Critical Thinking Beyond the Classroom Walls

Critical Thinking Beyond the Classroom Walls

Sylvan Payne

この論文はMICの学生が授業を離れた後の批判的考え方の技量について考察する。論者は特にMICの教育目的と哲学に反映された批判的考え方とは何なのかと簡潔に論ずる。批判的考え方がなされるべきだったのに、それがなされなかったひとつの事例について考えられる。本論は組織的に準備された授業形態で学生は批判的考え方が出来るのに、授業を離れてしまうと批判的な考え方が出来ない傾向があることについて論じられる。

This article examines the critical thinking skills of MIC students once they leave the classroom. The author briefly discusses what critical thinking is, especially as it is reflected in MIC's educational goals and philosophy. In light of this, one case is considered in which independent critical thinking should have happened, but didn't. The argument is made that while MIC students regularly demonstrate critical thinking skills in a structured classroom setting, the tendency to quickly forget what they have learned can limit their ability to transfer these skills to events outside the classroom.

What is critical thinking?

Describing his own lifestyle, Francis Bacon wrote in 1605:

> For myself, I found that I was fitted for nothing so well as for the study of Truth; as having a mind nimble and versatile enough to catch the resemblances of things ... and at the same time steady enough to fix and distinguish their subtler differences; as being gifted by nature with desire to seek, patience to doubt, fondness to meditate, slowness to assert, readiness to consider, carefulness to dispose and set in order; and as being a man that neither affects what is new nor admires what is old, and that hates every kind of imposture.

Although its roots can be traced back to classical Greece, critical thinking as a named discipline has only been around for about a hundred years, perhaps beginning with John Dewey's definition of *reflective* thinking: "Active, persistent, and careful consideration of a posed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends" (Dewey, 1909 p. 9). The reflective thinker is vigorously engaged in the whole process of thinking. Barnet and Bedau (1993) write, "When we add the adjective 'critical' to the noun 'thinking,' [we] are talking about searching for hidden assumptions, noticing various facets, unraveling different strands, and evaluating what is most significant" (p. 3).

Definitions of critical thinking are numerous and varied, but a common theme is its active deliberateness. It is axiomatic that critical thinking is *never* passive. In Francis Bacon's 17th century words, thinking critically involves plenty of mental activity: catching the resemblance of things, fixing and distinguishing subtle differences, seeking, doubting, meditating, carefully asserting, considering, and setting things in order. Yet in the 21st century, when we have so much more to think about and far less time in which to think, critical thinking has become a constructive attempt to deal with the overload of information. As the overload increases, so does the discussion of how to acquire and use critical thinking skills. Thus, current proponents of critical thinking seek ways to efficiently but effectively sift through the mountains of information we are faced with every day.

At Miyazaki International College (MIC), faculty attempt to teach critical thinking skills in their courses. Thinking critically is doubly necessary for bilinguals,

Sylvan Payne teaches at Miyazaki International College. Correspondence may be sent to: MIC, 1405 Kano, Kiyotake-cho, Miyazaki-gun, Japan 889-1605, Tel: 0985-85-5931, Fax: 0985-84-3396, E-mail: spayne@miyazaki-mic.ac.jp

as they deal with even *more* information, needing to quickly translate information from one language to another and across cultures. MIC faculty members want their students to develop these skills and to actively use them outside the classroom and long after graduating.

This article is a reflection on an instance of critical thinking that should have happened but didn't, leading me to wonder why, to rethink some of my assumptions and consider some new pedagogical directions.

The course project

In the spring semester of 2002, Peter Vail and I included an extended unit on World War II during the first month of a second-year course, Japan-North America Relations. Two weeks were spent studying Unit 731, the Japanese Army's infamous biological and chemical weapons laboratory-factory in Manchuria. The scientists and doctors of Unit 731 developed innovative ways to deliver plague germs and poison gas to a battlefield. For test subjects, they used kidnapped Chinese citizens as well as Russian, Chinese and American prisoners of war. The unit's personnel euphemistically referred to the subjects as *maruta*, or logs, and told the local inhabitants that Unit 731 was a lumberyard. Among other atrocities, the staff performed vivisections, injected anthrax, did shrapnel bomb-blast experiments, and dropped clouds of bubonic plague fleas onto unsuspecting Manchurian villages. After the war, these scientists traded their data to the American Occupation authorities for immunity from prosecution and returned to high-level careers in science, medicine, education and government back in Japan. The pragmatic Americans subsequently used the research not only to improve their own biological and chemical weapons but also to design protective measures and equipment for military personnel (Gold, 1996).

In the course of the unit, students watched *Unit 731: Nightmare in Manchuria* (Nelson, 1996), a 50-minute documentary video. It was edited to 30 minutes, converted to digital QuickTime clips and burned onto CDs. The students watched the clips using laptop computers in the classroom. We wrote an accompanying 10-page handout for the video that included activities in listening, vocabulary building, defining words, choosing synonyms, discussion, narration, summarizing, guessing meaning, and prediction. The QuickTime format gave the students individual and active control over the video clips; to complete the handout, each student probably watched the entire video as many as ten times, often playing key phrases over and over for better comprehension. Some students even borrowed the CDs and watched them outside of class. As a result, they knew the information from the video clips very well.

During these two weeks, the students also did Internet research and read selections from books and journals. In addition, they wrote daily reflections, participated in discussions, gave small group presentations and each wrote a two-page essay as a final product. According to their written and spoken remarks, most of them found learning about Unit 731 to be deeply traumatic, reflecting on the fact that only two generations ago Japanese soldiers and doctors had participated in such horrors. They expressed shock and indignation that the imperial government had officially sponsored the atrocities and that the war criminals had gone unpunished.

Beyond the classroom walls

Soon after the semester finished, biological and chemical warfare became a daily news topic as UN weapons inspections in Iraq dragged to a close. Whether or not Saddam Hussein possessed weapons of mass destruction (WMD's) became a compelling issue for the war in Iraq. The debate on this claim was reported endlessly by the news media. In U.S. cities, people were prepared to seal their homes with plastic sheets and duct tape as they braced for terrorist attacks. The Japanese media contemplated Japan's vulnerability to bio-chemical terror at home and abroad. In various ways, rumors of weapons of mass destruction dominated the news for weeks.

I became curious about what connections the students from our class had made between Unit 731 and this current news. A few weeks after the occupation of Iraq began, I approached a few students who had been in the course. At that time, I did an informal survey, asking if they ever thought about Unit 731 when they heard the daily news reports about weapons of mass destruction. To my dismay, few of the students even remembered studying Unit 731, and none of them had thought about it since. I safely assumed that none had made the connection with biological and chemical weapons inspections in Iraq. These were the same students who only a year earlier had written passionate entries in journals about the importance of never forgetting this story.

I suspected that they hadn't made the connection because they lacked the necessary critical thinking skills to do so. To formally investigate this, I surveyed third-year students a few weeks later. The surveys were completed in two upper-level classes and 36 responses were collected, representing well over half the third-year class. The survey asked questions about news-watching/reading habits in English and Japanese, general knowledge about weapons of mass destruction and whether the students had ever studied about WMD's at MIC (see Appendix 1).

Fifteen of the surveys were completed by students who indicated they had taken Japan-North America relations in their second year. This represents approximately three-quarters of the class that had studied Unit 731 the previous year.

Regarding news habits, 27 of the 36 indicated they watched or read world news in Japanese either every day or a few times a week. The remainder indicated they rarely or never took in world news. Six students claimed they watched or read world news in English at least once a week; 29 indicated they rarely or never got any English news. Twenty-two students stated that television was the source of most of their world news. Five read the newspaper and six used Internet for most of their news. No one seemed to be reading news magazines.

Regarding knowledge of WMD's, only 16 out of the 36 could correctly translate the term "Weapons of Mass Destruction" into Japanese (a few translated it as *kakuheiki*, or nuclear weapons). Only 10 knew that WMD's included biological, chemical and nuclear weapons. (Some thought that aircraft carriers, landmines and tanks qualified.) Thirty-three knew that the US military was continuing to search for WMD's in Iraq.

On the final question, of whether or not the students had studied about WMD's at MIC, all 36 indicated that they had *not*. Not one of the 15 students who said they had taken Japan-North American Relations recalled studying about

biological and chemical weapons when they studied Unit 731. It was surprising because a number of these same 15 students claimed to take in world news regularly and demonstrated basic knowledge about WMD's. They just didn't make the connection with Unit 731.

Possible implications

This is one isolated instance, and we can hardly draw conclusions based on this evidence alone, but it raises some troubling questions. Why do students seem to compartmentalize so much of what they learn, sealing it away, perhaps never to access it again? Why is it when teachers plan a course in which, say, Unit 1 lays the foundation and Unit 2 is built on the foundation of Unit 1, students are often unable to recall the foundational material as the course progresses? Why do teachers in our setting so often find themselves laying the same foundations over and over again? Is it a problem with the way things are taught? Are the teachers missing something? Are student needs and preferences not being identified or met?

Or is it the students? Are they being obtuse? Are they indifferent? Are they disengaged? Do they have too many other things on their minds? Is learning everything in a second language just too much for many of them? Are the students, as many suggest, culturally incapable of thinking in certain ways? Or are they simply products of an educational system that encourages a learn-and-forget approach to academic studies?

Sure, there are the exceptions: the curious students who see the big picture and make the intellectual jumps, connecting what they know already with what they are encountering for the first time, developing or restructuring their ideas as they grow intellectually. The question is, why are these students exceptional? Why aren't they the majority?

Since the notion of critical thinking is such an important part of the MIC experience, and so much effort goes into nurturing and encouraging it, shouldn't we expect clear evidence that critical thinking is going on beyond the classroom walls? If we are committed to teaching critical thinking, why don't our students make the seemingly obvious links between what they have learned and what is going on in the world?

MIC embraces critical thinking as a fundamental component of its goals and philosophy. The 2003 MIC Bulletin reads, "Through active learning students develop higher-order thinking skills that enable them to analyze, synthesize, evaluate, and create" (p. 5). These words have evidently trickled down from Bloom's *Taxonomy of the Cognitive Domain* (1956) in which the authors represent cognition as composed of six successive levels in a hierarchy: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. Perhaps MIC's philosophy assumes that the earlier stages are in place. However, at the bottom of the hierarchy, at the Knowledge level, "[the] student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned" (Bloom, p. 28). If our students can't recall what they have learned, then they aren't able to think critically, it would seem. Simply put, one cannot analyze, synthesize or evaluate what one cannot remember.

On this issue, Tim van Gelder (2003) writes,

> Humans are not naturally critical thinkers; indeed, like ballet, it is a highly contrived activity. Running is natural; nightclub "dancing" is natural enough; but ballet is

> something people can only do well with many years of painful, expensive, dedicated training. Evolution didn't intend us to walk on the ends of our toes, and whatever Aristotle ("Man is a rational animal") might have said, we weren't designed to be all that critical either. (p. 5)

In other words, critical thinking has to be learned with great effort. It's difficult to master because it is a higher-order cognitive skill, requiring that the thinker has already developed the lower-order skills. Van Gelder (2003) continues,

> For example, to respond critically to a letter to the newspaper, you must already be able to read and understand the letter (text comprehension), which is built in turn out of skills such as being able to recognize words, which in turn... If these lower-level skills aren't properly bedded down, critical thinking just isn't going to happen. You may as well ask your dog to answer your emails. (pp. 5-6)

Perhaps we are assuming that our students have developed at least the necessary lower-order skills before they get to MIC. Maybe we're aiming too high from the get go. Perhaps we should identify the requisite lower-order skills and make sure our students are able to function comfortably with these skills before we expect sustained thinking on a higher level.

Undoubtedly, a vital component in acquiring critical thinking skills is intrinsic motivation. You can lead the proverbial horse to water, but unless it's thirsty, the horse won't drink. We can do everything we can to make the "water" of critical thinking look tempting, but if our students aren't "thirsty," they won't drink. Given that critical thinking is difficult, and many students consider difficulty itself sufficient reason for not doing something, intrinsic motivation is of key importance. Critical thinking as a way of life must be its own reward. Success at thinking critically must be sufficient motivation to spur the thinker to do it again and again.

Part of the challenge of mastering critical thinking at MIC is that the students are already struggling to master another set of higher-order skills: fluency in academic English. This kind of fluency is also difficult and unnatural; it must be consciously learned and practiced, and the lower-order skills must be mastered first. Perhaps the challenge of doing two sets of higher order skills simultaneously leads some students to opt out of one of them—or both. Perhaps we need to approach teaching the basics of critical thinking as deliberately as we approach the teaching of the English language skills our students need.

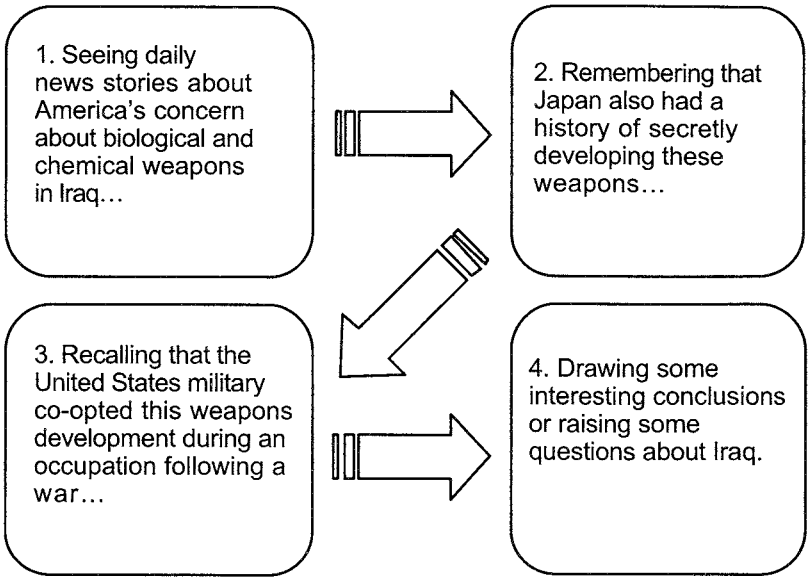
Content-based learning in the MIC liberal arts curriculum provides an effective context for teaching thinking skills. Research suggests that teaching critical thinking skills is most effective when it is integrated holistically and taught explicitly in course curricula (Carr, 1988; Smith, 1990). According to Alec Fisher (2001):

> [I]n the past the emphasis in most people's teaching has been on teaching content—history, physics, geography or whatever—and though many teachers would claim to teach their students 'how to think', most would say that they do this indirectly or implicitly in the course of teaching the content which belongs to their special subject. Increasingly, educators have come to doubt the effectiveness of teaching 'thinking skills' in this way, because most students simply do not pick up the thinking skills in question. The result is that many teachers have become interested in teaching these skills directly. (p.1)

I believe that inside the classroom we all try to do what the MIC Bulletin describes in the Academic Program section: "[Faculty] plan and teach courses which build English skills while they teach knowledge of a subject area and develop thinking skills. MIC classes emphasize discussion, cooperative learning, problem

solving and other activities stressing critical thinking and creativity" (p. 7). Often enough, activities succeed and students exhibit results where critical thinking is stunningly evident. Gratifying as this is, we know that the process has been been highly structured and heavily supported. In a way it's only simulated critical thinking because it depends so heavily on the scaffolding provided by the classroom setup. Genuine critical thinking happens beyond the classroom walls as students begin to string together the things they have learned and to develop their own intellectual schemata using these acquired thinking skills. Is this what happened with Unit 731? Evidently not.

I am still puzzled by the fact that the students did not make the connection. Why didn't the following process unfold?



Whatever the reasons, I have to ask myself what can be done in the future to prevent this kind of collective amnesia. How can we help the students remember beyond the current semester? Indeed, what can be done to encourage them to see connections from disparate sources and think beyond the classroom?

Works Cited

Bacon, F. (1605) *On the Interpretation of Nature.* Retrieved September 18, 2003, from: http://www.philosophy.unimelb.edu.au/reason/critical/index.htm

Barnet, S., & Bedau, H. (1993). *Critical Thinking, Reading and Writing.* Boston: St. Martin's Press.

Bloom, B. S. & David R. K. (1956). *Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners. Handbook 1: Cognitive domain.* New York: Longman, Green.

Carr, K. S. (1988). How can we teach critical thinking? *Childhood Education, 65*(2), 69-73.

Dewey, J. (1993). *How We Think. A restatement of the relation of reflective thinking to the educative process* (Revised ed.). Boston: D. C. Heath. (originally published in 1909 as the monograph *How We Think*)

Fisher, A. (2001). *Critical Thinking, an Introduction*. Cambridge: Cambridge University Press.

Gold, H. (1996). *Unit 731:Testimony*. Tokyo: Yenbooks.

Miyazaki International College (2003). *Bulletin*. Miyazaki, Japan: Author.

Nelson, E. (producer). (1996). *Unit 731: Nightmare in Manchuria*. [video recording] New York: A&E Television Networks.

Smith, C. (1990). Two approaches to critical thinking *Reading Teacher, 44*(4), 350-351.

Van Gelder, T. (2003). Teaching Critical Thinking: Lessons from Cognitive Science. Manuscript in preparation.

Appendix 1

Survey: Weapons of Mass Destruction (WMD) (results in parenthesis)

1. In my second year at MIC I took these courses: (circle the courses you took)
   a. Issues in Cross-Cultural Comm.
   b. Issues in Education
   c. Comparative Political Issues
   d. Japanese Expression 2
   e. Japanese Art
   f. Japanese Religious Thought
   g. Modern Japanese Literature
   h. Japan-Great Britain Relations
   i. Japan-North America Relations
   j. Japan-India Relations

   (15 indicated they had taken Japan-North America relations)
2. I read or watch world news in Japanese: (circle one)
   a. every day **(12)**
   b. a few times a week **(17)**
   c. once a week **(3)**
   d. rarely **(4)**
   e. never **(0)**
3. I read or watch world news in English: (circle one)
   a. every day **(0)**
   b. a few times a week **(2)**
   c. once a week **(5)**
   d. rarely **(24)**
   e. never **(5)**
4. I get most of my world news from: (circle one)
   a. newspapers **(6)**
   b. news magazines **(0)**
   c. television **(23)**
   d. internet **(7)**
5. In Japanese, "weapons of mass destruction" is: _____

   (correct translation: 16
   translated as *kakuheiki*, nuclear weapons: 6
   total loss or blank: 14)
6. Weapons of Mass Destruction (WMD) include: (circle one or more)
   a. tanks and heavy artillery 戦車、タンク、大砲
   b. nuclear/atomic weapons 核兵器
   c. land mines 地雷
   d. biological weapons 生物兵器
   e. chemical weapons 化学兵器
   f. aircraft carriers 航空母艦
   g. I don't know

   (correctly identified as chemical, biological *and* nuclear weapons: 10
   (identified as chemical, biological *or* nuclear, but not all three: 9
   (identified as chemical, biological and/or nuclear *plus* conventional weapons: 12
   didn't know: 5)
7. According to world news, the US Military is searching for WMD in: (circle one or more)
   a. Iran **(2)**
   b. Taiwan **(0)**
   c. Iraq **(31)**
   d. Saudi Arabia **(3)**
   e. Australia **(0)**
   f. I don't know **(4)**
8. Please circle the answer that best describes you:
   a. I have studied about WMD at MIC **(0)**
   b. I have not studied about WMD. **(36)**
   c. I have studied about WMD, but not at MIC **(0)**