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研究課題名（和文）批判的思考スキルの向上と英語教育

研究課題名（英文）The Development of Critical Thinking Skills and English Education

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研究成果の概要（和文）：教育者は、批判的思考スキルを向上する方法を理解する必要がある。そうするためには、向上にどんな制約があるのかを理解する必要もある。 本成果報告書では、その制約は第一言語構成か第二言語能力か、あるいはその両方かを明らかにする研究の成果を報告する。 3つのL2学習者グループ（中国人の日本語学習者、日本人の英語学習者、韓国人の日本語学習者）の文章の複雑さと批判的表現を分析した。 結果は、L1がL2における批判的発現にほとんど影響がなかったが、L2の能力は影響がしたことを実証した。

研究成果の概要（英文）：Educators need to understand how to develop critical thinking skills. To do so, they need to understand what constraints there might be on their development. This paper describes research which attempts to determine if it is first language structure, or second language proficiency, or both which constrains critical expression. The written output of three groups of L2 learners (Chinese L1 learners of L2 Japanese, Japanese L1 learners of L2 English, and Korean L1 learners of L2 Japanese) was analyzed for written complexity and critical expression. The results demonstrated that L1 had little influence on critical expression in the L2, but L2 proficiency did.

研究分野：　外国語教育

キーワード：　English Education　Critical Thinking　Task Difficulty　TBLT　外国語教育　批判的思考

１．研究開始当初の背景

There is a need for students to learn critical thinking in order to fully participate in Japanese and international society. To this end, the Japanese Ministry of Education, Sports, Science, and Technology in their report “The move towards reforming education towards the needs of society” 19 June, 2012, has proposed that the university entrance examinations include critical thinking as a component in the hope that high schools will focus more on developing this important skill. The Ministry’s concerns are shared by faculty in Western universities where there is a perception that Asian students, including Japanese, are often lacking in these critical thinking skills (Lee & Carrasquillo, 2006; Robertson, Line, Jones, & Thomas, 2000).

Second language class is one place where critical thinking skills can be developed. Here, Japanese students can further improve their English communication skills including critical thinking to provide essential content which is lacking from Japan’s ESL classes. As these essential skills are being taught at the same time, precious resources can be saved. However, before designing such programs, there is an urgent need to explore the perception that Japanese students have inferior critical thinking skills and understand its causes.

The possibilities above leave us with three possible models for critical thinking which build on Levelt’s (1989) speech production model. The first suggests the ability to think critically is constrained at the level of the concept formation by collective cultural experiences. ……. Japanese would be unable to form the appropriate discourse models to build critical content. Atkinson (1997) suggests that cultural differences between the West and the East underlie the difficulty in using critical thinking skills. He argues that individualist cultures permit unconstrained individuality that enable critical thinking and personal expression whereas the collectivist nature of Japanese culture requires members to acknowledge and maintain their relative position in society rather than preserve one’s territory.

Kubota (1999) critiques Atkinson’s position by claiming that the creation of fixed cultural labels such as groupism and harmony which de-emphasize critical thinking is essentially a political statement aimed at creating a devalued “Other” group and its validity should be questioned. If the validity of Atkinsons cultural dichotomy is questionable, it cannot explain Japanese critical thinking performance. A more likely explanation is that Japanese students are less able to think critically because they have not been taught to do so. Kubota (1999, pg. 24) does indicate that, while critical thinking is valued in Japanese education, “secondary education influenced by examination-oriented instruction, places a greater emphasis on memorization”, which results in a de-emphasis of the teaching of critical thinking as a skill. Therefore, Japanese would be more likely to lack the discourse models required to apply critical thinking skills.

A second possibility constrains critical thinking of the Japanese at the level of the formulator. (explain) Regardless of the intended message, the structure of Japanese would constrain the direct critical nature of the communication during grammatical encoding. This model is related to culture, and is often known as the “Sapir-Whorf hypothesis” and it discusses the relative structure of the language and its ease of communicating particular concepts and ideas (see Au, 1983: Hockett, 1954). Japanese is more structurally suited to expressing indirectness rather than directness through a higher level of politeness and a greater degree of ellipses. We (who) would assume that this indirectness would impede the direct conveyance of ideas required by critical expression.

Evidence against this position comes in part from a study conducted by this researcher. Manalo, Watanabe, and Sheppard (2013) determined that Japanese tertiary students tend to be critically evaluative more in their first language than their second.

The third model places cognitive processing capacity constraints on the critical thinking of second language learners. The conceptualization of a critical message would be largely conscious, and thus, requires the use of working memory resources. Monitoring (and self-perception) is also a conscious procedure. The problem for production in a second language is that there is a lack of knowledge in the mental lexicon or the syllabary, leading learners to become aware of their inability to express their pre-verbal message. This process taxes their limited processing capacities, leading to a reduced ability to think critically.

Another issue which needs resolution is the teachability of critical thinking skills. Willingham (2007) makes the claim that critical thinking is not a skill, but rather domain specific knowledge which can only be built up through specialist study in the relevant area. Atkinson (1997) points out that there is little evidence of the transfer of critical thinking skills taught in one area to another.

Sheppard et al. (in preparation) and Sheppard (2013) have also demonstrated some evidence for the development of critical thinking skills. In addition, Manalo et al. (2013) found that critical thinking skills taught in English appeared to transfer to Japanese when doing identical tasks.

２．研究の目的

This international project sets out to build on the research already conducted by examining both the underlying causes for the seemingly poor critical thinking skills of Japanese tertiary university students and the possibility of effective education of these skills.

1) Is critical thinking constrained by language?
2) Is critical thinking instruction effective for Japanese learners in English language communication classes?

３．研究の方法

The method used to investigate these research questions largely follows Manalo and Sheppard (2016). Rather than just Japanese native speakers, the written output was elicited from three major groups. The first group were 123 Japanese native speaking learners of English. The second group was 31 Chinese (Mandarin) native speaking learners of Japanese. The third group was 31 Korean native speaking learners of Japanese.

The participants' critical thinking was elicited and compared in both their first language and their second language using equivalent tasks eliciting their opinions about the cause of a famous disaster (the Space Shuttle Disaster, and the Titanic sinking). For each task, an information sheet with facts about each disaster was provided in the language the task was completed. Task and language was balanced.

The written output of the participants was analyzed for complexity, in terms of the number of verbs per t-unit, and in terms of the number of evaluative statements and supportive statements. Evaluative statements were defined as sentences where some evaluation of the relative value of an issue related to the topic was made, i.e. and expression of opinion. Supporting statements were defined as sentences which provided reasons or evidence for their evaluative statements (usually taken from the information sheets). These were calculated as a proportion to the total number of statements in the text. These ratios were taken as a measure of critical thinking. The complexity was used as a measure of L2 proficiency.

４．研究成果

Figure one demonstrates that there is a difference in the length of the written tasks, with the Japanese tasks being longer. This is most likely due to the context from which the data was taken. The Japanese data was taken as part of evaluated classwork. In contrast, the Chinese and Korean groups were paid volunteers.

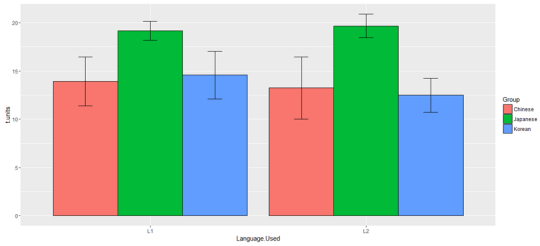

Figure 1: The length of the written task output as measured by the number of t-units, for language (L1 and L2) and language group (Chinese, Japanese, and Korean).

Figure 2 shows that complexity of production of the three groups was different depending on the language group. Interestingly the least complex output was by the Chinese in their first language indicating that complexity may not be a good measure of proficiency as information in Chinese appears to be structured in a different way. For Japanese, their L1 complexity was higher for that of L2. For Koreans however, the complexity of the output was the same for both L1 Korean and L2 Japanese.

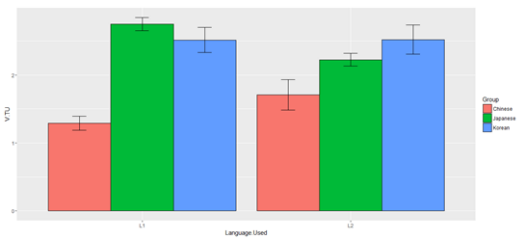

Figure 2: The complexity of written task output (verbs per t-unit) for language (L1 and L2) and language group (Chinese, Japanese, and Korean).

Figure 3 shows that the ratio of supporting statements in the L1 for different language has no impact on the ratio of supporting statements in the L2. While the Chinese produced the most supporting statements in L1, the produced the least in L2. Japanese showed a similar but less pronounced pattern. Interestingly, the critical expression of Koreans was largely the same for L1 and L2. Overall the data shows that how critical thinking is expressed in the first language does not seem to impact is expression in the second language.

A simple comparison between the language complexity of L2 production (Fig. 2) and the ratio of supporting statements (Fig. 3) seems to indicate that the more complex the L2 production (or the higher the proficiency) the more critically expressive the task output.

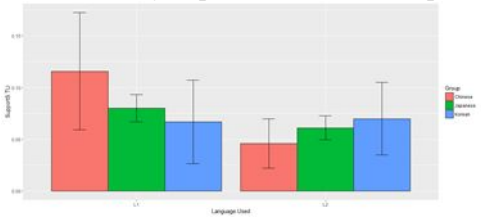

Figure 3: The ratio of supporting statements (supporting statements/ t-unit) for language (L1 and L2) and language group (Chinese, Japanese, and Korean

These results provide further evidence that the structure of the first language does not influence critical thinking and expression in the second language. This was most evident in the fact that the L2 critical evaluative output did not reflect their critical expression in their first language. However, it appears that language proficiency could be a factor in determining the degree to which critical thinking can be expressed in L2.

This can be explained by Levelt (1989) speech model. The content of critical expression is developed in the conceptualizer. This is not constrained by the language of thought, but by the content. The critical concepts are then formulated in the formulator. When formulation takes place in the first language, it is constrained by second language proficiency, by the available resources to express the concepts, and possibly by the available processing capacity of the L2 processors.

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