」(柿坂庸介)		abstract 添削 4 (担当 D)

表 1C. 医学英語 VI のスケジュール例 (2019 年度)

	1 コマ (9:00-10:10)	2 コマ (10:20-11:30)	3 コマ (11:40-12:50)
第 1 週 4 月 7 日	vocabulary 講義「医療面接」	医療面接の演習 1 (頭痛)	
第 2 週 4 月 14 日	vocabulary	医療面接の演習 2 (胸痛)	
第 3 週 4 月 21 日	vocabulary	医療面接の演習 3 (腹痛)	
第 4 週 4 月 28 日	vocabulary	医療面接の演習 4 (体重減少)	試験の予行演習
第 5 週 5 月 12 日		英語による医療面接試験	

• 次の英文は、それぞれどちらが正しいでしょうか。フレーズ検索で試してみましよう。

– 「芝生に立ち入り禁止」

A. Keep off the lawn. (76,400)件

B. Keep out of the lawn. (4)件

– 「部屋に立ち入り禁止」

A. Keep off the room. (10)件

B. Keep out of the room. (1,410,000)件

(As of Jan. 25, 2017)

• 「(PDFにする)にはどのような英語の動詞を使えばいいでしょうか? ワイルドカード検索で探してみましよう。

「データをPDFにする」

to (export, convert, ...) data to PDF

→ “to * data to pdf”

(As of Jan. 25, 2017)

図 1. Google 検索例 (A：フレーズ検索，B：ワイルドカード検索) (文献 12 より改変)

二期生 41 名，三期生 31 名，四期生 30 名，計 173 名) に毎週 e-mail で配信している。前任地 (東北大学) で 2010 年から行っているもので，2014 年に Google Forms で実施した匿名アンケート (283 名中 70 名回答，回答率 24.7%) によると，¹⁰ 「英語力の向上に役立っているか」「医学・生物学の理解に役立っているか」に対して「強くそう思う + そう思う」の割合はそれぞれ 68%，81% であった。アンケートの「これまで印象に残った記事」には，「生体が選択的に L-アミノ酸を合成する機序」「角膜透明性維持の機序」「ペルセウス座のブラックホール」「グループワークの至適人数

等，様々な分野の記事が挙がっている。なお，著作権に関しては，Science 社に直接連絡して問題ないことを確認している。

(3) パラグラフ・ライティング実例の紹介

パラグラフ・ライティング (一つのパラグラフには一つだけ論点/主張がある。その論点を述べる文を topic sentence といい，通常パラグラフの冒頭《または最後》におく) について，筆頭著者の過去の論文¹¹ を例に用いて説明している (パラグラフ・ライティングを強く意識して，10 のトピックセンテンスから書き始めた論文のため)。簡単

な背景説明の後、教室内を回ってランダムにマイクを向け（遠隔ではランダムにあててマイクをオンにさせ）下線を引いたトピックセンテンスを順に読ませて、トピックセンテンスのみで全体の把握が可能であることを実感させている。

(4) Google 検索の実践

Google を用いたフレーズ検索とワイルドカード検索を紹介している。フレーズ検索は、複数の単語をダブルクォーテーションで囲むと指定したとおりの並びのみで検索してくれるもの、ワイルドカード検索は、フレーズ検索に加えて任意の場所にアスタリスク (*) を入れるとその場所のすべての単語を含んだフレーズを検索してくれるものである¹²。サンプルを提示し(図 1), 実際に授業中にネットで調べさせて、自分の書いた英語フレーズが適切であるかどうかを使用頻度によって自分で判断する方法を指導している。

(1) から (4) の試みに対する実名の自由記載アンケートでは、対面授業の年度も遠隔授業の年度も、それぞれに対して肯定的な感想が記述された(表 2A)。個々の項目のアウトカム評価（その後ラジオ講座を聞いている人数, Editors' Choice 閲覧状況, Google 検索の実施状況等）は行っていない。今後の課題である。

トカム評価（その後ラジオ講座を聞いている人数, Editors' Choice 閲覧状況, Google 検索の実施状況等）は行っていない。今後の課題である。

2.2 「医学英語V」のアブストラクト添削 (writing 教育)

アブストラクトの構造(背景, 本体, 結論)を説明した上で、4名の教員が交代で4週にわたってそれぞれ日本語課題(あるいはアブストラクト抜きの英語論文)を与えて(図 2A), 授業時間内(約1時間)に英文アブストラクトを作成させ(Internet や電子辞書等の使用は自由, ただし Google 翻訳は禁止), 添削を実施している。課題は基礎医学から臨床医学まで様々である。添削は、対面時は当日あるいは次週に教室で行い、遠隔授業時は学内クラウドに提出させ、翌週までに手書きで添削し、PDFにして email で一人一人に返却した(図 2B)。毎回、翌週に全体に対するフィードバックを10分程度で行う(図 2C)。添削およびフィードバックにあたっては、非常勤講師の米国人の意見を参考にしてい

表 2A. 初日講義「医学英語を学ぶコツ」に対する実名アンケートより (ある年度)

[1] ラジオ講座関連

- ・リスニングに不安があるので聞き始めたい。
- ・ラジオ番組を授業に取り入れるの斬新で興味が湧いた。
- ・NHKのラジオは誰にでもできる勉強法。

[2] Editors' Choice

- ・配信希望者多数

[3] パラグラフライティング関連

- ・ライティングの観点から論文に触れることができ、大変効果的。
- ・今後医師となり英語で論文を書く機会があると思うのでパラグラフライティングの考え方を多めに生かしたい。
- ・パラグラフライティングの重要性を理解できた。

[4] グーグル検索関連

- ・フレーズ検索やワイルドカード検索など新しい検索方法を学ぶことが出来て非常に勉強になった。
- ・フレーズ検索, ワイルドカード検索を今後は大いに活用していきたい。
- ・論文で用いられるフレーズ検索はこれから英語で文章を書く上で必要な知識。

表 2B. 「医学英語V」に対する匿名アンケートより (2018-2021 年度)

- ・1年次からこのような授業を受けたかった。
- ・語学の特性上, 集中講義はあまり意味がないように感じる。
- ・課題の分量と難易度がきつかったです。
- ・添削は... 少人数グループ制で行われたら先生方の負担も下がり, 見てもらえる回転率も上がるのかなと思います。
- ・添削した課題を返却していただければありがたいです。
- ・...丁寧で学生に親身な, 医学英語指導だったので英語学習を継続しようとするモチベーションに繋がりました。
- ・...全国の他の医学部の方に聞いても, うちの医学英語の教育はやや手薄ではないかと1年の時から感じています。

表 2C. 「医学英語VI」に対する匿名アンケートより (2018-2021 年度)

- ・楽しかったです。学びの output としていい機会でした。
- ・練習したことがうまく言えずにくしかった。とてもだめだった。
- ・友人と練習したときよりも何もできなくて悲しくなった。...定期的に練習しようと思った。
- ・OSCEなどで日本語での面接を積んだ後に英語による面接を再び行ってみたいと強く思います。
- ・とてもリアルな試験だった。...Feedback が嬉しかった。テスト以外にも英語による医療面接の練習機会がほしい。
- ・native speaker の方とお話できるのは貴重な機会でした。ありがとうございました。
- ・私たちは僻地医療に関わるのに英語の面接の必要性に疑問を持ちました。先に, 日本語での医療面接の練習をしたかったです。

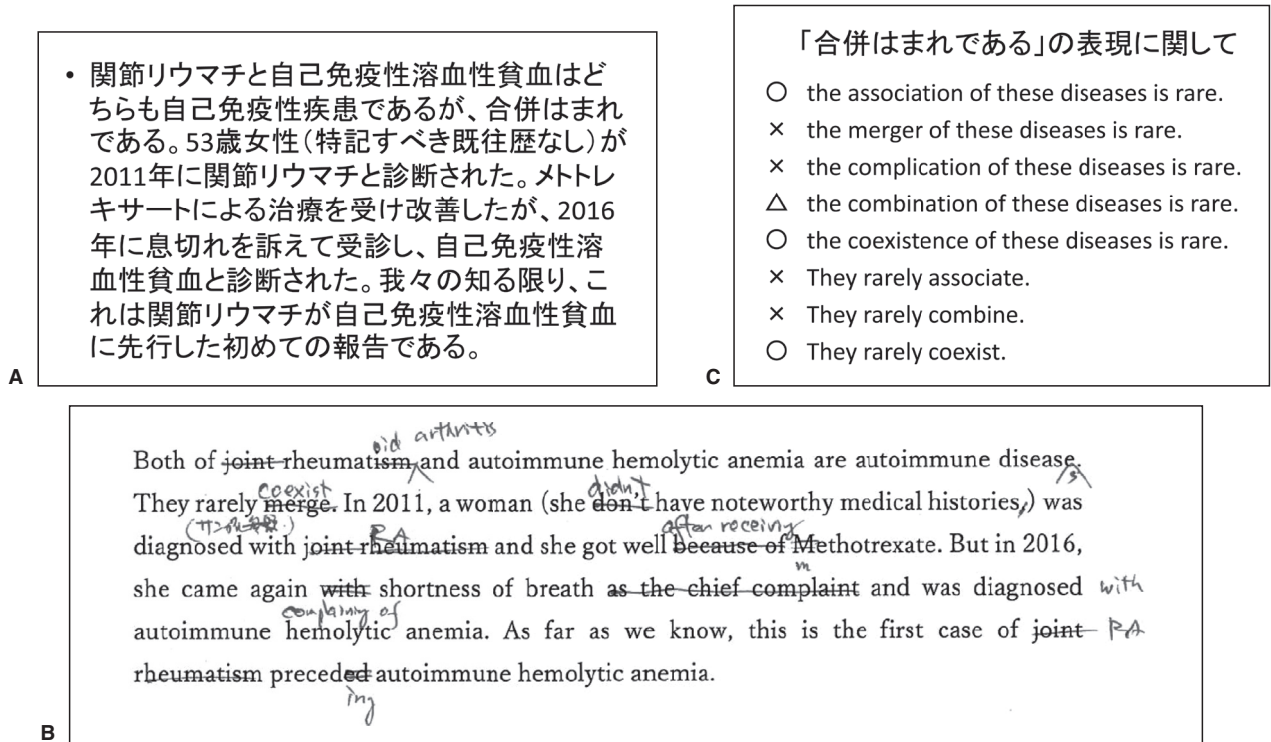


図2. アブストラクト添削(ある年度)から A: 課題例, B: 添削例, C: 全体へのフィードバック例 「合併はまれである」の表現に関して

表3. 試験成績

年度	医学英語V		医学英語VI							
	定期試験 reading	abstract writing	OSCE					定期試験 (vocabulary)		
			日本人評価者評価			外国人 SP 評価		総得点	dictation の正答率	
			総得点	英語力	概略評価	Correct *1	Smooth *2		(spelling)	(和訳)
満点	60	40	15	5	6	6	6	40	(%)	
2018	32.2 ± 7.0	—*3	12.1 ± 1.6	3.2 ± 0.7	4.2 ± 0.7	3.0 ± 0.9	2.9 ± 0.9	28.3 ± 7.7	62.3 ± 14.0	80.8 ± 10.6
2019	41.4 ± 7.6	32.4 ± 2.7	11.0 ± 1.8	3.5 ± 0.7	4.4 ± 0.9	3.4 ± 0.9	3.6 ± 0.9	27.2 ± 8.1	55.9 ± 23.7	66.6 ± 25.1
2020	47.4 ± 4.2	31.7 ± 2.0	13.2 ± 2.6	3.3 ± 0.6	4.5 ± 0.9	3.6 ± 0.8	3.7 ± 0.8	30.0 ± 5.3	72.4 ± 14.1	82.8 ± 11.3
2021	35.5 ± 7.8	36.4 ± 1.8	(未施行)							

*1: Using correct English expressions, *2: Communicating naturally, smoothly, *3: 採点せず

表4. 4領域の成績間のピアソン相関係数

2019年度(対面授業)				
	reading	abstract	OSCE(概略評価)	vocabulary
reading	—			
abstract	0.35 (P = 0.0004)	—		
OSCE(概略評価)	0.41 (P = 0.00003)	0.32 (P = 0.002)	—	
vocabulary	0.59 (P = 3 × 10 ⁻¹⁰)	0.22 (P = 0.028)	0.36 (P = 0.0005)	—
2020年度(遠隔授業)				
	reading	abstract	OSCE(概略評価)	vocabulary
reading	—			
abstract	0.26 (P = 0.008)	—		
OSCE(概略評価)	0.34 (P = 0.0006)	0.09 (P = 0.36)	—	
vocabulary	0.40 (P = 4 × 10 ⁻⁵)	-0.05 (P = 0.58)	0.22 (P = 0.03)	—

る(図2C)。

成績を表3に示す。多くの学生は、内容がそれなりに伝達されるレベルのアブストラクトを書いており、目標は概ね到達されていると考える。ただ、専門用語を知らない

ための誤用(症例の「合併」に“merger”を使用する等)や、細かい文法的ミスが散見された(図2B, C)。アブストラクト担当教員が毎年交代するため成績の比較は難しいが、4年連続で担当した教員の印象では、毎年のレベルに大きな差

はなく、対面・遠隔の違いは感じられなかった。ただ、4領域の成績間の相関係数をみると、遠隔授業時のアブストラクト成績は他の領域の成績と有意の相関を示さなかった(表4)。学生アンケートには肯定的な意見が多く記述されたが(表2B)、教員からはemailによる返却の負担の大きさが指摘された。

2.3 「医学英語V」の英語講読 (reading 教育)

3名(初年度は6名)の教員(基礎医学および臨床医学)が英語論文を1つ選び、1週間前に課題として与え、当日は、適宜、指名して訳させたりしながら、解説を行う。選ばれた論文は、Molecular machinery for non-vesicular trafficking of ceramide (Nature 2003),¹³ Incidence of infective endocarditis in England, 2000–13 (Lancet 2015),¹⁴ Adjuvant pertuzumab and trastuzumab in early HER2-positive breast cancer (N Engl J Med 2017)¹⁵ 等で、期末試験はこの内容が範囲となる。

教員アンケートでは対面授業と遠隔授業の大きな違いは指摘されなかった。試験は、対面授業時は紙による記述式で行われたが、2020年度の遠隔授業時はMoodleを用いて多選択肢形式の試験を実施した。結果は、平均点が有意($P < 0.005$)に高く(表3)、他領域の成績との相関係数もいずれも低下し(表4)、教員からも遠隔試験の限界が指摘された。2021年度は記述式試験に戻し、平均点は2019年度のレベルに戻っている($P < 0.005$)。全体に成績は不良(平均点が2020年度を除き70%未満)であった(表3)。その原因として、「英語力不足」というより、「vocabulary(医学専門用語)不足」および「医学知識不足(一部の論文の分野はこの時期には未履修)」が指摘された。学生アンケートでも、3年次にいきなり本格的な医学論文を読むことに対する戸惑い・困難さが毎年記述されている。「医学英語V」の学生による匿名アンケートの平均満足度(Likert scale 1-5)は、対面授業時の2018年度4.59、2019年度4.80に対して、遠隔授業時の2020年度4.43、2021年度4.24とやや低下した。

2.4 「医学英語V」最終日講義「症例報告の書き方」

最終日の2コマでは、第三著者が「症例報告の書き方」の特別講義を行っている。この講義では、症例報告の着想から執筆までのプロセスを4段階に分けて、各段階でなすべき行動を具体的に示すアプローチで教育がなされる。学生は、さまざまな医学英語の学修が「症例報告」においてどのように活用されるのか、を実感する。さらに「なぜ症例報告を書くべきなのか」といった医学全体における症例報告の意義を認識させるなど、学生の動機づけを高める配

慮も本講義の特徴といえる。具体的には、医学の発展に症例報告が果たしてきた役割を実例をもって示し、同時に「症例報告」は「もっとも小さな」医学論文であり、論文執筆の導入として適している点を強調している。つまり本講義は、執筆経験のない学生にも、1) 症例報告の「型」を学習させ、2) これを執筆(発信)することを動機づけることで、彼らが技術的にも心理的にも「症例報告を書き始められる」状態になることを目指している。

2019年度の対面授業時のみ、講義による症例報告執筆への「動機づけ」に注目した質問を行った。41%の学生が講義により動機づけられたと回答した。

2.5 「医学英語VI」のcommunication 教育

最終日(第5週)に、第二著者の協力のもとに「英語による医療面接OSCE」の試験を実施している。¹⁶ 外国人模擬患者(SP: simulated patient)に対して7分間で医療面接を行い、外国人SPから1分間のフィードバックを受ける。各ブースに1名ずつ配置した日本人教員が評価表(preCC-OSCE評価表をベースに「英語力」を加えたもの)に従って評価し、外国人SPも“Using correct English expressions”と“Communicating naturally, smoothly”の2項目の評価を行う。第1～4週の授業は、主にこの医療面接試験を目標とした演習で、第1週の最初に「医療面接」の解説を行った後に、簡単なクラス分け試験を行って大きく2つのグループ(A, B)に分け、Aでは外国人非常勤講師がmedical interviewsの講義を双方向性に行い、Bでは日本人講師(筆頭著者を含めて3～4名)がロールプレイングをさせて指導した。また、毎週主訴(頭痛、胸痛、腹痛、体重減少)を決め、UpToDateやHarrison内科学書を用いて鑑別診断のポイントを説明している。2020年度は、4週間の演習を遠隔授業で行うために教員数を増員(5～6名)し、Zoomのブレイクアウトルーム機能を活用して5～6名ずつの小グループを形成し、グループ内で2名ずつロールプレイングをさせた。遠隔時の方がむしろ教育効果が大きく(教員アンケート)、「医学英語VI」の学生による匿名アンケートの平均満足度(Likert scale 1-5)も、2018年度4.37、2019年度4.20と比べて2020年度(遠隔)は4.60と上昇した。

最終日の医療面接試験は、外国人SPや事務の協力もあり運営は毎年スムーズに行われた(2020年度の試験は、各ブースに入室するまでは対面式で、パソコン画面上での医療面接を遠隔式で行った)。4週間という短いトレーニング期間にもかかわらず、総得点は高く(表3)、「医療面接で必要な情報を聞き出せる」目標はほぼ到達されていると考える。OSCE成績(概略評価)と他領域成績の相関係数も予想以上に高かった(表4)。ただ、英語力の平均得点は、日本

人評価者・外国人 SP いずれも不十分で、英語力一般の向上は4週間では難しいことがあらためて示された。学生による匿名アンケートでは「難しかった」という声が毎年30%を超えながらも「外国人 SP の話は聞き取れたか」「自分の英語は理解してもらえたか」に対して毎年50～60%が「(強く) そう思う」と回答した(図3)。自由記載では「準備し

た程できず悔しかった」といった今後につながる感想が多かった半面、「日本語の医療面接を積んだ後に行いたかった」という声も複数聞かれた(表2C)。教員アンケートでは、外国人 SP による難易度の差が指摘されたほか、「日本語の preCC-OSCE 後が望ましいのでは」という意見もみられた。

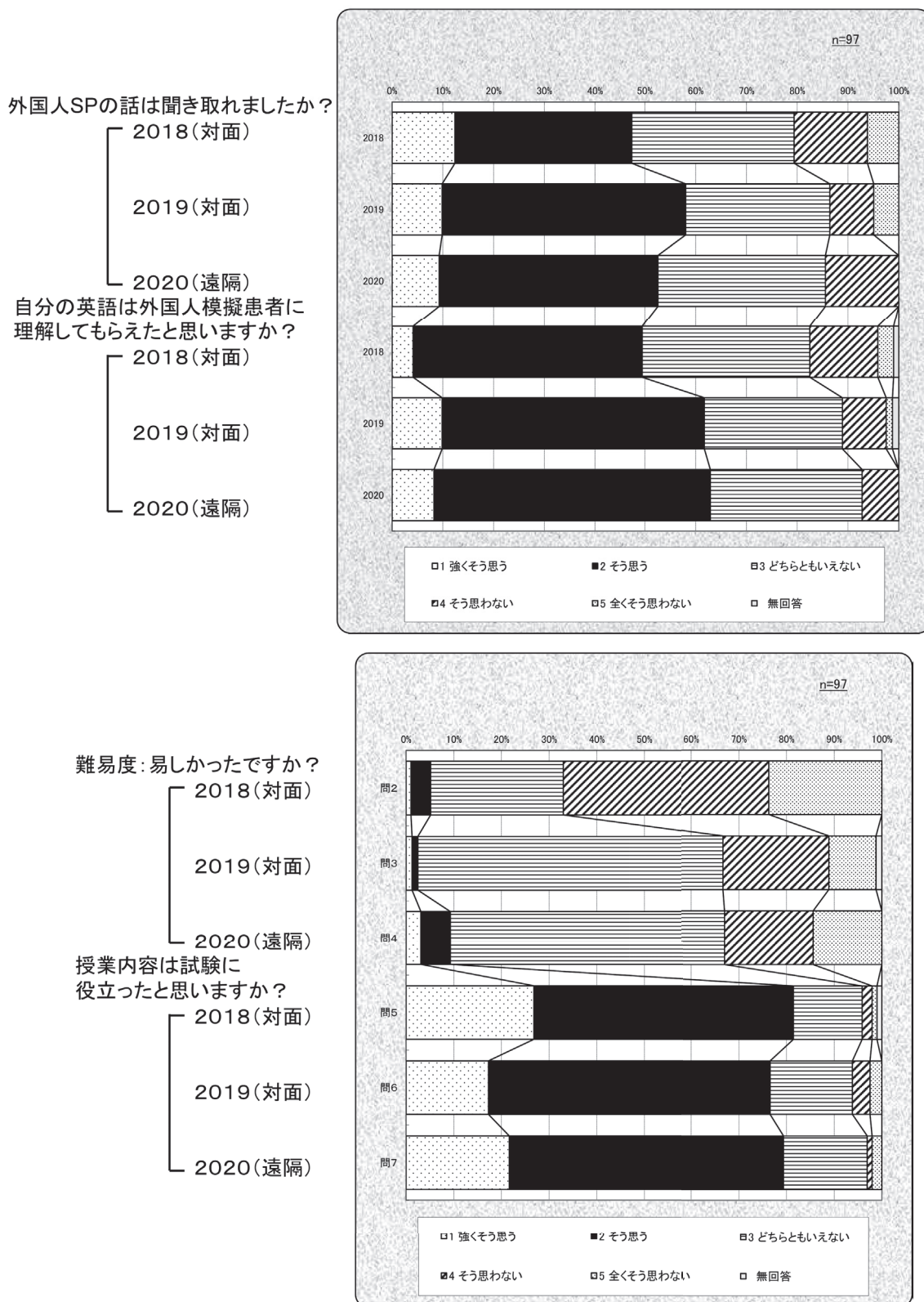


図3. 英語医療面接 OSCE 匿名アンケート結果 (2018-2020 年度)

表 5A. プレテスト正答率 (ある年度)

意味を書きなさい。		英語を書きなさい。	
	正答率 (%)		正答率 (%)
eosinophil	2.2	網膜	13.2
pituitary gland	2.2	下痢	10.0
jaundice	0.0	肺塞栓	1.1
cirrhosis	0.0	心室細動	0.0
anesthetics	11.0	泌尿器科学	15.4

表 5B. vocabulary 試験正答率 (ある年度)

上位		下位	
単語	正答率 (%)	単語	正答率 (%)
ネフローゼ症候群	98	大動脈狭窄症	49
chromosome	98	肉腫(非上皮性悪性腫瘍)	46
白血病	97	schizophrenia	44
hypoglycemia	96	狭心症	35
診断	95	食道静脈瘤	33
iatrogenic	94	脱水	21
biopsy	94	placenta	13
cardiac	94	血小板	10
pneumothorax	93	coma	8

普通字：事前に示した 90%，太字：それ以外の 10%

2.6 「医学英語Ⅵ」の vocabulary 教育

2018・2019 年度、「医学英語Ⅴ」の初日冒頭に抜き打ちで vocabulary 試験 (英語→日本語 5 問, 日本語→英語 5 問) を実施したところ, 成績は極めて不良であった (表 5A)。そこで、「医学英語Ⅵ」で, Chabner 著 “The Language of Medicine”¹⁷ を用いて, ラテン語由来の専門用語の語の成り立ち (語根, 接頭辞, 接尾辞) を説明した上で, 1 語ずつ (頭文字のみ示して) 音声聞かせ書き取らせている。4 週で約 100 語を示し, 定期試験では, これらから 90% を出題 (残りの 10% はこれら以外から出題) し, 音声聞かせる dictation も 20% 含めている。

定期試験の結果は, 授業で音声聞かせた単語 (出題の 90%) の成績は dictation も含めて良好であったが (表 3, 5B), それ以外の単語 (出題の 10%) は極めて不良であり, 覚えるべき単語を明示しないと学生は覚えなことが明らかとなった。なお, 5 年次の preliminary な調査によると, 上記定期試験で正答率の高かった単語でも長期定着率は低い印象であった。

3. 考 察

緒言で述べたように, 本学では, 卒業生の多くが症例報告を書けるようになることを目標に, writing 教育に力点を置いている。「医学英語Ⅴ」のアブストラクト添削に加えて, 初日の講義でパラグラフ・ライティングの解説と Google 検索の紹介を行い, 最終日にはこれまで数多くの症例報告を

発表してきた第三著者が「症例報告の書き方」の特別講義を実施している。また, 筆頭著者の担当する「血液・リウマチ科」の臨床実習 (4 年次後期から) では実際の症例報告に準じたレポート作成を全員に課し, 希望者には学会発表・論文作成を指導している。そのうちの一人は, 4 年次に日本血液学会東北地方会で症例を発表して「最優秀演題賞」を受賞し (全 16 演題中, 学生はただ一人), その内容を英語で論文化している。¹⁸ 5～10 年後のアウトカム評価 (卒業生の症例報告数等) が待たれる。

Writing 教育における教師の添削の効果に関しては, 主に中等教育において多くの研究がなされ, 否定的な意見もある。たとえば, 学芸大学のプロジェクトでは, 回収された英作文に対して①スタンプ, ②下線, ③添削, の 3 種類のフィードバックを施して回収し, 10 週にわたって提出された作文の質と量に差がなかったことを根拠に, 「教師の添削はそれに費やしている時間に見合うだけの効果がない」と報告している。¹⁹⁻²¹ しかし, これらの中等教育における質の評価は文法の誤り等が中心で, 医学部の添削の質の評価 (専門用語の適正使用等が中心) とは異なる。また, いずれの方法にしる, フィードバックの効果は認めている。最近の meta-analysis では添削の効用が認められており,²² 本学の「医学英語Ⅴ」では今後もこの方法を継続する予定である。ただ, indirect 添削 (下線のみ等) で direct 添削 (適切な語に訂正) に匹敵する効果が得られることは指摘されており,^{23,24} 今後, 教員の負担軽減も含めてさらなる検討を重ねる予定である。

「医学英語Ⅴ」のアブストラクト作成は、将来の論文作成時と同様の環境を設定し、インターネットや電子辞書などあらゆるツールを許可して実施している。これらのツールの中で、授業では Google 検索を、能動的検索法（自分で書いたフレーズが適切かどうかを自分で判断する方法）の一つとして推奨している。¹² 本学会のガイドラインの writing 領域の Minimum requirement に「推敲 (self-editing) ができる」という目標があるが、⁴ Google 検索（特に、フレーズ検索）は、それを容易に可能ならしめた。また Google 検索は、collocation の検索法を一変させた。以前は、研究社の「英和活用大辞典²⁵（古典的名著である 1939 年刊行の勝俣銓吉郎著「新英和活用大辞典」²⁶をベースに 1995 年に編纂されたもの）」のような個人が膨大な時間と労力をかけて作成したデータを活用するしかなかったものを、インターネット上の使用頻度で判断可能としたものであり、まさにパラダイムシフトであろう。なお、授業における「Google 翻訳」は初年度の反省会の議論の末に禁止を決めたが、これも推奨する考え方があり、²⁷ さまざまなツール・アプリが開発された現代に、writing 教育をどのように行うべきかは、今後、本学会等で十分議論すべき重要なテーマであろう。

英語による医療面接 OSCE は、将来的なニーズに基づいた実践教育であり、¹⁶ 長期アウトカム評価（卒業生の外国人患者診療の実態調査）が待たれるところである。第二著者が 2015～16 年に全国 80 大学に行ったアンケート（回答 60 大学：回答率 75%）によると、22 大学（37%）で外国人 SP が参加する教育を行っている。²⁸ 4 年次が最も多いが、3 年次までに行っている大学が（選択参加も含めて）13 あり、臨床教育が完了していても医療面接コミュニケーション教育が可能であること、外国人 SP と接することによって文化的感性が涵養され得ること等が示されている。²⁸ 本学の英語医療面接を共用試験評価実施機構（CATO）による preCC-OSCE の前に行う理由は、第一にカリキュラム上の制約があるが、第二に上記のような国内の他大学の実践例に基づいている。^{28,29} 第三に形成的評価（外国人 SP からのフィードバック）も可能なこと、そして、第四に、high-stakes test である preCC-OSCE ほど会場の緊張感が高くなると、学生が伸び伸びとチャレンジできる場を提供し得ること（アンケートには「楽しかった」という感想や「達成感」を思わせる記述が多い）が挙げられる。自己研鑽に結びつく「達成感」が教育において最も重要な要素の一つであることは言うまでもない。

本学の vocabulary 教育の strategy は、少し反省をせまられている。当初、各専門科目の授業で重要な専門英単語を日本語と同時に覚えていくのが最も効率的と考えられたため、「医学英語Ⅴ・Ⅵ」には大きなスペースが設け

られなかった。しかし、「医学英語Ⅴ」の初日の抜き打ち vocabulary 試験等から、1,2 年次の専門英単語の習得率が極めて低い事実が判明した。その理由として、1,2 年次の「医学英語Ⅰ-Ⅳ」との連携が不十分であったこと、創設時ということもあり各科目授業で専門英語を同時に教育する余裕がなかったこと、そして医学英語教育に関する大学の方針が明確でなかったこと等が挙げられた。「医学英語Ⅵ」で dictation を取り入れた教育を行い、それらの試験成績は悪くなかったが、対象とした単語数（100 語）はもちろん不十分である。Vocabulary 不足は、reading 力不足にも直結している（reading 成績と vocabulary 成績の相関が最も高かった）。これらの事情をふまえ、ワーキンググループが編成され、必修英単語集が編纂され、低学年からの段階的な対策が講じられている。なお、本学の vocabulary 教育で dictation を組み入れて発音の重要性を強調している理由として、一般に日本人医師の発音が弱い現状に加えて、英語の文字発音関係の特殊性——すなわち、世界の主要言語（英語、フランス語、ドイツ語、スペイン語、ロシア語、アラビア語、中国語、韓国語等）の中で、文字と発音が一致しないのは英語だけであり、他の言語は文字によって発音が決まり発音記号を必ずしも必要としない（中国語も特殊だがピンインが存在）——が挙げられる。

語学の習得・向上には、長期の継続的な学習が欠かせず、5 週間の短期集中型授業で果たせる役割は限られる。学生による匿名アンケートでも「語学の特性上、集中講義はあまり意味がない」といった意見がみられた。その観点からすると、「医学英語Ⅴ」（特に、初日の「英語を学ぶコツ」と最終日の「症例報告の書き方」）では、その後の学習のきっかけを与えることに重点をおいている。一方、「医学英語Ⅵ」は、英語力というより「英語による医療面接」のスキルを身につけさせる授業のため、5 週間という短期間でも目標達成が可能となっている。しかし、医療面接試験の「英語力」の平均スコアが高くなかったことが示すように、一般の speaking 力の向上には長期にわたる学習が必要となる。NHK 英語講座等の継続的学習を強く勧める所以である。

新型コロナウイルス・パンデミックに伴い、世界中の大学医学部が遠隔での授業・試験を強いられ、その長所・短所が数多く報告されている。^{8,30} 一般に、一方向性の講義は、オンライン授業でも同等の効果が得られた報告が多く、^{31,32} 今回も、講義による情報伝達においては大きな差を認めなかった（reading 領域、vocabulary 領域等）。また、小グループによる指導などでむしろ遠隔授業が効果を発揮した面もあった（communication 領域）。一方、評価に関しては、自宅でのオンライン試験は技術的に問題ないと報告されながらも、cheating を完全に防ぐことは困難と記述されており、³³

受験生の約40%が互いに連絡を取り合っていたという報告もある。³⁴ 今回も、4領域の成績間の相関が、対面授業時より遠隔授業時で低く、特にアブストラクト成績は他の領域と全く相関せず、(他の因子が関与した可能性も否定できない)が遠隔試験の妥当性が不十分だった可能性はある。

近年の日本の大学医学部教育は、欧米の影響を受けて強く実践教育に傾きつつある。しかし、高校までの「一般教育(「思考力・判断力・表現力」の養成等)」が不十分である日本の現状(それゆえに政府は大学入試の抜本的改革を模索)において、大学における「一般教育」の役割は依然として重要と考える。たとえば、英語のパラグラフ・ライティングは高校から指導されているが、それが大学生に浸透しているとは言い難い。^{35,36} このような「ロジックとレトリック」を含む言葉の技能はすべての言語活動(毎日のemailの文章も含めて)の基本であり、「医学英語」の授業はその教育の格好な場であると考えられる。また、Editors' Choiceで医学・生物学のみならず幅広い分野の記事を毎週配信している目的の一つも、「専門知」にとどまらず「総合知」を身につけてほしいという「一般教育」の一環である。今後、日本の大学医学部の教育のあり方を議論するにあたって、このような「一般教育」の視点が失われないことを望む。

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Making a virtue of necessity: Adapting to an online learning environment

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Abstract

The situation caused by the novel coronavirus pandemic forced universities in Japan to switch to online instruction in 2020. The English department at The Jikei University School of Medicine was already in the middle of making major changes to its 2nd-year program when word came from the University that English classes must be held online using a combination of the Moodle learning management system and the Zoom web conferencing platform. Thus, the demands of creating a new 2nd-year program were increased by the further requirement of putting the classes online. This created a heavy burden at the beginning of the school year, but also opened up some unexpected opportunities. A review of the planned changes to the English program showed that some aspects of the new curriculum were readily adaptable to online instruction while others were not. The new medical reading class was determined, in some ways, to be easier to teach online, while a planned interactive discussion class was considered difficult to adapt and dropped in favor of a listening/speaking class. New, original materials had to be made in the form of a weekly podcast for the listening/speaking class, but the positive student reaction to the podcasts compensated for the extra effort. Unsurprisingly, online instruction using the Moodle on-demand system turned out to have several advantages over classroom instruction in that it gave students the freedom to choose when to study and made it possible for them to review lessons many times.

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Keywords e-learning, online instruction, Moodle, Zoom, medical English, medical terminology

1. Introduction

The novel coronavirus forced universities across Japan to adapt to online learning, as students were forbidden from entering campus grounds in the spring of 2020. The situation at the Jikei University School of Medicine was no different, and all departments were told to conduct their instruction online using the university's e-learning system. The decision to switch to online teaching caused a certain amount of disruption for the English department, as it had earlier been decided to make extensive changes to the 2nd-year English curriculum in 2020, with changes to the 3rd- and 4th-year curricula planned for 2021. The university's decision to change to online learning came in March,

shortly before the start of the school year, so the English department was not well prepared to convert its classes to online instruction. The difficulty of moving to an e-learning format was further aggravated by the lack of Internet skills on the part of the teacher responsible for putting the classes online. However, certain aspects of the plan for the new 2nd-year program turned out to be easily adaptable to online instruction, and, in some ways, the e-learning environment provided some benefits over traditional classroom teaching. Those parts of the planned new curriculum that would not adapt well to online instruction were discarded and replaced with new teaching materials and a different focus that were more suited for e-learning.

2. The 2nd-year English program plan for 2020

2.1 The 2019 2nd-year English program

The Jikei University hired a new English professor in 2019 who would take over as head of the English department in 2020. This allowed him one school year to observe the program and decide what changes should be made. At first, it seemed that the program was already well developed, with a good mix of general and medical English,

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and that no changes would be necessary.

The 2nd-year program consisted of two 90-minute periods a week for 20 weeks: 11 weeks in the spring and nine in the fall. The spring semester classes were based around the IELTS English language test, with a reading/writing class taught by Japanese teachers and a speaking class taught by native English-speaking teachers. Students also studied a medical vocabulary module on their own to be tested on later. In the fall semester, students could choose from a variety of “required elective” English classes, which included many medicine-related topics, according to their interests.

This program was certainly more advanced than courses offered at many other medical universities. A casual and thoroughly unscientific survey of 2nd-year students, however, showed strong dissatisfaction with the 2nd-year English program. The main reason given by students was they did not see the purpose of the English classes, and the ability to choose what English class they took in the fall gave students the impression that there were no essential English classes. These student remarks were reinforced by the results of the 2019 university survey of student assessment of their courses. The English program received a score of 3.0 on a five-point Likert scale ranging from Very Good (5 points) to Very Bad (1 point), with no students giving the English program 5 points.

2.2 Pre-coronavirus plan for 2nd-year English in 2020

Based on student comments both on the university survey and in personal conversation, it was decided to change the emphasis of the 2nd-year classes to medical English and to try to make the English classes connect more to the students’ other classes. The reading and writing classes were to change to reading classes on medical topics, with a heavy focus on medical vocabulary in context. The texts for these classes were to be original, in-house materials written to incorporate medical terms but still be easy to understand. Production of the new texts began in 2019, with the topic for each text revolving around a category of medical terms. For example, one text was on endoscopic examination and introduced medical terms and word parts such as “-scope” and “-scopy.” Another text was on surgery and introduced word parts and terms for cutting and operations. These texts also included simple role plays in which students have to explain medical procedures to each other based on the idea that the most effective way to learn something is to explain it clearly to someone else.

The speaking class was planned to be changed to an interactive discussion class. In the old speaking class, students had to answer questions from the IELTS speaking test. The new class would keep a similar format, but the emphasis was to shift from answering questions to making them. Students were to present short, 50-word, statements on various topics, after which their classmates would ask

them questions to draw out more information. This format had been used very successfully in other university classes, but it required a lot of interaction.

3. Conversion to online teaching

3.1 Help from the university

The university’s announcement that all classes would be taught online in the spring of 2020 came in March, not giving departments much time to prepare. Fortunately, the university anticipated that some departments would experience difficulties transitioning to online instruction, so they held workshops to show professors how to prepare and format their classes for online instruction.

The university recommended using a combination of Moodle for on-demand classes and Zoom for live online classes, with the total time students spent on both equaling the amount of time they would have spent in the classroom. The university already had a well-developed Moodle online learning site, and quickly set up sites for all departments that requested them. In addition, the people in charge of the Moodle system were extremely competent and quickly helped to resolve any problems that cropped up.

3.2 Converting English lessons to a workable online format

It became apparent early on that it was not feasible to recreate the classroom experience with online teaching. The new lessons that had been planned for 2020 were reviewed to see how well they could be taught on Zoom or Moodle. Any lessons or activities that would be difficult to teach online were eliminated, and lessons that would work were examined to see how they could be optimized for online teaching.

3.3 Reading classes adapted well to Moodle

The medical reading classes turned out to be easily adaptable for online teaching using the Moodle e-learning system. The earlier decision to use original, in-house texts for the reading classes turned out to be very fortunate, since the university insisted that copyrighted materials could not be posted on the university’s e-learning system without express permission from the copyright holder. In addition, many of the activities that had been planned to accompany the reading texts worked well on Moodle. The general and medical vocabulary activities that were a key part of the lessons worked extremely well, since they were automatically graded on Moodle. In the beginning, most vocabulary activities put on Moodle used a multiple-choice or matching question style. However, after some experimenting with different question styles and getting feedback from students, the vocabulary activities were changed to a drag-and-drop format, since this seemed to be the easiest format for students to handle using their

smartphones to study the lessons. The multiple choice or matching questions sometimes resulted in a long pulldown menu that was difficult to use. As an added benefit, it was found to be easier and faster to make drag and drop questions than multiple choice.

The written activities that had been planned for the new classes were reduced from three or four comprehension questions to one summarizing question per lesson. Students were still divided into class groups in the same way as if lessons had been held on campus, and three part-time teachers were assigned to be in charge of several class groups each. These teachers would log onto Moodle each week and correct/grade the written assignments for their groups using an online grading guide. Their grading was checked periodically for consistency, and the teachers could also ask for guidance if they were unsure about a student's answer. The grading task took at least as much time as would have been spent on classroom teaching, so no Zoom classes were assigned to those teachers.

Because the Moodle lessons could be done whenever the students liked, a schedule was chosen in which each Moodle lesson was opened up on the assigned day for that particular class and would remain open for one week, closing at midnight of the last day. Students who could not finish by the deadline could send a message on Moodle requesting an extension, which was generally granted for three extra days. The midnight deadline was later moved forward to 8:00 pm of the last day, which for some unknown reason drastically reduced the number of students asking for extensions.

3.4 Discussion classes drastically modified for Zoom and Moodle

The planned discussion classes were changed to listening/speaking classes to make them easier to teach online. Some early testing indicated that highly interactive classes were difficult to teach on Zoom and took twice as long. In retrospect, though, it is possible that some of the difficulties encountered with interactive lessons stemmed from our inexperience with the format. The discussion class was renamed English Communication and taught half on Moodle and half on Zoom. Like the medical reading classes, the communication classes centered on original in-house materials. Unlike the reading classes, however, the materials were not texts but a weekly podcast on a "medical-ish" topic. The topics were chosen to be not only medically related but also fun and interesting, so as a series, they were jokingly named "Alan's Incredibly Interesting Podcast." Topics included the history of placebos, the bubonic plague, how antibodies function, and one called "samurai macrophages," which was a student favorite. Some students indicated that they actually looked forward to the podcasts each week, which was a surprise.

Since the podcast-based class had not been anticipated, the podcasts were not ready beforehand and had to be

produced each week before the class day. Making these podcasts took much more time than anticipated, as the original plan of "just talking into the microphone" did not work well, especially when it came to making vocabulary activities. Each podcast had to be scripted and planned. At the beginning, it took two days to make one podcast, but later familiarity enabled this to be cut to one day.

In addition to listening to the podcast and doing some vocabulary activities on Moodle, students had to participate in a Zoom session every week with their teachers for the listening/speaking class. These Zoom classes were fairly free form, with the instructions to the teachers being to get the students to speak about whatever they wanted as long as it was in English. In a final homework in July, many students said that these Zoom sessions were their favorite part of the English classes, because they enjoyed interacting with their teachers in a low-pressure environment.

4. Fall semester classes

The fall semester classes that replaced the former English "required electives" followed a similar pattern to the spring classes but with some key differences. The fall medical reading classes used the same format as the spring medical reading classes, but the topics were on human anatomy and were chosen by the head professor of the anatomy department. These Anatomy English classes were scheduled to follow what the students were learning in regular anatomy classes in keeping with a university directive that departments should practice "horizontal integration" (水平統合).

The other spring semester class was a presentation class taught half on Moodle and half on Zoom. This was a flipped class in that students had to read the text and watch a class lecture on Moodle before the assigned class day. In the Zoom class, students would do activities with their teachers based on information from the taped lecture.

5. Weekly feedback

The last section of each weekly Moodle class was a feedback activity in which students could anonymously evaluate the lesson and make comments about how it could be improved. Most of the questions were multiple choice, so they only took a minute or two. Based on the written feedback, several changes were made that helped improve the students' experience in the online lessons. The overall reaction of the students on the weekly feedback was gratifyingly positive, with the caveat that students who liked the classes were more likely to leave feedback than students who did not like them.

6. Lessons learned about making online classes

It took several months to work out an efficient method for making the online classes. The most valuable and time-saving part of the procedure was to make the entire lesson as a print version first, as if it would be used in a live classroom. This helped to avoid the mistakes that can come from making the lesson directly on Moodle and also allowed the entire lesson to be planned out better beforehand. This print version of the lesson was posted every week on the Moodle site as an optional download under the header, "This is the lesson you would have gotten if we had a normal class on campus" and contained the activities that had been cut from the Moodle lessons. About half of the students downloaded the lesson each week.

One downside of doing a reading class as an on-demand lesson on Moodle is that students cannot listen to the teacher speak or to their classmates read the text out loud. At the request of students in the weekly feedback, optional audio files of me reading the text were posted on the Moodle site each week starting from week 3, and, like the printable versions of the texts, about half of the students accessed them. This year, the audio files are being rerecorded to video files, which students say they prefer over the audio-only versions.

7. Advantages of online instruction

The experience of the past year and a half has revealed some notable and logical advantages to teaching the English program online. The most obvious advantages are that students can study at their own pace and can also go back and review lessons. Checking the activity logs on Moodle showed that some students did indeed look at lessons again even after getting a good grade. Another advantage is that problems with lessons that are pointed out by students in the feedback can be corrected easily while the lesson

is still ongoing. The final advantage is a personal one. In a normal classroom situation, I can only teach 14 students per semester and 28 in a year, but with the e-learning system I can "teach" every student, even if I cannot get to know them personally.

8. Survey results

As mentioned at the beginning of this article, the 2nd-year English program in 2019 did not receive a favorable assessment from students on the official university survey. The 2020 results showed an improvement in student satisfaction from 3.0 out of 5.0 on a Likert scale to 3.5. While an improvement, this was not as good a result as had been hoped. Some student comments indicated that they wanted more talking time with their teachers.

9. Conclusion

The experience of moving the English program from on campus to online turned out better than expected. The obvious advantages of online learning are that students can study the material at their own pace and when they want, and review the material as much as they need to. Making the online lessons, while daunting at first, turned out to be enjoyable, as it allowed for some lessons and activities that could not have been done as well in the classroom. In the end, though, it still seems that English classes would be better taught live and in person. The increased interaction, wider range of possible activities, and ability to look at what the students are working on and give real-time feedback outweigh the advantages of online teaching. Some student comments in the university survey indicated that they were not completely satisfied with online classes. In the future, it seems that a combination of online instruction for delivering materials and in-class instruction for communication activities might provide a better learning experience for students.

投稿申請書

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下記の論文を日本医学英語教育学会誌 *Journal of Medical English Education* に投稿します。なお、他誌への類似論文の投稿はいたしません。また、採用された場合、本論文の著作権が日本医学英語教育学会に帰属することに同意いたします。

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日本医学英語教育学会
Japan Society for Medical English Education
入会のご案内 | Registration Guidance

1. ご入会はホームページからお申し込みください。

<https://jasmee.jp/join/>

2. ゆうちょ銀行（振替口座）に年会費をお振り込みください。

[2020年度（2020年7月～2021年6月）年会費]

個人会員 10,000円

学生会員 1,000円

賛助会員 35,000円

[年会費振込先]

郵便振替口座 00120-7-417619

（加入者名：日本医学英語教育学会）

ゆうちょ銀行 〇一九店 当座 0417619

（口座名義：日本医学英語教育学会）

※ 入会申込書の受領ならびに年会費振込の確認をもって、入会手続きの完了とします。

※ 学生会員の年会費には会誌（年3回発行）の購読料が含まれませんのでご注意ください。学生会員で会誌購入をご希望の場合は個別にお申し込みいただくこととなります（1部2,000円）。

3. ご不明な点がございましたら、下記の事務局までお問い合わせください。

[問い合わせ先]

〒113-0033

文京区本郷 3-3-11 編集室なるにあ内

日本医学英語教育学会 事務局

TEL: 03-3818-6450 FAX: 03-3818-0554

E-mail: jasmee@narunia.co.jp

URL: <https://jasmee.jp/>

1. Prospective members can fill the forms and submit them online at:

<https://jasmee.jp/join/>

2. Please transfer the Membership fee through the Japan Post Bank (post office).

Annual fees are ¥10,000 for individual membership, ¥1,000 for student membership and ¥35,000 for supporting membership.

Japan Post Bank

Account No. 00120-7-417619

Account Name “日本医学英語教育学会”

Nihon-igaku-eigo-kyoiku-gakkai

Please note that individual membership fee includes three issues of the Journal, but that student membership fee does not include the journal which is available at an extra payment of ¥2,000 per issue.

3. Inquiries and postal applications, including application forms should be addressed to:

The JASMEE Secretariat

c/o NARUNIA Inc.

3-3-11 Hongo, Bunkyo-ku, Tokyo

113-0033, Japan

TEL: +81-3-3818-6450 FAX: +81-3-3818-0554

E-mail: jasmee@narunia.co.jp

URL: <https://jasmee.jp/>