

Learning About PBL From Foreign Students

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Why do most Japanese medical students struggle with problem-based learning (PBL), yet their overseas counterparts describe it as a very successful educational innovation? In this paper, I examine and analyze information gathered from 6 Japanese students' regarding their experiences participating in foreign PBL medical workshops and what they learned from their interactions with medical students outside Japan that they believe can be applied in Japanese medical schools.

海外の学生がチュートリアル教育 (PBL) を革新的な教育として非常に成功していると述べているのに対して、日本の医学生が多くがこれに苦勞しているのはなぜだろうか。著者はこれまで日本の大学においてどのようにPBLが発達してきたのかを調査してきたが、本論文においては、日本の学生が海外のPBL医学ワークショップに参加してどのような意見を持ったのか、また、海外の医学生とやり取りをする中で学んだことがどのように日本の医学部に適用できると考えているのかを記述し、分析する。

PROBLEM-BASED LEARNING (PBL) was first developed in 1969 for the medical program of McMaster University in Canada in response to mounting criticism that traditional teacher-centered, lecture-based, and rote-learning methods in medical universities were failing to produce doctors fully prepared to deal with real-world medical practice (Neufeld, Woodward, & MacLeod, 1989). The new PBL medical curriculum was designed to provide students with learning experiences that emulated real-life problems as well as opportunities to develop their thinking ability and team skills as they developed required content knowledge. In the decades that followed, the success of the PBL approach was evident by its adoption in a wide variety of academic university programs, as well as in high schools, around the world. However, although PBL has been a very successful educational innovation in medical universities in Canada, Australia, Europe, and the USA over the last 45 years, medical universities in Japan are still struggling with its implementation 25 years after its introduction (O'Dowd, 2013). Why is this so? In this paper, I examine the observations of six Japanese medical students to identify what can be distilled from the experiences to improve the performance of PBL (usually referred to by Japanese medical educators as *tutorial education*) in Japan and enable more successful learning at a critical point midway, that is, 3rd and 4th years, through their studies.

What is PBL?

Implemented as a small group tutorial approach, PBL is student centered and requires students to engage in collaboration and self-directed learning in which students must take on greater responsibility for their own progress. Working through the vehicle of crafted problems that reflect life beyond the classroom, PBL presents an ever-changing variety of contexts, contents, and unknowns that challenge each student to develop the knowledge and skills needed for their future careers. This approach is quite apart from the usual educational experiences of most Japanese students—and Japanese medical students in particular—who have focused solely on studying for university entrance examinations in high schools and cram schools. Nevertheless, medical schools around the globe have adopted a PBL approach in recognition of the paradigm changes in modern medicine (O'Dowd, 2005; Kozu, 2006) and Japanese medical schools are following suit, despite the serious impact such a change has had on their limited budgets—including providing dedicated facilities (i.e., group tutorial rooms), additional library and technical resources, and increasing staff workloads.

Table 1 details the various characteristics of PBL versus those of the more traditional model of didactic teaching common in Japanese medical universities (as well as in high schools and cram schools), which remains the main knowledge delivery system.

As can be seen by the characteristics in Table 1, the PBL learning environment is far outside the usual experience of students in the Japanese educational system. Not surprisingly, many of the problems arising after the implementation of PBL tutorial programs in Japan stem from the students' unfamiliarity with such a student-centered methodology. This is not to suggest that Japanese students are incapable of performing well in tutorial education, but rather that careful, explicit preparation is needed at the very beginning of the process to ensure they understand what this kind of education requires of them. General observations of Japanese medical students

currently engaged in tutorial education in Japan clearly show considerable differences in learning styles and approach to those exhibited by medical students outside Japan. I will next examine what some Japanese medical students have observed while experiencing PBL in an overseas setting with non-Japanese students.

Table 1. Comparison of PBL vs. Traditional Teaching in Japanese Medical Universities

| PBL | Traditional |
|--------------------------------|------------------------------------|
| learner centered | teacher centered |
| small group (7-10) | large class (60-120) |
| self-directed learning | information spoon-fed by teacher |
| tutor or facilitator assisted | teacher directed |
| skills & knowledge acquisition | memorization |
| critical thinking | rote learning |
| a problem needs unpacking | information transfer from textbook |
| collaborative learning | solo, teacher-directed study |
| discussion of learning issues | silence |
| wide scope of learning | narrow focus on examinations |
| active participation | passive attention |
| exploring | receiving content |

Research Corpus

Six Japanese medical students who had participated in foreign PBL workshops (held in the summer of 2012 and 2013 at the John A. Burns School of Medicine in Hawaii) were interviewed about their experiences interacting with American medical students and asked what they believed could be applied to tutorial education in Japanese medical schools.

Observations of Japanese Medical Students of PBL in Hawaii

The following observations by the Japanese medical students address several of the pressing problems currently being experienced in tutorial education in Japan (Oda & Koizumi, 2008; O'Dowd, 2015). Each observation will be followed by a brief discussion of the salient issues.

1. American medical students were very willing to contribute and spoke out a lot during tutorials.

The Japanese medical students felt their initial experiences in tutorials in Japan had not met their high expectations, leading to their motivation to experience PLB in Hawaii. A key attribute associated with Japanese culture is their emphasis on collectivity, placing emphasis on the group's needs over individual interests (Reischauer, 1977). This, on the surface, would appear to strongly align with one of the basic tenets of PBL: collaboration; yet the Japanese medical students mentioned experiences in Japan such as poor group dynamics ("PBL is better with students who try hard") and having to work with less motivated students, some of whom did not contribute equally to the group workload ("I felt I had to do all the work . . . it made me feel bad"). However, tutorial facilitators observed that Japanese students in Hawaii were often rather passive or reserved and did not engage in their PBL tutorial groups as enthusiastically as their counterparts. This raises such questions as whether it is the framework of PBL or the readiness of students to engage in tutorials that is critical for success.

2. American students energetically put forward their opinions and often debated points that weren't clear to them, often asking peers for clarifications or expansions of explanations.

Although Japanese students are often said to be shy, their reticence to engage in classes is more a reflection of their dependency on authority (e.g., their teachers), a desire not to stand out in class, and the comfort afforded by passive attention (McVeigh, 2002). The Japanese students who attended the PBL workshops in Hawaii could definitely be characterized as more outgoing than their Japanese classmates; nevertheless, they reported discomfort at not being able to communicate as freely as they wished and were reluctant to press other group members for information or answers because it may have resulted in embarrassment for themselves at their perceived lack of knowledge.

3. American students were not shy about asking questions to their facilitator directly about points they wanted more information on.

Japanese students exhibit considerable reserve when it comes to communicating with their tutorial facilitator. This reserve appears to stem from their long experience as passive learners. Tutorials place a small group of students in very close proximity to the facilitator power figure. Japanese students have mentioned their concern that constantly throwing queries to their facilitator may strain the teacher-student power relationship (McVeigh, 2002) and possibly adversely affect their individual assessment by the facilitator for each session. On the other hand, some Japanese students expressed disappointment with some facilitators, citing insufficient support in comments such as, "The tutor didn't do anything, just reading his notes," and "The tutor had to leave early." Finally, as Table 1 attests, many Japanese medical students may simply not be prepared for the

rigors and responsibilities required in tutorial education as they lack an adequate study skills foundation to build upon.

4. American students showed their serious interest in topics by deeply engaging in their learning issues and overall prepared a lot more for tutorials than Japanese students usually do.

This observation reflects Japanese students' beliefs about the value of engaging in study when it may not be directly relevant to their final examination or passing grade, also attested to by McVeigh (2002). As shortsighted as it may seem to outsiders, the Japanese medical students' prime focus remains on final exams ("We wonder if this will be included in the final exam"). Studies on Japanese university student motivation and their use of learning strategies have shown a strong dependence on a relatively small number of strategies and low-level cognitive skills as well as a general lack of motivation to stretch intellectually evidenced by their unwillingness to engage in much more than the minimum requirements (O'Dowd, 1996, 2003). In addition, the amount and quality of work Japanese students complete in tutorials (i.e., Learning Issues notes and summaries, individual presentations, and time spent discussing topics) and the degree of engagement by tutorial members did not rise to the level of that observed to be produced by medical students outside Japan (O'Dowd, 2015). As some students have started to question the efficacy of tutorials, feeling that progress was slower than in lectures ("It seems to be wasting of my time"), their focus has shifted away from participating collaboratively in tutorials to merely endeavoring to cover as much of the course content by themselves as they were able. Nevertheless, students who maintained a positive attitude to tutorials have often reported positive group experiences as well as the motivation stemming from studying cases that reflected what they imagined they would be doing in their future as a doctor.

Although these issues may seem to be formidable hurdles to success, they are not insurmountable. If Japanese medical students can be guided to modify their beliefs and behaviors before beginning the tutorial program (such as with a point-by-point orientation), the probability of successful implementation will be greatly increased.

Must Japanese Medical Students Do PBL the Same Way as Non-Japanese?

Although some PBL program coordinators in medical universities overseas contend that the framework of PBL should not be compromised in any way that could reduce its effectiveness, others in different cultural contexts have taken a less strict approach. That is, as long as the characteristics and objectives of PBL (as described in Table 1) are met, successful tutorial education does not need to be done in the exact same format in all universities. Indeed, research into tutorial education in Japan suggests that each Japanese medical university has developed and evolved its tutorial system independently of others, making modifications they believe necessary without regard to what is done in other universities (O'Dowd, 2015). Some differences may be minor—such as the number of students per tutorial—but others are more significant—such as how many tutorials per week or per year; whether the facilitators are doctors, research staff, or senior students; and how students are evaluated for their participation and study. This has resulted in the "galapagosization" (the creation of a closed and idiosyncratic environment) of PBL in Japan, with many different shades and textures, although it is operated under a common banner. Of more importance is that the dynamics of the PBL process depend largely on the preparedness of students and their tutors or facilitators to fully engage in all the phases of PBL.

This topic has been taken up in a number of papers written on the clash between PBL and various cultural attributes. Gwee (2008) researched the cross-cultural implications of PBL and suggested that the Asian style of communication posed an apparent seri-

ous conflict with the interactive communication required in PBL. However, Gwee concluded that creating a supportive learning environment in a PBL setting could overcome perceived cultural hurdles; that is, a nurturing learning environment can reduce some cultural idiosyncrasies. Al-Eraky (2013) has argued that culture does play a part in how PBL is structured and implemented, and he has used cultural framework theories to justify his position that it is not heretical for PBL to be adapted for local cultures: “In fact, some of the fine-tuning of the classic tri-phasic process of PBL that has been reported across different cultures might be productively interpreted in this light” (p. 1049).

Indeed, Japan’s approach to adopting tutorial-style educational frameworks such as PBL appears no different. When initially faced with the difficulty of implementing pure PBL, pioneering private Japanese medical universities in the 1990’s developed a hybrid version of PBL that blended new-style tutorial education with the more familiar traditional lecture style. National medical universities started to follow this path of reform after it was suggested in the 2001 revision of the Japanese government’s Japan Model Core Curriculum for medical universities (Ministry of Education, Culture, Sports, Science and Technology, 2004, 2007) that recommended the adoption of a PBL model as desirable, but not compulsory. Whereas some administrators view this hybrid model as tutorial education with an overlay of lectures to support student learning, if one examines the assessment weightings given to each portion, it may more accurately be viewed as a reversion to the previous conventional lecture style with some tutorials added so the entire program can be called PBL.

It is clear that all Japanese medical universities will soon need to adopt a recognizable form of PBL if they wish to meet the Global Minimum Essential Requirements (GMER) for medical education established by the Core Committee of the *Institute for International Medical Education (IIME, 2014)* set for adoption in 2020; in Japan, the adoption date is currently set for 2023 (*World Federation for Medical*

Education, 2013). The goal is to produce “global physicians” with a high standard of medical competencies common to all. To meet this standard, Japanese universities are currently revising their curricula to include expanded clinical clerkships, OSCE (Objective Structured Clinical Examination), and a hybrid style of tutorial education. The challenge will be to implement a style of tutorial education that, although not necessarily exactly the same as in medical universities overseas, is recognizable as PBL and achieves its goals of surpassing mere acquisition and retention of knowledge and developing the capacity for higher-order learning skills (i.e., application, analysis, synthesis, and evaluation) needed by future medical practitioners.

Conclusion

The adoption of such a nontraditional instructional model as PBL has not been easy for most Japanese medical universities, and many medical schools are still struggling with its implementation. Nevertheless, it is an innovation that needs to be adopted for Japanese medical universities both to keep pace with changes occurring in medical education abroad and for them to participate in the GMER in the near future. Program administrators, often faced with uncertainty as to how to proceed, could gain valuable insights by understanding the experiences of Japanese students who have viewed PBL in a context outside their own, such as those described in this paper. Looking outward, rather than inward, could increase the benefits to all students engaging in PBL in the future.

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