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Commentary

Bridging Cultures in Medical Education by Developing English Problem-Based Learning Scenarios at Nagoya University, Japan

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Abstract: This commentary explores the innovative introduction of English Problem-Based Learning (PBL) scenarios into child and adolescent psychiatry at Nagoya University, Japan. Recognizing the increasing need for multicultural competence and English proficiency among Japanese medical students, our initiative aims to enhance clinical problem-solving skills and cultural awareness. Developed in collaboration with the Norwegian University of Science and Technology, these PBL scenarios address the unique challenges of treating patients from diverse cultural backgrounds. Implemented since 2018, our curriculum integrates these scenarios for fourth-year medical students, fostering an environment of active learning and intercultural communication. Surveys conducted in 2019 and 2021 reveal positive student attitudes towards this approach. This commentary highlights the significance of English PBL in modernizing medical education in Japan, promoting global readiness among future medical professionals and addressing the demographic challenges faced by Japanese universities.

Keywords: Problem based learning; PBL; Medical education; Child psychiatry

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1. Introduction

Problem-Based Learning (PBL) is a significant component of medical curricula. Originally developed in the 1960s by the Faculty of Medicine at McMaster University, Ontario, PBL emerged as an innovative response to criticisms that traditional teaching methods inadequately prepared medical students for clinical problem-solving [1]. PBL encourages students to independently explore solutions to a given problem, such as establishing a medical diagnosis from a clinical scenario, through collaboration, cooperation, and interactive discussion [2]. In Japan, PBL was first introduced in 1990 at Tokyo Women's Medical University, reflecting a global trend of modernizing medical education [3]. However, its adoption was initially slow across other Japanese medical schools. It was not until 2003 that Nagoya University School of Medicine (NU), one of Japan's top universities, implemented the PBL curriculum in its clinical medicine teaching. Initially, PBL was introduced to second-, third-, and fourth-year NU medical students. However, due to difficulties in finding suitable medical PBL tutors, it is currently offered only to fourth-year undergraduate medical students. The PBL curriculum runs twice a week for a 10-month period, meaning that fourth-year medical students spend a large portion of their time immersed in PBL education.

2. Internationalization of Medical Curricula in Japan

The internationalization of university curricula is an essential initiative in Japan, primarily driven by the country's declining population. Current student quotas cannot be met solely by Japanese students. One effective solution is to increase the number of international students at Japanese universities by developing new courses and modules taught exclusively in English. This strategy makes Japanese universities more accessible to students worldwide who may not be proficient in Japanese. Moreover, it enhances the global reach of educational programs and enriches cultural and academic diversity. Additionally, offering courses in English can boost the international reputation of Japanese universities, making them more competitive in the global education market. The development of new courses and modules taught exclusively in English has been employed by Japanese graduate schools to attract overseas students for advanced degrees. However, the aforementioned approach cannot be directly applied to undergraduate medical education, as it aims to train future medical doctors to work in Japan and primarily treat Japanese patients, making fluency in Japanese a prerequisite for studying medicine in Japan.

It is important to note that the number of foreign workers and tourists in Japan is increasing and is expected to increase even more in the future, requiring Japanese medical doctors to confidently and comfortably communicate with and treat patients with limited or no knowledge of the Japanese language. To cultivate this ability in future Japanese doctors, NU developed several English PBL clinical scenarios and encouraged students to conduct discussions in English. PBL is exceptionally well suited for introducing different aspects of multiculturalism when it comes to treating and taking histories from foreign patients. Additionally, it enables Japanese medical students to use English when discussing particular medical situations. Therefore, the purpose of such PBL scenarios is to teach students cultural intricacies related to non-Japanese patients and to develop the required English medical vocabulary, using it effectively in discussions.

3. Implementation of English-Language PBL at Nagoya University

At NU, one clinical scenario is divided into sections that are sequentially revealed to students over two 90 min sessions. During each session, a group of 10–12 medical students chooses one group leader, who initiates and sustains the discussion, and one note-taker. During the session, a trained PBL tutor is present to observe, perform grading, and steer the discussion if necessary. Students may occasionally ask the tutor questions and for clarification about certain aspects of the scenario. PBL scenarios can be implemented either face-to-face or online, with the structure of the session remaining largely unchanged. Recently, NU has reduced the core PBL session time from 90 min to 60 min to include new teaching modules and courses in the curriculum. A significant challenge for NU was developing English PBL scenarios that were not mere translations of existing Japanese ones. Instead, the newly developed clinical PBL scenarios needed to teach Japanese medical students how to deal with foreign patients who might have different cultural and societal backgrounds. To develop such scenarios, we established a collaboration with the Norwegian University of Science and Technology (NTNU). We believe that psychiatric PBL scenarios effectively teach sociocultural differences. The TroNa partnership between NTNU and NU officially began in 2015 and later expanded to EQUAL Partnership, which focuses on reducing child and adolescent mental health inequalities, stigma, social injustice, and racism. The TroNa Partnership (UTFORSK program) is focused on student and staff mobility and the internationalization of child mental health studies.

Between 2015 and 2017, we organized a series of workshops in Nagoya, Japan, and Trondheim, Norway, where PBL experts from NU and NTNU collaborated on developing new English PBL scenarios for use with fourth-year undergraduate medical students at

NU. We chose a clinical case in the field of child and adolescent psychiatry and developed a six-part scenario to be implemented during two 90 min sessions. Our new English PBL was integrated into our curriculum in the 2018 academic year and introduced to fourth-year students at NU Medical School in 2019. We conducted surveys of students in 2019 (face-to-face PBL implementation) and in 2021 (online PBL implementation). These surveys used a custom-made questionnaire with a three-point Likert scale to assess students' attitudes towards PBL in general, PBL in child and adolescent psychiatry, and the specific PBL scenario [2]. Based on our data [4], 91.2% of students in the online PBL class agreed that the approach helped them develop clinical problem-solving skills, compared to 82.5% in the in-person class. Additionally, 75.8% of students in the online class felt that PBL enhanced their understanding of CAP (child and adolescent psychiatry), a notable increase from 53.6% in the in-person class. Furthermore, 74.7% of online participants and 59.8% of in-person participants acknowledged the importance of a multidisciplinary approach in CAP through specific case scenarios. These figures indicate a positive reception for the online PBL format and underscore its potential to enhance CAP education. Within the TroNa partnership, we held exchanges between Ph.D. and undergraduate medical students, who conducted research in child and adolescent psychiatry [5], engaged in a clinical clerkship exchange program for undergraduates at NU and NTNU, and built a strong research partnership.

4. Expansion of English PBL Scenarios and Future Goals

Currently, we have two English PBL scenarios: one concerning child and adolescent psychiatry and the other in adult psychiatry. We have also trained tutors for these PBL scenarios. In the future, we aim to develop additional English-language PBL scenarios at Nagoya University, particularly in medical disciplines beyond psychiatry. Each medical discipline presents unique challenges in designing PBL scenarios, necessitating further research to explore these issues in greater depth. While we are planning to collect direct evidence assessing the outcomes of the English PBL program, we have observed an increase in interest among fifth-year students in participating in overseas clinical clerkship programs. This trend suggests that our English PBL initiative may be contributing to enhanced language proficiency and cultural competency among students, indirectly supporting their readiness and motivation to engage in international clinical experiences. In terms of teaching practical multiculturalism to Japanese medical students, it may be beneficial to consider establishing an English objective structured clinical examination (OSCE) [6] for Japanese medical students as an extension of English PBL. During a typical OSCE, students rotate around a number of stations in order to assess medical skills. At the station, students are presented with a simulated patient and asked to perform tasks within a specified time. However, this kind of assessment may be difficult to develop given the shortage of trained English-speaking simulated patients and tutors in Japan for assessments when the exam is conducted entirely in English.

5. Challenges in English PBL Implementation

One of the primary challenges in integrating English PBL scenarios and OSCE into the Japanese medical curriculum is the significant variation in English language proficiency among students. While many students possess advanced academic knowledge, they may struggle to express their ideas effectively due to limited English skills. This creates a situation where a student's true understanding and expertise remain underrepresented, simply because they lack the linguistic ability to articulate their thoughts clearly. Conversely, the opposite scenario has also been observed—some students demonstrate strong English proficiency but may not yet have an equivalent depth of academic knowledge. These disparities in language ability can lead to an imbalance in group discussions, affecting

the overall effectiveness of PBL sessions or student's OSCE performance. To address these challenges, implementing an English proficiency placement test could help create more uniform student groups, ensuring that participants have comparable language skills. This approach would facilitate smoother communication and more balanced discussions, ultimately enhancing the learning experience for all students.

Another crucial aspect to consider concerns students' ability and willingness to actively engage in discussions and express their opinions in a group setting. In many cases, cultural factors, personal confidence, or previous educational experiences may influence a student's inclination to participate in debates or discussions. Additionally, tutors play a key role in fostering an environment that encourages dialog, critical thinking, and the open exchange of ideas. If students are hesitant to speak up, then the effectiveness of PBL as an interactive learning method may be compromised. To address this, elective preparatory modules focusing on soft skill development—such as public speaking, debate, and structured discussion techniques—could be introduced before the PBL sessions. These modules would help students build confidence in articulating their thoughts, improve their ability to engage in meaningful academic discussions, and develop essential communication skills that would benefit them in both academic and professional settings. By combining targeted language support and structured soft skills training, the implementation of English PBL scenarios in the Japanese medical curriculum could be significantly improved, leading to more effective and engaging learning experiences.

6. Conclusions

In conclusion, the implementation of English PBL scenarios at Nagoya University School of Medicine represents a significant advancement in medical education, addressing both the need for multicultural competency and the growing demand for English proficiency among Japanese medical students. Many non-English-speaking countries face challenges when implementing Western-derived PBL models due to differences in cultural attitudes toward learning and teaching. Linguistic challenges arise in non-native English settings, and educators may lack familiarity with PBL's philosophies and facilitation techniques. While global standards in medical education aim for uniformity, they often reflect Western educational assumptions that may not align with local student behaviors or instructor facilitation styles [7]. A comparative analysis of similar PBL implementations in other non-English-speaking countries could provide context for NU's efforts and highlight how different cultural settings adapt to these challenges. By collaborating with international partners such as the Norwegian University of Science and Technology, NU has developed innovative PBL scenarios that not only enhance clinical problem-solving skills but also prepare future medical professionals to effectively communicate and treat patients from diverse backgrounds. As we continue to expand and refine these educational strategies, we aim to foster a new generation of Japanese doctors equipped with the necessary skills to navigate the complexities of global healthcare, ultimately contributing to a more inclusive and effective medical practice.

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Informed Consent Statement: Details of the study were explained to participants beforehand, and signed consent was obtained from all participants.

Data Availability Statement: The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

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