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〔Research Notes〕

The importance of preparatory steps for enhancing critical thinking skills in Japanese university students

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Abstract

This research note examines the necessity of preparatory steps for improving critical thinking skills among Japanese university students. The study also explores cultural and educational considerations, emphasizing the importance of providing clear and reasonable guidance for students. By introducing preparatory practices in the classrooms, educators may reduce or minimize students' barriers and create a more conducive environment for critical thinking.

Keywords: critical thinking, preparatory steps or guidance, higher education, Japanese students

Critical Thinking Skillsの育成と事前準備学習の重要性

――日本の大学生を対象として――

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Introduction

Considerable attention has been paid to the need to cultivate critical thinking skills (CT) in higher education worldwide (Saulius and Malinauskas, 2021; Zhou and Lin, 2019), yet Japanese university students often face challenges in mastering CT due to their cultural and educational backgrounds (e.g., Lewis, 1998). Individuals with high analytical capability (or with CT) are significantly valued by the labor market (e.g., Tatsumoto, 2023; Mahdi, Nassar and Almuslamani, 2020; Berrett, 2012). One of the most utilized approaches for cultivating CT is using case studies, which is also recommended by academic experts (ibid.). However, the case study method is time-consuming and challenging to adapt in the classroom because it is not a simple and straightforward task.

To address these issues, this paper examines whether preparatory steps or workbook practices are effective in reducing students' obstacles when they engage in critical thinking or case studies. In other words, this study aims to explore the necessity of preparatory steps for developing CT. It also includes cultural and educational considerations of Japanese university students.

Few studies are concerned with the need for preparatory steps in cultivating CT. In addition, such studies in the context of Japanese university education are hard to find. Therefore, there is a need for research. Thus, the present study focuses on the need for preparatory steps in the context of Japanese university education.

This paper is organized as follows. The first section briefly discusses the definitions of critical thinking skills (CT) used in this paper. The second section examines the need for preparatory steps for cultivating CT. The third section looks at students' CT in Japanese universities and possible cultural and educational barriers to developing their CT. The concluding section considers the need for further studies in the future.

1. Definitions of critical thinking skills (CT)

Before discussing the need for preparatory steps for acquiring CT, this section briefly discusses the definition of CT used in this paper to avoid confusion.

Many scholars have proposed definitions of critical thinking. However, no consistent explicit interpretation exists (Wan, 2019; Hitchcock, 2021). According to Wan (2019), one of the reasons for this inconsistency is the vagueness of the word *critical* and the deepness and complexity of the term *critical thinking*. Oxford Advanced Learner's Dictionary (Hornby et al., 2015), for example, defines the term *critical* as "important", "making fair, careful judgments about the good and bad qualities of sb/sth".

Therefore, this paper needs to define the term critical thinking to ensure clarity. The present paper mainly utilizes a definition by Robert Ennis (1993: 180): "Critical thinking is reasonable

reflective thinking focused on deciding what to believe or do."

It should be noted here that CT in this paper has a broad meaning, including, for example, conceptual thinking and skills for problem-solving in a complicated situation. Regarding problem-solving, in particular, various researchers share the view that it is the central idea of CT (Ouhiba, 2022).

2. The need for preparatory steps

This section considers the need for preparatory steps for cultivating CT. One of the most utilized approaches for cultivating CT is the case study, which is also recommended by academic experts (e.g., Mahdi, Nassar and Almuslamani, 2020). Case studies have been widely used in the field of social sciences, in particular, education, management, public administration and social work (Mahdi, Nassar and Almuslamani, 2020). Moreover, the case study method has been highly valued by practitioners in some professional fields, such as lawyers, detectives, medical practitioners, and social workers, and in institutions, most famously at Harvard Business School (Gomm and Hammersley, 2000). These professionals need analytical capabilities with CT, which is one of the main reasons case studies are used for professional education. In a nutshell, the case study method is considered one of the most effective teaching strategies for CT.

However, there are some obstacles to adapting case study methods in the classroom. The method is usually time-consuming and involves complicated problem-solving processes due to the nature of the procedure, such as collecting a large amount of data and conducting an analysis (Gomm, Hammersley, 2000). Furthermore, even the case study planning (e.g., what to collect as data, how to collect it, and how to organize data for analysis) could be overwhelming for some students.

Despite its effectiveness, implementing the case study method presents certain challenges, especially in the context of Japanese university education due to students' cultural and educational backgrounds (see the next section for details). Such students are usually not used to complicated thinking tasks like case studies, discussion, debate, and others, including criticizing others' opinions. In light of these conditions, some remedies should be considered for the students. In other words, they need some preparatory steps or guidance for developing their CT.

It is worth noting that some researchers have examined workbook exercises aimed at developing CT, or assessed the effectiveness of the case study method in fostering CT (e.g., Wallace and Jefferson, 2015; Mahdi, Nassar and Almuslamani, 2020). The common aim in these studies appears to be exploring effective preparatory steps for CT development. Workbooks themselves are often designed for preparatory purposes. Likewise, in the case study method employed by one of the aforementioned researchers, careful teaching and/or structured guidance was provided to students through three cycles of case studies (a pre-test case study, a group case study, and an individual case

study). This guidance can be seen as a form of preparation for cultivating CT. In summary, these studies suggest the importance of preparatory steps for cultivating CT. Some details of these studies are as follows.

Wallace and Jefferson (2015) examined the effectiveness of workbook exercises in developing CT among first-year university students in the US. They used *Critical thinking: Building the basics* (Walter, Knudsvig and Smith, 2003 cited in Wallace and Jefferson, 2015) as a workbook. A total of 76 students participated in the study and only 25 students used the workbook. All participants completed a critical thinking exam and the collected data was compared. The researchers utilized the iCritical Thinking Skills Test (Educational Testing Service, 2025) as the CT exam. The result showed that, among the 15, students who passed the exam, 9 (60%) had used the workbook, while 6 (40%) had not.

Regarding the failure rate, among the 61 students who failed the exam, 45(74%) had not used the workbook, while 16 (26%) had. There was a significant correlation between the usage of the workbook and students' performance on the exam. In short, the results revealed the effectiveness of the critical thinking workbook exercises in first-year college students. The researchers of the study emphasized that the workbook exercises could be 'the first systematic step to advancing critical thinking skills in post-secondary institutions' (p. 105).

Mahdi, Nassar and Almuslamani (2020) investigated the effectiveness of case studies as a teaching method for improving CT among university students enrolled in a course on leadership and group dynamics (business management program) at the Applied Sciences University (ASU) in the Kingdom of Bahrain. The participants were 40 freshmen, 22 females (55%) and 18 males (45%). Their average age was 25 years old, and ranged from 20 to 30.

The researchers collected qualitative and quantitative data, including classroom tests, supervised self-administered questionnaires, and one-to-one interviews. The tests were conducted in three phases: pre-cycle, cycle 1 and cycle 2. The participants carried out individual case studies in the pre-cycle test and were evaluated for their CT levels. In cycle 1, group case studies were implemented in the class and evaluated as a post-test. In cycle 2, individual case studies were assigned and evaluated as a post-test. The questionnaire was developed to assess students' CT; it was divided into six categories: analysis, interpretation, evaluation, inference, inductive reasoning and deductive reasoning. The total number of items was 24, and each category had four items measured using the Likert scale. The questionnaire was administered during the two cycles (cycles 1 and 2). As for one-to-one interviews, semi-structured interviews with two questions were conducted at the end of the study. Six randomly selected students were interviewed to obtain their perceptions of the adopted case study.

The findings of the investigation above showed that the case study was beneficial for improving students' CT. The results from the test and questionnaire revealed that there was statistically

significant improvement in students' CT. The interview data also revealed students' positive perceptions about the effectiveness of the case study in improving their CT, and generating their confidence in their abilities.

However, there are several points to consider before adopting case studies as the teaching method for other students who are not similar to the participants in the study above. First, the participants' academic[1] and motivation levels were considered high, based on their major, age (average age was 25, ranging from 20 to 30), and the academic level of the university (as noted in a footnote).

More importantly, the researchers recognize that the lecturer's lessons were influential and significant in their study, although details of the instruction (for CT/case studies) provided to the participants are not explained. This suggests that the participants received careful teaching and/or guidance, which may have served as critical preparatory steps for improving CT.

Taking into account both the participants' characteristics and the instructional context, such preparatory teaching and/or guidance appear essential for cultivating CT. Even students who are already motivated and academically capable seem to benefit from these preparatory steps; and for those facing additional challenges, the need becomes even greater.

In the case of Japanese university students, this need appears even more fundamental and indispensable, due to cultural and educational barriers that may hinder engagement with critical thinking tasks. The following section discusses the students' CT and their cultural and educational obstacles to developing CT.

3. Japanese students' CT and their cultural and educational barriers

In the previous section, we saw how preparatory steps are helpful and beneficial in enhancing students' CT. This section examines students' CT in Japanese universities and possible cultural and educational barriers to developing their CT.

As stated earlier in the introduction, there is a continuous demand for cultivating CT in higher education worldwide (Saulius and Malinauskas, 2021; Zhou and Lin, 2019). In addition, CT is considered a key aspect of educational quality in many countries (Ouhiba, 2022). Some educators in Japan seem to notice the need for CT and try to improve students' CT at the university level; however, most students lack CT (Tsuzuki and Shingaki, 2012; see Tatsumoto, 2023 for more details).

The lack of CT among Japanese students can be partly connected to cultural principles of society. According to McKinley (2013), when students have to work on critical arguments in their EFL academic writing, they face cultural obstacles. Such obstacles result from the educational system and

1 *Ranked the highest University in the Kingdom of Bahrain and 25th in the Arab World according to the QS Arab Region University Rankings 2025* (https://www.asu.edu.bh/about-us/why-asu/)

parental upbringing in Japan. Japanese students have been educated about group living and/or teamwork because of the cultural principles of society. Namely, criticizing others, within the same group or institution, in particular, is discouraged due to the importance of harmony or conformity with others. Many researchers have made this observation (e.g., Rohlen, 1998; Rohlen and LeTendre, 1998; Lewis, 1998).

In addition to the cultural issue mentioned above, lecturers and professors in Japanese universities typically do not require activities that promote or foster CT. For instance, formal essays or term papers involving CT are not usually assigned in undergraduate classes in Japan. Therefore, most Japanese university students are not aware of the importance of CT and lack CT. This suggests that such an environment in Japanese universities creates or reinforces educational barriers to learning for students.

Considering the cultural obstacle above, educators should provide students with specific frameworks or step-by-step guidance. For example, as stated earlier, Japanese students are not used to criticizing others' opinions due to their cultural customs. Therefore, it is helpful to guide students to understand that criticizing others' opinions is acceptable if it is based on logical or analytical reasoning.

As a remedy for Japanese students' educational weaknesses, they first need to learn the necessity of CT. In other words, they should have basic knowledge, such as logical or analytical thinking, and know how CT is useful in our daily lives and workplaces. This basic knowledge can be a helpful preparatory step because most Japanese students are not used to assignments that require logical/analytical thinking and do not know the importance of CT. In summary, the acquisition of basic knowledge can be a helpful preparatory step for the students to reduce their educational barriers.

Conclusion

This research note explores the need for preparatory steps for cultivating CT among Japanese university students, including the students' CT and cultural and educational barriers to developing their CT. Considering these factors, implementing appropriate preparatory steps for cultivating CT can be especially helpful for the students. Although the scope of this study is limited and needs more research, we can see the importance of preparatory steps, at least to a certain extent.

Educators in Japanese universities should recognize the significance of preparatory steps for cultivating their students' CT. Furthermore, they should also be aware of students' cultural and educational obstacles.

As stated in the introduction, there is a shortage of related studies concerning the need for preparatory steps for cultivating CT. In particular, such studies in the context of Japanese university education are desirable, as well as those about appropriate teaching methods for preparatory steps/

frameworks that taking into account students' cultural and educational backgrounds.

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