

Developing an English for Medical Purposes Massive Open Online Course for Japanese Medical Students

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ABSTRACT

Massive Open Online Courses (MOOCs) have the potential to enhance students' content knowledge and language skills. This paper looks at the design of an innovative research project that aims to support Japanese medical students through the construction of an English for Medical Purposes (EMP) MOOC.

KEYWORDS: English for Medical Purposes, Japan, Massive Open Online Courses

1 INTRODUCTION

This paper provides an outline of a pioneering research project which seeks to determine the English for Medical Purposes (EMP) needs of Japanese medical students, and construct an EMP Massive Open Online Course (MOOC) to strengthen the development of their EMP skills. Initially, the paper presents a brief overview of MOOCs, the importance of EMP in Japan, and the researchers' backgrounds, before laying out the objectives of the research project and its methods.

2 BACKGROUND

The issue of how to support the development of Japanese medical students' English skills has gained much attention. Increasingly, Japanese medical students are expected to gain a high level of English proficiency to prepare them for when they enter the medical field with the implied assumption being that "it will feature in their future profession through interactions with non-Japanese patients and/or engagement with medical research" (Mathis et al., 2022, p. 1). When used effectively, technology can be a useful tool for both teachers and learners

(Cripps, 2019; Cripps & O’Connell, 2016). The increasing demands on students and university lecturers by the Covid-19 pandemic has demonstrated the need to rethink the use of technology to support medical students.

2.1 MOOCs and EMP

A Massive Online Open Course (MOOC) is an online course that aims to provide unlimited participation and access through the Internet. Although still relatively unknown in Japan, MOOCs have become one of the most significant developments in education in the past decade (Association of American Medical Colleges, 2023; Group on Information Resources, 2014). Creating a MOOC which focuses on English for Medical Purposes has the potential to radically change EMP support for both medical students and in-service medical practitioners in Japan.

Although almost half of the universities in Japan provide some form of ‘Evidence-Based Medicine’ (EBM) education, Hirata et al., 2020 advocate that a “more effective means of teaching needs to be developed so that students will increase their confidence” (p. 14). The teaching of medical English should be adapted to meet the specific academic and professional needs of our students (Pavel, 2014, 2020). Oshimi, Jego, and Thomas (2016) argue that there is “a growing need for Japanese medical undergraduates to develop their clinical communicative competencies in English” (p. 7). The importance of promoting the learning of evidence-based medicine in Japan is indisputable (Kataoka et al., 2023). Many medical students and in-service doctors in Japan feel inadequately prepared to communicate in English (Cripps & Yamamoto, 2023). A dedicated EMP MOOC is an effective way address this problem. To our knowledge, no MOOCs in Japan have been designed to address the specific EMP needs of medical students and newly qualified doctors.

2.2 The research team

The research team members have a great deal of experience in the fields of education and medicine. They have published academic papers on a wide range of topics and have presented their research findings at numerous domestic and international conferences. The researchers are currently developing EMP material to support medical students’ vocabulary acquisition (Cripps & Yamamoto, 2023). The collaborative knowledge of the researchers is ideally suited to conduct this research project.

The Principal Investigator (PI), Dr. Cripps, has been teaching and researching in Japan since 1990 and has taught at all levels of the Japanese education system, including teaching EMP courses at Japanese universities. He has written Japanese Ministry of Education, Sports, Science and Technology (MEXT) approved textbooks for high school students (*Mainstream* and *Newstream*) as well as authoring textbooks on English for Academic Purposes (EAP), English for Specific Purposes (ESP), and the Test of English for International Communication (TOEIC). He has been the PI on Japan Society for the Promotion of Science (JSPS) Kaken research projects which focused on creating online resources (20520538 & 23520722), establishing a framework for MOOCs (15K12922), and providing pedagogical support for English teachers in Japan (15H03481).

The Co-Investigator (Co-I), Dr. Yamamoto, has been practicing medicine and working as a researcher for over 25 years. In her position at Nagoya University, she teaches

medical classes in English to undergraduate and post-graduate medical students. Dr. Yamamoto is closely involved in both the ‘Young Leaders Program’ and the ‘Women Leaders Program to Promote Well-being in Asia’ at Nagoya University. Her clinical research focuses on maternal and child health care. She is currently a Co-I on a JSPS Kaken research project which is investigating rare tumors in pregnant women (15H02660). Dr. Yamamoto’s expertise on contemporary medical practice is a considerable asset to this research project.

The majority of Dr. Cripps’ research has centered on providing support for students and teachers in Japan. A previous JSPS Kaken research project (15K12922) established a framework for MOOCs at Japanese universities. Dr. Yamamoto has had a distinguished career practicing medicine and working as a researcher. At Nagoya University she has been actively working towards the improvement of undergraduate and post-graduate medical students’ EMP ability.

The PI and Co-I have worked on numerous projects together since 2010. Specifically, they have been working to improve the English proficiency of Japanese medical students. Through their work on developing students’ vocabulary acquisition, academic writing, and presentation skills, it has become clear to the researchers that medical students in Japan need more EMP support. Their research has demonstrated that there is a strong argument for establishing online self-study courses for medical students and novice medical practitioners (Cripps & Yamamoto, 2023).

3 OBJECTIVES AND METHODS

The initial stage of this project entails conducting in-depth research into the current state of EMP courses offered at universities in Japan and, after performing a detailed needs analysis, the research team will create a dedicated EMP MOOC designed to support medical students and practicing doctors. Research on Japanese medical students has demonstrated that technology can help students improve their receptive and productive knowledge. This research project aims to: (1) investigate the English for Medical Purposes (EMP) needs of Japanese medical students; and (2) create an EMP Massive Open Online Course (MOOC) to support the development of Japanese medical students’ EMP skills. The three distinct stages to the research project are outlined below.

3.1 Stage 1: Researching the current state of EMP delivery at Japanese universities

In stage 1 (ongoing), the researchers are conducting an in-depth investigation into the current state of EMP delivery at Japanese universities. This involves a detailed examination of EMP curricula and courses at Japanese universities. The researchers are also analyzing existing online EMP support material which has been designed for medical students. Interviews with EMP educators in Japan and overseas, medical practitioners, and members of the Japan Society for Medical English Education (JASMEE) are being conducted regarding Japanese medical students’ EMP needs and possible content for the EMP MOOC. In August 2022, as part of this investigation, the research team interviewed teaching and medical professors at Bond University in Australia regarding EMP delivery. These discussions have helped shape the future direction of the EMP MOOC.

3.2 Stage 2: Creating a pilot EMP MOOC

In stage 2, the researchers will design and create a pilot EMP MOOC. With the help of online education experts at Bond University in Australia, and members of JASMEE, the researchers will create unique and innovative material for the EMP MOOC. Such material will be related to ten separate units based on specific EMP themes such as; ‘*Taking a clinical history*’; ‘*Examining a patient*’; ‘*Making a diagnosis*’; and ‘*Treatment*’. Each unit will be equivalent to five to ten hours of self-study (Table 1). The material will include videos of content-lectures, sample medical scenario videos, interviews with in-service doctors, vocabulary lists, practice tests, and quizzes.

Table 1: Example of proposed EMP MOOC units

Unit	Theme
1	Taking a clinical history I
2	Taking a clinical history II
3	Examining a patient
4	Special examinations
5	Investigations
6	Making a diagnosis
7	Treatment
8	Mistakes made by doctors when speaking in English
9	Reading and writing medical articles
10	Making a presentation in English

3.3 Stage 3: Monitoring the efficacy of the EMP MOOC

In stage 3, a cohort of third- and fourth-year Japanese medical university students studying in Nagoya will be asked to use the EMP MOOC and give feedback on the design of the units and the online material. Practicing physicians will also be asked to provide their feedback on the material. The research team will collect data on the efficacy of the pilot EMP MOOC through the medical students’ comments on each unit using an online questionnaire, focus group interviews, and one-to-one interviews. Data will be analyzed using quantitative and qualitative methods and used to refine the EMP MOOC with a view to making it available for medical students, medical practitioners, and universities within Japan at a future date. Table 2 lays out the researchers’ respective roles.

Table 2: Researchers’ roles

Researchers’ Roles – Cripps and Yamamoto (山本)	Stage 1	Stage 2	Stage 3
1. Conduct detailed literature review	Cripps/山本		
2. Create qualitative interview instruments	Cripps		
3. Interview EMP experts and medical practitioners	Cripps/山本	Cripps/山本	Cripps/山本
4. Analyze existing EMP courses and material	Cripps/山本	Cripps/山本	
5. Develop, administer, and analyze needs questionnaire	Cripps/山本	Cripps/山本	
6. Plan, create, and refine EMP material	Cripps/山本	Cripps/山本	Cripps/山本
7. Create EMP MOOC guidebook	Cripps/山本	Cripps/山本	
8. Launch and refine pilot EMP MOOC			Cripps/山本
9. Monitor EMP MOOC use		Cripps/山本	Cripps/山本
10. Develop, administer, and analyze pilot use questionnaire	Cripps/山本	Cripps/山本	Cripps/山本
11. Conduct interviews with medical students		山本	山本
12. Analyze interview data		Cripps/山本	Cripps/山本
13. Researchers’ reflections of research cycle	Cripps/山本	Cripps/山本	Cripps/山本
14. Dissemination of results			Cripps/山本
15. Budget control	Cripps/山本	Cripps/山本	Cripps/山本

As mentioned above, expert educators, JASMEE members, and medical practitioners, will be invited to create material for the EMP MOOC and this process will be ongoing. The EMP MOOC will help medical students acquire essential EMP skills for when they become qualified doctors. Once completed, we envisage that the EMP MOOC will be used by medical departments at Japanese universities to support their students. In addition, we expect that newly qualified doctors will use the EMP MOOC to further their professional development. We believe that the EMP MOOC will make a significant contribution to the advancement of Japanese medical students’ EMP skills.

4 ETHICAL CONSIDERATIONS

This research project involves the collection of data from medical students, educators, and in-service medical practitioners. Therefore, the following important ethical considerations are being implemented to protect the research participants. Each participant will be provided with an information sheet about the project in her/his first language. This information sheet will highlight the purpose of the study, methodology, framework, data storage security, and publication methods. Each participant will be provided with a consent form in her/his first language that also highlights the aforementioned items from the information sheet. The participants will also be provided with a ‘Digital Data’ consent form in their first language. It will highlight how the digital data will be used as well as the steps that will be taken to maintain their privacy and anonymity. The participants will be provided with an individual password to access the EMP MOOC. This password protection ensures that the EMP MOOC is closed and safeguards the anonymity of the participants. Nanzan University’s Committee for Research Screening will review the various documents from this project to ensure that the research is conducted in a proper and fitting manner. Participation in this project is entirely voluntary and individuals may withdraw at any time and for any reason. No financial incentives will be provided. The research participants will be provided the opportunity to clarify and ask questions about any aspect of the study throughout the duration of the research project. Pseudonyms will be created to protect the identities of the participants. Each participant will be required to create an online alias that will be used when using the EMP MOOC. Participants will have access to their own data and data analysis upon request. All

data will be encrypted and kept on external hard drives which will be locked in a secure location at Nanzan University.

5 CONCLUSION

It is our belief that the EMP MOOC will help Japanese medical students acquire essential EMP skills for when they become qualified doctors. Once completed, we envisage that the EMP MOOC will be used by medical departments at universities throughout Japan to support their students. In addition, we expect that newly qualified medical doctors will use the EMP MOOC to further their professional development. We believe that the EMP MOOC will make a significant contribution to the advancement of Japanese medical students' EMP skills. Creating a dedicated EMP MOOC will allow students free access to a comprehensive EMP course and material that will help support and improve their EMP skills during their time at university and beyond.

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REFERENCES

- Association of American Medical Colleges. (2023). Active learning the focus for the Larner College of Medicine. <https://students-residents.aamc.org/applying-medical-school/active-learning-focus-larner-college-medicine>
- Cripps, A. C. (2019). Creating an online teacher support centre and beyond. In Cripps, A. (ed.), *Perspectives on English language education in Japan Vol. 2* (pp. 211-227). KD Publishing.
- Cripps, A. C., & O'Connell, S. (2016). Investigating the construction of MOOCs. *Journal of Teaching and Education*, 191-204.
- Cripps, A. C., & Yamamoto, E. (2023). Reimagining English for Medical Purposes (EMP) in Japan. *Agon*, No. 36. (forthcoming).
- GIR. (2014). Massive Open Online Courses (MOOCs) in Medical Education. Association of American Medical Colleges. <https://www.aamc.org/media/22536/download>
- Hirata, T., Hanabayashi, T., Fukuzawa, Y., Ohashi, W., & Yamanori, T. (2020). Assessment of Evidence-Based Medicine education in the Japanese New Model Core Curriculum using a student-to-student multi-institutional survey. *Journal of Medical English Education* 19(1), 14-20. ISSN 1883-0951.
- Kataoka, Y., Maeno, T., Inaba, Y., Ninn, S. Suzuki, M., & Maeno, T. (2023). How to promote learning of evidence-based medicine among Japanese medical students. *Research Square* (preprint), 1-9. <https://doi.org/10.21203/rs.3.rs-535857/v1>
- Mathis, B., Mayers, T., & Miyamasu, F. (2022). English as a vocational passport: Japanese medical students and second language learning motivation. *Education Sciences*, 12, 8, 1-10. <https://doi.org/10.3390/educsci12010008>
- Oshimi, T., Jago, E. H., & Thomas, J. C. (2016). An extracurricular clinical English program for Asian medical undergraduates. *Journal of Medical English Education* 15(1), 7-13. ISSN 1883-0951.
- Pavel, E. (2014). Teaching English for medical purposes. *Bulletin of the Transilvania University of Braşov, Series VII: Social Sciences • Law • Vol. 7(56) No. 2*, 39-46.
- Pavel, E. (2020). Language learner motivation and strategies in English for medical purposes. Philobiblon. *Transylvanian Journal of Multidisciplinary Research in the Humanities*, Vol. 25, 125-138.