

Addressing a Supposed Deficiency: a Critical Thinking and Process-writing Methodology for Japanese EFL

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Abstract : The stigma of an East Asian critical thinking (CT) deficiency has endured despite liberal protestations and empirical demonstrations to the contrary. It is, however, incontrovertibly true that students in Japan and other parts of East Asia are relatively untutored and unpracticed in the relevant modes of execution and expression that have emerged as the global standard. This paper presents and tests a methodology for the practice of CT and its expression as an argumentative paragraph. One hundred Japanese non-English major university students were equally divided into two groups. The group exposed to the methodology was subsequently able to demonstrate significantly superior task performance. Further data derived from a post-task questionnaire affirmed that Japanese students are generally aware of and receptive to a conception of CT consistent with the global standard. Future research will seek to determine the most effective modes of practice through which to maximize the methodology's potential and the extent of its transferability to other contexts. The paper nevertheless concedes that even the most refined of methodologies will likely fail if the relevant education authorities in East Asia remain less enamored of the potential benefits of having a student body imbued with the ability to hold value systems to critical account than they are wary of the potential drawbacks.

Keywords : critical thinking methodology, CT-integrated EFL, argumentative paragraph writing

List of abbreviations

CT Critical Thinking

EFL English (as a) Foreign Language

G-TELP General Tests (of) English
Language Proficiency

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L1 First language; one's native language

1. Introduction: the perception of a critical thinking deficiency and Japan's ambivalent response

The objective of this paper was to devise and test an appropriate teaching methodology in response to the widely perceived notion that students in Japan and other parts of East Asia are generally deficient in critical thinking (CT) due to its incompatibility with Confucianism (DeWaesche, 2015, p. 131; Oda, 2008, p. 146; Rear, 2008, "Introduction," para. 1, 2017a, p. 18; Shaheen, 2016). This implied suppressing an inclination—often presumed to be endemic among Japanese, Chinese and Korean nationals—to edit or avoid potentially divisive and therefore socially disruptive issues. That it also implied overturning (or at least challenging) a regional emphasis on rote learning and a testing system correspondingly geared to the retention and regurgitation of unembellished facts (Dunn, 2015, p. 33; Oda, 2008, pp. 156–157; Timsit, 2018) is indicative of the extent to which CT has been marginalized in East Asia (Barnawi, 2011, p. 195; Chavez, 2014; Morikawa, Harrington, & Shiina, 2012, p. 118; Oda, 2008, p. 148; Davidson, 2001, p. 7). Nevertheless, and over the past couple of decades or so, the perception of a CT deficiency as something both real and in need of redress has been

steadily gaining ground among a sizeable and hugely influential domestic audience in some East Asian societies. In Japan as in South Korea, national policy makers have been forced to confront the issue not by educators but by leaders in the private business sector for whom the emergence of a workforce equipped with the higher order skills analogous to CT is "a matter of economic survival" (Davidson, 2001, p. 16. See also Goharimehr & Bysouth, 2017, p. 229; MEXT, 2016, "Vision for society and required capabilities"; Okada, 2017, p. 96; Rear, 2008, "The business community view," para. 4; Timsit, 2018). The Japanese government has attempted to allay such concerns by announcing a CT-integrated test for university applicants from 2020—a progressive gesture sharply at odds with its concurrent emphasis on moral education (*dotoku*) and an anachronistic value system based on patriotism (Goharimehr & Bysouth, 2017, p. 226; Hoffman, 2014; Kingston, 2015; Maruko, 2014; "Moral education raises risks," 2015; "Moral education's slippery slope," 2014). This ambivalence, should not, however, be allowed to obscure the obvious and growing need for workable methodologies for the teaching and expression of critical thinking in Japan and East Asia per se.

2. Counterarguments to the perception of an East Asian critical thinking deficiency

Unsurprisingly, the suggestion that East Asians are relatively deficient in a cognitive process that many would regard as contributive to or even indicative of personal intelligence has not gone unchallenged. In 2001, Stapleton referred to a lack of empirical evidence for the East Asian CT deficiency, thus implicitly inviting subsequent studies to empirically disprove its existence altogether (Oda, 2008, pp. 151–152, 158; Rear, 2017a, p. 24). The cumulative effect of these studies, however, has been to suggest that the CT disparity is more accurately a matter of form rather than ability. In essence, certain modes of behavior stemming from sociocultural differences and relevant to CT have become embedded as stereotypes and been thrown into starker contrast by globalization. The East Asian propensity towards a style of critical thinking that is collegiate and consensual is illustrative in this regard. Any attempt to approximate, through the medium of English, the more individualistic and adversarial Western style will necessarily involve the concurrent negotiation of not one but two alien constructs—an extraordinarily difficult task and one that leaves East Asians vulnerable to “cognitive overload” and stigmatization (Rear, 2017a, pp. 26–27, 2017b, pp. 12–13). The paradox is that the

type of binary model used to validate the East Asian CT deficiency is itself flagrantly reductive and unable to withstand critical scrutiny. As Rear has pointed out, it portrays vast and multiethnic regions as monolithic and unchanging and comes perilously close to “othering” (Rear, 2017a, p. 21). That it is based upon such a transparently fallacious premise would be sufficient grounds to repudiate the stigma of an East Asian CT deficiency were it not for the uncomfortable fact that East Asian students *are* relatively untutored and unpracticed in an interpretation of CT that has become the global standard. This entails a very real deficit in terms of the East Asian student’s level of exposure to skills such as debating and the writing of argumentative essays (Okada, 2017, pp. 92–94; Rear, 2017a, p. 27, 2017b, p. 4). It is a state of near-total disengagement wholly at odds with the emergence of a globally CT-proficient graduate body.

The emphasis on a global interpretation of CT is warranted in that it reflects its status as a “kind of common currency of communication” (Davidson, 2001, p. 13) or, to put it another way, as a cognitive lingua franca complementing and working in tandem with its linguistic equivalent. This analogy partially explains why the EFL classroom has been identified as an appropriate context for the teaching of CT (Goharimehr & Bysouth, 2017, p. 228; Okada, 2017, p. 96; Yang & Gamble, 2013,

p. 409). It is necessarily an educational contrivance to some degree insulated from exterior sociocultural constraints and pressures. As a consequence, the EFL classroom is uniquely liberating in terms of approximating behaviors or expressing opinions that might otherwise be socially taboo or, at the very least, inappropriate in the wider domestic context. This characteristic is all the more important in the EFL writing classroom where the emphasis is on the production of a more permanent type of product (Barnawi, 2011, p. 193). Engaging with critical thinking through the medium of writing is moreover a practical necessity in countries such as Japan where the prevailing education system is reluctant to recognize oral output as a basis for assessment. Considerations such as these render the EFL profession's failure to incorporate CT instruction as a secondary pedagogic objective in any consistent, systematic or meaningful way all the more frustrating. In mitigation, however, it is not merely a case of asking the pedagogists to provide the appropriate metaknowledge about critical writing in English. The relevant policy makers must also be on board. In the Japanese context, this will involve the Ministry of Education, Culture, Sports, Science and Technology (*Monbukagakusho*) making a choice between patriotism-inflected *dotoku* and CT-integrated testing or, more starkly, between telling students *what* to

think and assisting them in *how* to think (Gale, 2019, pp. 29–30). It is by no means certain that the latter course will be taken. Nevertheless, and in the interests of at least demonstrating its feasibility, what follows is a thorough depiction of a methodology—more illustrative than definitive—for the formulation of non-fallacious arguments and the production of written proof of critical thinking in response to a genuinely contentious proposition.

3. A process-writing methodology for the extraction of assessable proof of critical thinking

This paper will test the hypothesis that it is possible to demystify the expression of a convoluted cognitive process (CT) through a creative medium (writing) and effectively reduce it to formula. This is not to suggest that the critical thinking process can be mechanized or stripped of its personal aspect—on the contrary, the individual must always determine content and be able to modify form accordingly. It is, however, the contention of this paper that it is possible to devise firstly a culturally-sensitive procedure to stimulate critical thinking and then a standardized structural template for its articulation as product. Taken together, these components constitute a comprehensive methodology for the facilitation of critical thinking and for the extraction of assessable proof of the same.

The product will take the form of an argumentative paragraph of approximately 100 English words. It will therefore simulate that type of product already required by some Japanese universities as a component of their in-house entrance examinations. The minimal word count is sufficient for a coherent and substantiated demonstration of critical thinking and allows for the application of memorized phrasal chunks to a high proportion of the product. This alleviates the compositional burden and subordinates it to the critical thinking component (the primary task at hand). Structural clarity and transparency are also enhanced by the shorter format, thereby facilitating assessment. Furthermore, and notwithstanding its emphasis on economy of expression, the methodology outlined below constitutes a readily-applicable framework for expansion from argumentative paragraph to essay and beyond.

It begins with a question. A cursory examination of some of the examples set by the present author as compositional assignments to students at a university in Fukuoka Prefecture (Appendix A) reveals a propensity to be contentious. Whether or not these questions are applicable to other contexts in Japan will depend less upon the sensibilities of the individual teacher and more upon the constraints within which he or she is operating. The inherent challenge is to approximate prospective test questions as closely as possible—a challenge made all

the more difficult by the reactionary manner in which an institution may arbitrarily identify any particular topic as taboo. This tendency has the unfortunate effect of rendering CT-inclined teachers overly cautious and prone to self-censorship. It has also contributed to Japanese students being notoriously ill-equipped in terms of confronting or even discussing some of the more sensitive issues (such as whaling or the ramifications of twentieth century militarism) directly relating to Japan.

Students must be able to distinguish between those questions that are merely expository and those that require them to think critically and offer a substantiated opinion. Permutations abound in both categories and students should also be made aware that, while the form of a particular type of question might change (see Appendix B for a range of possible permutations for the type of question under consideration here), the process for answering it will not. Questions with a CT component will invariably prompt the student to answer “yes” or “no” to a proposition or to agree or disagree. This will just-as-invariably provoke a reflexive response more attributable to ingrained prejudice than to sound reasoning. Our challenge as educators is to suppress this tendency while encouraging an objective approach to any question. The following step-by-step procedure is demonstrative as to how this might be achieved. (For a fuller discussion of the pedagogic principles that

have informed the author in his teaching of critical thinking as a precursor to critical writing in the Japanese EFL classroom, see [Gale, 2019]).

- (1) Taking “Should the death penalty be abolished in Japan?” as our model question, the students should begin by brainstorming as many reasons as possible in support of both an affirmative response and a negative response (see Figure 1 for an example as to how this question might be presented using PowerPoint).

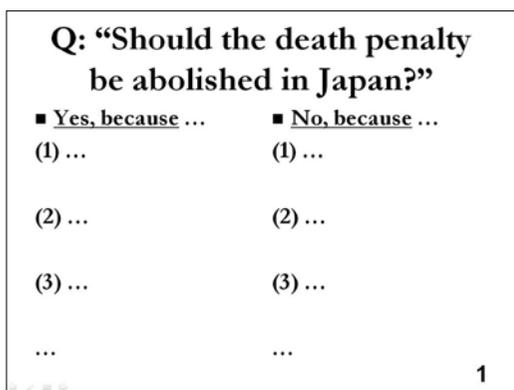


Figure 1. The presentation of a CT-facilitative question using PowerPoint

This brainstorming activity should be conducted in pairs or in small groups. All reasons articulated orally should also be jotted down in note form. The use of the L1 should be actively encouraged at this stage, or at the very least tolerated. (Needless to say. The collaborative aspects recommended here are suitable only for classroom

practice—the onus would be on the individual student to perform the same processes internally under exam conditions.)

- (2) The students should convert their shorthand notes to full sentences in the target language. All of the affirmative reasons and all of the negative reasons should be listed side by side within a tabular framework (Figure 2).

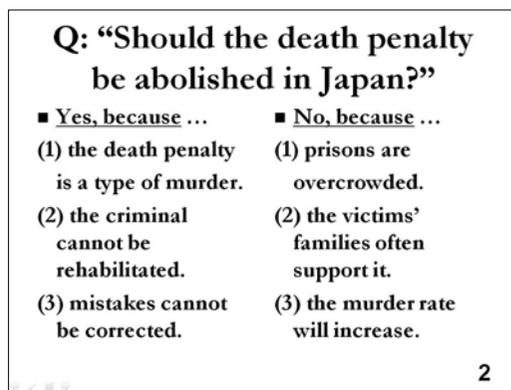


Figure 2. The framing of reasons for and against the proposition

- (3) Thematically similar reasons should be identified by the students and then merged. This process of amalgamation will result in a lower number of more distinct reasons. The optimum number of reasons supporting either position is three. Though not mandatory and conceivably impractical due to a surfeit or paucity of distinct reasons, this “3/3 balance” is facilitative to the structuring of an argumentative paragraph. It also forestalls any

inclination to “tally up” the reasons on either side (an inclination that risks interfering with and potentially corrupting the evaluative component of the critical thinking process).

- (4) Having amalgamated their reasons, the students should then test for logical fallacies. A checklist in the L1 or in level-appropriate English (Appendix C) should be provided for this purpose. The checklist should consist of a series of yes–no questions, each accompanied by an example and each designed to expose a particular type of logical fallacy. The checklist may be revised to test for more obscure types of faulty reasoning as the students become more proficient at detection. It will eventually become redundant and be discarded altogether. Students should be encouraged to repair or replace any logical fallacies they discover. Reasons supporting the position to be adopted in writing should be vetted particularly thoroughly. Though fallacious counterarguments may be included (and subsequently exposed) in the argumentative paragraph, the credibility of the product will be undermined if the contrary position is transparently weak.
- (5) Each of the reasons should now be “weighed up” in terms of its persuasive resonance and relative to its counterarguments from across the

tabular divide. This evaluative process will lead to the identification of one side as the stronger and thus formalize the position to be adopted in writing (Figure 3).

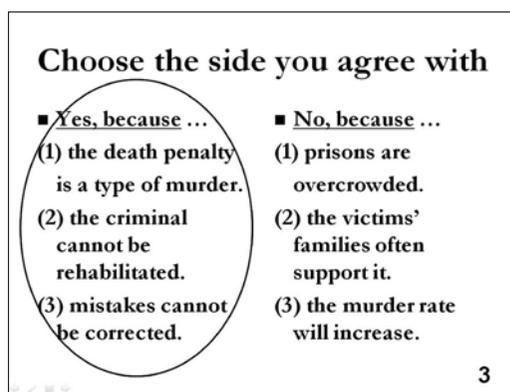


Figure 3. The selection of one side of the argument as the stronger

In most cases, each student will be inclined to substantiate his or her initial reflexive response to the question. This bias, attributable to experiential and sociocultural factors, is corruptive of the critical thinking process and should be resisted. The teacher should, however, refrain from demolishing even the most dogmatic of non-fallacious arguments (it being almost impossible to do so without having a similar effect upon the confidence of the student concerned). Instead, the teacher should foster a greater awareness of egocentric and sociocentric thinking through discussion and the use of imaginary

or contextually-remote examples. This mode of intervention is consistent with the inevitability of bias and its accommodation by the evaluative process (the art of persuasion being heavily reliant upon the manipulation of preconceptions and pre-existing value systems). It acknowledges the fact that subjectivity might only ever be diminished, never eradicated. More feasibly terminable (at least in terms of their influence) are the few dominant personalities capable of manipulating or subverting the opinions of their peers. From this stage onwards, the pairs or groups should be dissolved and every effort made to preserve the inviolability of the individual's opinion short of allowing him or her to "sit on the fence" (i.e., remain neutral relative to the question). This position, perfectly legitimate if borne from a genuine lack of conviction, is nevertheless extremely difficult to translate into an effective argumentative paragraph and should, for that reason, be discouraged. It may be worth pointing out that, just as when one literally weighs two things up, the slightest margin of difference invariably proves decisive.

- (6) The student should now evaluate the three complementary reasons substantiating his or her adopted position (affirmative or negative) relative to each other. This involves

subjectively identifying which of the reasons is *strong* in terms of its persuasive resonance, which is *stronger* and which is *strongest*. These distinctions will later inform the structuring of the argumentative paragraph.

- (7) Having adopted a definite, substantiated and defensible position, the student should now identify the deficiencies in the contrary position. This involves addressing the counterarguments one by one in order to demonstrate why each of them is *insufficient* (Figure 4) or *irrelevant* (Figure 5) or *incorrect* (Figure 6). It is important to note that this process of repudiation does not require the complete invalidation of all or even any of the counterarguments—they merely need to be shown to be less defensible than the reasons substantiating the adopted position.

Decide why you disagree with these reasons

<p><u>Japan executes very few criminals</u></p> <p>(too few to make any difference to prison overcrowding)</p>	<p>➔</p>	<p>■ No, because ...</p> <p>(1) prisons are overcrowded.</p> <p>(2) the victims' families often support it.</p> <p>(3) the murder rate will increase.</p>
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Figure 4. The demonstration of a counterargument as insufficient

Decide why you disagree with these reasons

■ **No, because ...**

(1) prisons are overcrowded.

(2) the victims' families often support it.

(3) the murder rate will increase.

Judges apply the law, not victims →

(the decision to take a life must be made rationally, not emotionally) 5

Figure 5. The demonstration of a counterargument as irrelevant

Decide why you disagree with these reasons

■ **No, because ...**

(1) prisons are overcrowded.

(2) the victims' families often support it.

(3) the murder rate will increase.

There is no evidence to support this →

(it did not increase in the UK, etc.) 6

Figure 6. The demonstration of a counterargument as incorrect

(8) The student is now ready to begin composing his or her argumentative paragraph of approximately 100 English words. The compositional process and the structure of the paragraph should be made as transparent as possible (Figure 7; Figure 8). It should also be made clear that neither will change regardless of the question's topic or grammatical form. The first sentence (the thesis statement) should be a discrete and

emphatic response to the question. Whether it is affirmative or negative will depend on the evaluative process previously undertaken by the student.

1. Start with a clear thesis statement. ("It is my opinion that Japan should abolish the death penalty.")
 2. Justify with (preferably) 3 clear, distinct reasons. ("Firstly, ..." / "Secondly, ..." / "Finally, ...")
 3. Describe and destroy one counterargument. ("Although some people might say murders will increase, this has not happened in other countries where the death penalty has been abolished.")
 4. Restate the thesis and end with a solution or a recommendation or a prediction. ("I therefore believe that the death penalty should be abolished and that it will be abolished in my lifetime.")
- Avoid redundancy. ("I have some reasons.") 7

Figure 7. A guide on how to structure an argumentative paragraph

Should the death penalty be abolished in Japan?

It is my opinion that Japan should abolish the death penalty. Firstly, the death penalty is a type of murder and is therefore wrong. Secondly, it prevents the criminal from being rehabilitated and reentering society. Finally, if a mistake is made and the wrong person is executed, there is no way to bring them back to life. Although some people might say murders will increase, this has not happened in other countries where the death penalty has been abolished. I therefore believe that the death penalty should and will be abolished in my lifetime. 8

Figure 8. An example of a superior argumentative paragraph

(9) The next three sentences will each describe one of the supporting reasons and will be arranged in order of persuasive resonance from *strong* to *strongest*. This order of disclosure is analogous to boxers "softening up"

their opponents with progressively harder punches before landing the knockout blow. It should, however, be acknowledged that there is no academic consensus as to the most effective order in which to present one's reasons. The sandwiching of the weakest reason between the second-strongest and the strongest reason may actually be more appropriate for written arguments of essay length or longer. This option maintains the "punchy" finale while reducing the risk of the audience switching off or rejecting the position out of hand during the exposition of the first reason (UMUC, 2011). These potential drawbacks tend, however, to be allayed by the sheer rapidity with which a succession of ever more emphatic reasons must be presented in the body of a 100-word argumentative paragraph.

- (10) Having deployed his or her three supporting reasons in the appropriate order, the student is now obliged to demonstrate that he or she has adequately considered the contrary position. This entails describing and destroying at least one counterargument. Essayists will have the luxury of expanding every sentence within our current paradigm to paragraph length and of thoroughly repudiating all three of the counterarguments from across

the tabular divide. The Japanese EFL student is, however, more likely to be writing under real or simulated exam conditions. This will effectively limit him or her to the inclusion of the strongest or most-cited counterargument (generally one and the same). The evaluative process determining which of the counterarguments to describe and destroy should, with practice, become intuitive, thereby enabling the student to circumvent the superfluous appropriation of deficiencies (*insufficient* or *irrelevant* or *incorrect*) to counterarguments not appearing in the finished product.

- (11) The concluding sentence should restate the thesis and end with a solution or a recommendation or a prediction complementing or relating to the thesis statement. Examples of these final flourishes should be demonstrated. It should also be made clear that they potentially overlap (the distinction between a solution and a recommendation, for example, often being less than clear-cut).

To facilitate the writing component, a prescriptive model (e.g. Figures 1–8) elucidating the step-by-step procedure outlined above should be provided to all of the students as a reference and a guide. This model should be as devoid of technical terminology as possible and

should demonstrate and encourage the wholesale application of phrasal chunks that complement the structure. It should also identify and recommend the exclusion of sentences or phrases that are redundant (e.g. “I have some reasons”). The step-by-step procedure should be practiced extensively, with the teacher approximating exam questions and conditions as closely as possible. This “writing to test” enables more class time to be allocated to CT practice and to the appropriate writing procedure (unconstrained writing being generally more time consuming). The need to comply with international standards regarding plagiarism should also be conveyed in no uncertain terms. This latter point may be superfluous to requirements in terms of producing argumentative paragraphs under test conditions, but stands the student in good stead if and when the writing template is applied outside of a sealed environment and extended to include references.

4. Methods: testing the methodology

Having set out a contextually-appropriate methodology for the facilitation of critical thinking and its formal expression in writing, it now falls to this paper to prove that it actually works. To this end, two groups (Control and Experimental) were tasked with the writing of a 100-word argumentative paragraph under test

conditions in response to a question on a high-proximity issue. This involved each student formulating his or her argument and writing the paragraph in isolation, without recourse to consultation with either the teacher or other students. Each group consisted of 50 Japanese nationals, all second-year non-English majors taking the same compulsory grammar-based (and CT denuded) English writing class at a Japanese university. In order to maximize the comparability of the two groups, each student was paired with another student with precisely the same General Tests of English Language Proficiency (G-TELP) score (all of the participating students having taken the Level 3 G-TELP test earlier in the semester, their overall scores ranging from 133 to 194 points). These pairs were then broken up, with one student being randomly assigned to the Control group and the other to the Experimental group. Any student without a precisely equivalent “score buddy” was excluded altogether. The purpose of the research and its procedure was explained to all participating students and informed consent obtained.

Both groups were told that whatever they wrote would be collected and assessed by the teacher, thereby ensuring a high degree of student engagement with the task. A time limit of 45 minutes was imposed. The Control group undertook the task without any prior exposure (in either the writing

course or any other English language course at the university) to the critical thinking and process-writing methodology set out by this paper. By contrast, the Experimental group received explicit instruction in the same methodology over the course of two 90-minute lessons only. The first of these lessons was held two weeks prior to the task and the second one week prior. Over the course of these lessons, the Experimental group was shown, but did not practice the writing of, the type of product required. Neither group received any explicit forewarning as to the nature of the task or any coaching relevant to the issue to be addressed. Nevertheless, and in an effort to reduce the risk of a student being inhibited by a lack of familiarity with the subject matter, both groups were offered a choice of three different questions on three distinct high-proximity issues (see Appendix D for the precise questions used). Different questions and issues were supplied to each group in order to prevent any question or issue being “leaked” in the interval between the Control group and Experimental group undertaking the task. A similar desire to, as far as possible, “quarantine” the students in order to preserve the integrity of the data also informed the decision to compare the performance of two groups relative to a one-off task rather than the performance of a single group over the course of two tasks pre- and post-exposure to the

methodology. The latter option, if adopted, would have skewed the data due to the first undertaking of the task constituting a degree of practice affecting the second. Further corruption would have ensued had any of the students been exposed to (or sought out) any form of augmentative learning relative to CT or argumentative paragraph writing in the interim between the first and second tasks. Better, then, to circumvent these potentially corruptive elements altogether by pitting two near-identical groups directly against each other.

The argumentative paragraphs were evaluated (Figures 9 & 10) according to a purpose-built rubric loosely based upon Level 4 of Facione and Facione’s Holistic Critical Thinking Scoring Rubric (1994–2014) and incorporating intrinsic elements of the critical thinking and process-writing methodology set out above. The rubric was CT-specific to the exclusion of all other assessable features (such as grammatical accuracy) and rendered as a series of questions for the sake of clarity. Scoring was similarly reductive, an affirmative answer to any of the following being awarded a single point towards a maximum score of six. No half points were awarded. The six-question evaluative rubric was as follows:

- (1) Does the paragraph present a clear thesis statement (i.e., an unambiguous

answer to the question)?

- (2) Is the thesis statement validated by one or more reasons?
- (3) Is at least one counterargument evaluated and shown to be insufficient or irrelevant or incorrect?
- (4) Does the conclusion reaffirm the thesis statement?
- (5) Does the conclusion present a solution or a recommendation or a prediction complementing or relating to the thesis statement?
- (6) Is the paragraph devoid of fallacies (excepting counterarguments exposed as such)?

5. The post-task questionnaire

A questionnaire comprising ten Likert-style items and two true-false questions was also issued post-task (Table 1). The questionnaire was written in English (with one word glossed in Japanese) and was completed anonymously by all of the participating students across both groups. Each of the Likert-style items elicited a response on a five-point scale ranging from “strongly agree” (scored as one point) to “strongly disagree” (scored as five points). The questionnaire was designed to investigate attitudes to critical thinking and its expression, perceived improvement in critical thinking and argumentative paragraph writing as a result of the course, and prior exposure to other

courses elucidating similar critical thinking or process-writing methods. Some of the questions were adapted from Stapleton (2001) and others from Yang and Gamble (2013).

It should be noted that the questionnaire substituted the term “opinion paragraph” for “argumentative paragraph” in order to circumvent the semantic ambiguity of the adjective “argumentative.” As a further precaution, and following Stapleton (2001), the level of student comprehension and the reliability of the feedback were tested via two pairs of near-identical but inverted questions. That the responses to these questions and mean scores across both groups were, in the event, similarly inverted and approximately equidistant from the 3-point “Neutral” mirror line (2.23 and 3.54 respectively for Questions 1 and 6 and 3.13 and 2.66 respectively for Questions 2 and 9) was suggestive of acceptable levels of comprehension and reliability.

Questions 1 and 6 were intended to measure aversion to conflict and dissensus (or, conversely, to measure inclination towards the forthright expression of a personal, rather than consensual, critical thinking process). This inclination was then pitted against authority reverence in Questions 2 and 9 (though it should be acknowledged that, in cases where the authority in question is also one’s assessing teacher, it is difficult to determine where deference ends and prudence begins). Questions 3 and 4 measured metaknowledge

regarding argumentative paragraph writing and the need to substantiate opinions and acknowledge counterarguments. Subsequent questions investigated attitudes as to whether it is important to learn critical thinking (Question 5) and perceptions as to whether the current course of learning had led to an improvement in CT ability and argumentative paragraph writing ability (Questions 7 and 8, respectively). Question 10 investigated attitudes as to the veracity and objectivity of information from an authority source, specifically textbooks. The final two questions elicited a simple affirmative or negative response as to whether the student had ever received instruction in critical thinking (Question 11) or argumentative paragraph process-writing (Question 12) in any other course of learning.

6. Results and analysis

With a mean score of 5.26 (out of a maximum of six), the argumentative paragraphs produced by the Experimental group were found to be far more effective in terms of satisfying the criteria embodied by the rubric than those produced by the Control group (with a mean score of 2.50). As Figure 9 illustrates, only 2% of the Control group (equivalent to a single student) scored in excess of 4 points, something achieved by the vast majority (86%) of the Experimental group. By

contrast, 74% of the Control group scored either 2 or 3 points, the latter being the lower-limit achieved by the Experimental group (and once again by a single student).

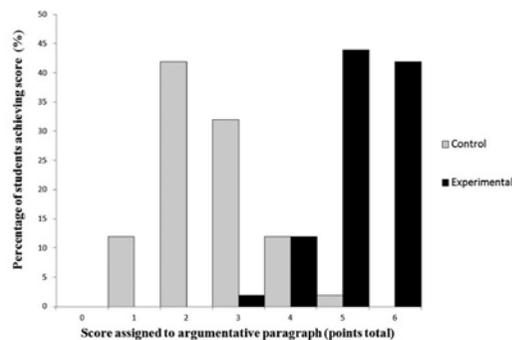


Figure 9. Score distribution for argumentative paragraphs

Figure 10 is similarly emphatic in terms of demonstrating the efficacy of teaching to task. By breaking down the rubric into its component parts, the graph suggests that Japanese university students, unless exposed to a critical thinking and process-writing methodology, will struggle to develop an argumentative paragraph beyond its thesis statement and most basic support. The argumentative paragraphs produced by the Control group were entirely devoid of counterarguments and in the vast majority of cases neglected to include a conclusion of any substance. A disproportionately high percentage of Control group students managed to avoid making fallacious arguments by the simple expedient of not making much of an argument at all. Most failed to

approach the word limit. By contrast, the Experimental group scored highly across the rubric with only the conclusion's final flourish being consistently conspicuous by its absence—46% of the Experimental group students apparently deemed the inclusion of a solution or a recommendation or a prediction too testing (or perhaps too superfluous to requirements) to be worth bothering with.

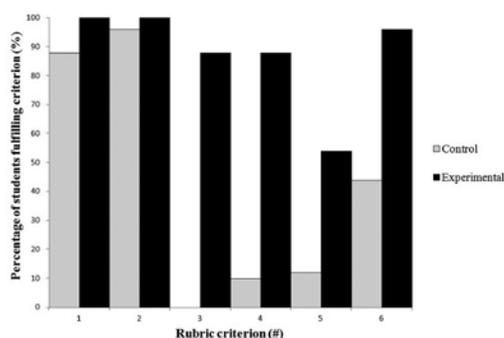


Figure 10. Argumentative-paragraph score breakdown according to rubric criteria

7. Interpreting the questionnaire data

The data returned by the questionnaire (Table 1) made less of a distinction between the Control group and the Experimental group, suggesting that attitudes are more deeply ingrained (and therefore more resistant to manipulation) than practices.

This is not to imply that the data merely served to confirm the incompatibility of Western notions of CT with an East Asian mindset. On the contrary, there was broad if tentative agreement on the importance of

stating one's own opinions clearly (Questions 1 and 6) and on not deferring to an authority figure (Questions 2 and 9). The Experimental group was found to be only marginally more insistent on these principles.

Disparities in metaknowledge were slightly more apparent in relation to Questions 3 and 4, but even here the Control group exhibited strong support for the inclusion of reasons and, to a lesser extent, for the inclusion of counterarguments. This suggests that the Control group was generally cognizant of the need to acknowledge counterarguments but was prevented from doing so by a lack of process-writing skill. An alternative explanation is that counterarguments did not feature in the collective consciousness of the Control group at all until the post-task questionnaire put them there.

In response to Question 5, both groups agreed that CT can and should be enhanced through learning. That the Experimental group leaned further towards "strong agreement" reflects the fact that it had recently experienced and benefitted from CT-facilitative instruction. Interpreting the Control group's (albeit relatively tentative) assertion that it had also managed to reap some benefit in terms of its critical thinking ability (Question 7) and argumentative paragraph writing ability (Question 8) is, however, more problematic. While it is possible that the Control group may have gleaned, on an incidental basis,

Table 1. Responses to the Post-task Questionnaire (Mean Scores)

Questions (To what extent do you agree with the following statements?)	Mean scores (1 = strong agreement; 5 = strong disagreement)	
	Control	Experimental
(1) When I write an opinion paragraph, it is important to state my own opinion clearly, even if the topic is sensitive (for example, about whaling or about the Japanese prime minister visiting Yasukuni Shrine).	2.26	2.2
(2) When I state my opinion, it is important to agree with the teacher.	3.08	3.18
(3) When I write an opinion paragraph, it is important to support my opinion with reasons.	1.88	1.7
(4) When I write an opinion paragraph, it is important to mention other reasons that disagree with my opinion.	2.3	1.94
(5) It is important to learn critical thinking.	2.0	1.5
(6) When I write an opinion paragraph, if the issue is controversial (like whaling or the Japanese prime minister visiting Yasukuni Shrine) it is better not to give a clear opinion.	3.5	3.58
(7) My critical thinking ability has improved because of this course.	2.8	1.68
(8) My opinion paragraph writing ability has improved because of this course.	2.68	1.6
(9) If I support my opinion, it is okay to disagree with the teacher.	2.76	2.56
(10) The information in my textbooks is unbiased (偏見のない) and true.	2.44	2.18
Questions (Are the following statements true or false?)	Percentage of group answering “true” (%)	
	Control	Experimental
(11) I have learned about how to think critically before in other classes (at school or at university, in Japanese or in a foreign language).	80	70
(12) I have learned about how to write an opinion paragraph before in other classes (at school or at university, in Japanese or in a foreign language).	84	68

Questions 1–4, 6 & 9: Stapleton (2001), p. 252; Questions 5, 7, 8 & 11: Yang and Gamble (2013), p. 411

some benefit relative to these skills from what amounted to a grammar-based writing course, the data expressed in Figures 9 and 10 would seem to dispute this. Any benefit actually accrued and not merely imagined was apparently slight and unevenly distributed. This inconsistency may have stemmed from the questionnaire effectively duping some of the students

from the Control group into believing that they had at some point during the course received instruction relevant to CT and argumentative paragraph writing. A further possibility, defensible in terms of protecting the sensibilities of the teacher and the standing of the group, is that Japanese students are predisposed to return favorable course evaluations. This inclination can

only ever be tempered, never expunged, by a questionnaire's guarantee of anonymity.

Perhaps more intriguing was the Experimental group's greater reluctance to cast aspersions on the information in their textbooks (Question 10). It is, however, possible to attribute this apparent lack of criticality to an unfortunate and somewhat paradoxical side-effect of the course. The assumption here is that the data may have been skewed by a few students from the Experimental group mentally scanning their textbooks in the limited time available and failing to detect any fallacies according to the checklist previously taught (Appendix C). These students may then have been more inclined to deny the presence of falsehoods and bias. To safeguard against this, it is incumbent upon the teacher to emphasize the less-than-comprehensive nature of the aforementioned checklist and the pervasiveness of subjectivity (from which textbooks are by no means immune).

Questions 11 and 12 should have returned similar mean scores from both groups by virtue of their shared educational backgrounds. That the Control group scored more highly is, however, consistent with the Experimental group's recently-altered perception as to what constitutes a properly-effective critical thinking course and a properly-effective argumentative paragraph writing course. This discrepancy aside, the claim (made by a clear majority of the

students from both groups) that they had received prior classroom-based instruction in critical thinking and argumentative paragraph writing is unconvincing in light of the Control group's poor performance relative to the task. At the very least, it must be said that this instruction was insufficiently rigorous to be transferrable to the students' EFL classes at university.

Certain issues casting doubt upon the veracity and applicability of the data should be acknowledged. As has already been mentioned, the questionnaire may have prompted the students (and particularly those in the Control group) into returning specious evaluations. More clear-cut is the suggestion that the research component was inordinately biased in favor of the group receiving instruction in the very methodology that also informed the rubric used to evaluate the product. Indeed, that the Experimental group was able to exhibit superior task performance under these conditions is of no surprise and very little consequence *unless* one is prepared to accept the applicability of the rubric and then dissect task performance relative to its individual criteria. This latter point implies a more thorough analysis of the data in order to discern points of emphasis—a process that would then lead to the methodology being adjusted (and retested) accordingly. The integrity of the rubric may also called into question by its failure to penalize those students

providing no more than a single supporting reason. This decision, taken in order to avoid placing the Control group at an unfair disadvantage in terms of the scoring system, was arguably counterproductive and unnecessarily harsh on those students (mostly from the Experimental group) employing a “three-pronged” defense of their thesis statements. Their extra endeavor not only brought them no reward but also made them more susceptible to being penalized for the inclusion of fallacies. That the Control group then went on to emphatically agree with the need for supporting “reasons” in the plural (Question 3) only added insult to this injury.

It is also worth reiterating that a Japanese student’s failure to comply with one or more of the criteria imposed by a particular rubric does not necessarily mean that that student lacks the critical faculties to fulfill those criteria. This point alludes to the disparity in form and lack of awareness vis-à-vis Western modes of engagement and expression that is the true nature of the CT-deficiency ascribed to Japanese and, more generally, to East Asian students. Furthermore, and if one factors in the additional cognitive burden imposed by the need to express oneself through a radically different foreign language (Rear 2017a, pp. 26–27, 2017b, pp. 12–13), the cumulative effect is anything but conducive to the production of a cohesive piece of academic writing.

8. Discussion and conclusion

To conclude, this paper met its objectives in terms of elucidating an effective process for the teaching of critical thinking and its articulation as product in an EFL class at a Japanese university. It did so by reducing the cognitive and creative aspects to formula via clear guidelines for construction and clear rubrics for critique. The data collected was consistent with the notion of a compatible relationship between CT and English language proficiency, though it should be noted that the paper did not specifically test for the latter beyond the retention and regurgitation of a chunk-driven argumentative paragraph. It did, however, confirm the feasibility and efficacy of CT-integrated EFL instruction—an achievement hardly diminished by the fact that it did so under conditions purposefully designed to be facilitative.

Critical thinking implies the existence of a point of contention, the potential for conflict, and the capacity for choice. In order to facilitate its lucid and non-fallacious expression, the point of contention should be rendered as familiar as possible. This might be achieved through the deployment of high-proximity issues or, alternatively, via a policy of sustained content-based instruction (thereby enabling a range of more remote issues affiliated to a common topic). That this paper confined itself to the former was a practical

necessity in view of the Experimental group's exposure to a mere two classes' worth of instruction. This alludes to the fact that the experiment managed to extract proof of superior critical thinking without resorting to extensive practice. A range of supplementary CT-enhanced activities were similarly excluded in order to preserve the integrity of the core critical thinking and process-writing methodology under review. It therefore falls to future research to determine the relative efficacies of activities such as peer critiquing and debate and to test other modes of practice. The extent to which the methodology is genuinely transferrable to other contexts beyond the Japanese tertiary sector should also be assessed. This implies shifting the locus of the research to other learning contexts both inside and outside of Japan and to other parts of the curriculum. In the meantime, the methodology set out by this paper is on hand to at least inform CT-integrated EFL instruction in Japan and East Asia generally. Whether or not the relevant governments avail themselves of this opportunity will depend upon their willingness to unleash critical forces that will inevitably reshape their societies in ways almost impossible to predict.

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Appendix A

Suggested critical thinking questions for the production of opinion paragraphs:

Should the death penalty be abolished in Japan?

Should the speed limits on Japanese roads be raised?

Should Japan impose stricter sanctions on North Korea?

Should mothers sleep with their school-age children?

Should the Japanese Prime Minister visit Yasukuni Shrine?

Should Japan stop whaling?

Should the price of a packet of cigarettes be raised?

Should Japan pay compensation to women conscripted to work as comfort women during World War II?

Should Japan clamp down upon organized crime?

Should Japan legalize same-sex marriage?

Appendix B

Possible permutations of critical thinking questions:

Should the death penalty be abolished in Japan?

The death penalty should be abolished in Japan. Discuss.

Do you support the death penalty? Give reasons for your opinion.

Do you support the death penalty? Why or why not?

Is the death penalty right or wrong?

Appendix C

A checklist for evaluating reasons:

An affirmative answer to any one of the following questions would indicate that a reason is fallacious.

(1) Is the reason based on information or data that is false?

(The death penalty should not be abolished because the murder rate is increasing in Japan.)

(2) Is the reason generalizing without evidence?

(The families of murder victims support the death penalty.)

(3) Is the reason based on an emotional appeal?

(If it was your family member who had been murdered, you'd support the death penalty, too.)

(4) Is the reason misrepresenting a cause and effect relationship when, in fact, other causes exist?

(Because Japan has the death penalty, crime is falling.)

(5) Is the reason misrepresenting an either/or situation when, in fact, other possible scenarios exist?

(If Japan abolishes the death penalty, it will lose its reputation as a safe country.)

(6) Is the reason illogical in terms of its premises leading to its conclusions?

(Japan is an independent country and therefore should not abolish the death penalty.)

Appendix D

Question/issue choices for the writing task:

Both the Control group and the Experimental group were offered a choice of three questions/issues from which to write one 100-word argumentative paragraph.

Students in the Control group chose one of the following:

(1) Should the voting age in Japan be

lowered to 18?

(2) Should Japan close down its nuclear reactors?

(3) Should the Japanese prime minister visit Yasukuni Shrine?

Students in the Experimental group chose one of the following:

(1) Should this university become completely non-smoking?

(2) Should Japan send food and medicine to North Korea?

(3) Should the Japanese writing system be simplified by dropping kanji?

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