

# Problems of Process and Global Issues in Content-based Learning

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In this paper, I would like to question whether a particular curriculum focus, such as an emphasis on global issues through English, should be isolated from the students' own academic majors. This question of overlap between general and academic is first contextualised through a student end-report from a first-year writing course in the 1996 academic year. These students were Bio-Resources majors. Rather than consider the student report as an ideal example, I examine its strengths and weaknesses, and question what is missing. From this, I raise questions about appropriate written genres in English for university students, before reviewing how the writing course was later developed to connect global issues content-based learning more closely with English for academic purposes (EAP) writing. A second end-report is presented from the revised course, together with findings from action research into how students might begin to master particular academic skills in English. Finally, I conclude this paper by relating these pedagogical concerns to wider questions of knowledge and learner development and autonomy.

## THE WRITING COURSE IN ITS EARLY STAGES

### Focus on Global Issues: Overview of the early student-initiated projects

The 1997 module consisted of a 10-week project, i.e., carried out over a whole term, with the students working in groups after the first week. That is, the emphasis fell on the students' own interest as the principle motivation towards researching and organising content. In this module, students started on individual research topics, then formed groups and negotiated from similar initial areas of interest a single group topic of socio-cultural interest. Each group chose a group leader, and that person became the contact person for that group. The overall project goals are presented in Table 1 on the next page.

The project themes for the 1997 academic year covered a variety of educational, socio-cultural and political content, which can be broadly linked under the umbrella term of global issues. The Bio-Resources writing class chose these topics: education, environmental awareness and education, the ageing society, bullying, administrative reform, the education system, the Kobe murder, and dioxin.

Table 1  
Group research project stages

**Individual (week 1):**

- choose a socio-cultural research topic

**Group (weeks 2 through 10):**

- negotiate this topic in small groups and form a group topic
- identify, use and discuss supplementary sources of information about the topic
- draft a questionnaire
- pilot the questionnaire in class
- administer the questionnaire outside the class (5 respondents minimum per group member)
- collate the data
- write a summary of the data
- analyse and discuss the data
- draft, revise and edit a research paper
- give a short poster presentation in class

The research projects were student-initiated and questionnaire-driven.

**Learner-initiated content and skills**

Students drafted, revised and edited questionnaires on the topic they chose, and they analysed the data collected from over 20 respondents in order to produce a short term paper. Thus, the key final genre was research report / term paper. To achieve this, the student-researchers needed to organise a research tool, collect data, collate it and learn to look at the topic from many angles. This made the writing of a research report based on questionnaire results a fairly straightforward matter in terms of general organisation, in that, by following a conventional format such as *Introduction-Method-Results-Discussion-Conclusion*, it became relatively easy to organize the end-report. In order to understand what the end-products of this course looked like, an example final report is included on the following pages.

**Learner-initiated content and roles**

Draft and edited questionnaires, complete research papers from students, journals, and magazines were recycled in class to show students what each product in the research cycle might look like. This involved making poster displays for students, using authentic products, and setting short and manageable top-down organizational tasks. Recycling across different class groups excellent models that students achieved further helped in creating accessible learning tasks that respected the students' intelligence, experience of the world and their sense of their own potential. Challenging students to take risks (i.e., to do something that they had never considered themselves capable of before), to experiment in effect, and then to reflect on that process before starting another cycle of risk-taking and reflection, perhaps proved the single most powerful means of fostering self-directed learning development and of helping students become more self-sufficient within their research-learning.

Figure 1

Example student research report (Bio-Resources 1996)

# YOU WASTE THINGS, DON'T YOU?

—RESEARCH REPORT  
ABOUT RECYCLING—

## GROUP KUMAGORO

[4 students with names withheld to preserve anonymity]

University of Tsukuba, Bio-resources, First-year English Writing Class A

### ☆Background

These days it is said that environmental destruction is more serious than ever. Marine and air pollution, too much deforestation, global warming, ozone decreasing ...once we try to give examples, we know no bounds. But we can notice one problem in particular - recycling and the waste problem. It is the most familiar problem, because we cannot help making waste in daily life. Nobody can escape from this problem.

Most freshmen of Tsukuba University live in students' dormitories. However, the waste collecting system is not good. Of course this is due to not only janitors of the dormitories. It also results from students' lack of awareness that they are citizens of the Earth, which is troubled by problems now.

### ☆Method

Our group "Kumagoro" carried out research into recycling. After drafting and piloting questionnaire of 16 items (3 open items, 13 closed items), we administered the questionnaire to our respondents. We also recorded follow-up interviews in English. This research showed many interesting and striking ideas and points of view. The following table summarises the profile of the population sample (n=22):

Table I: Demographic data

①	17 Male : 5 Female	
②	Age range:	18~33 years old
③	Country:	
	Japan	17
	Philippines	2
	Bangladesh	1
	Canada	1
	India	1
④	Major:	
	Bio-Resources	10
	International Relations	3
	Japanese Language and Culture	2
	Agriculture	1
	Anthropology	1
	Basic Technology	1
	Biology	1
	Environmental Sciences	1
	Law	1
	Mathematics	1

☆ **Results**

In Part B, we looked at people's personal definitions of recycling. About 59% respondents define recycling as reusing, that is, making good use of what other people have used or wasted. The definition "Not to waste things" may come from the first definition. The second most common definition is using limited resources effectively. This definition includes b), c), and d). The third definition is ecology. This includes f).

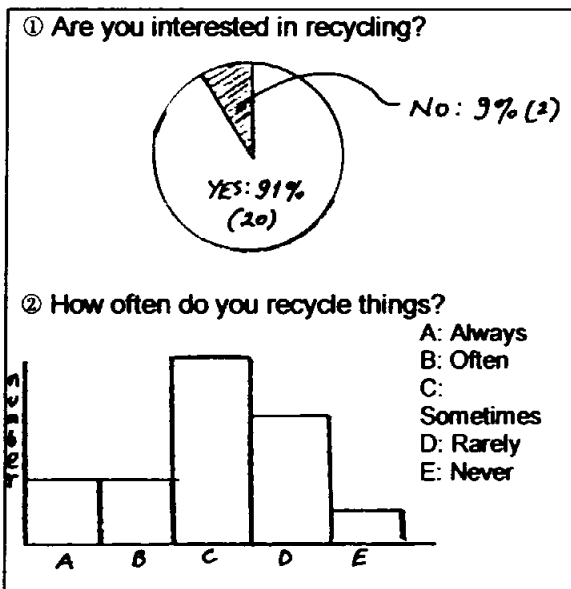
The second question in Part B explores word or phrases that come to mind when people see the word recycling. About 42% relate recyclable or recycled things to recycling, whereas 21% relates resources or nature to recycling. The same percent answered "reusing" or "secondary products". 12% of the respondents relate ecology to recycling, but only 4% answered "decreasing trash". From the results of this part, we can say that most people surveyed considered recycling as reducing waste and protecting natural resources on earth.

**Table 2: What is recycling?**

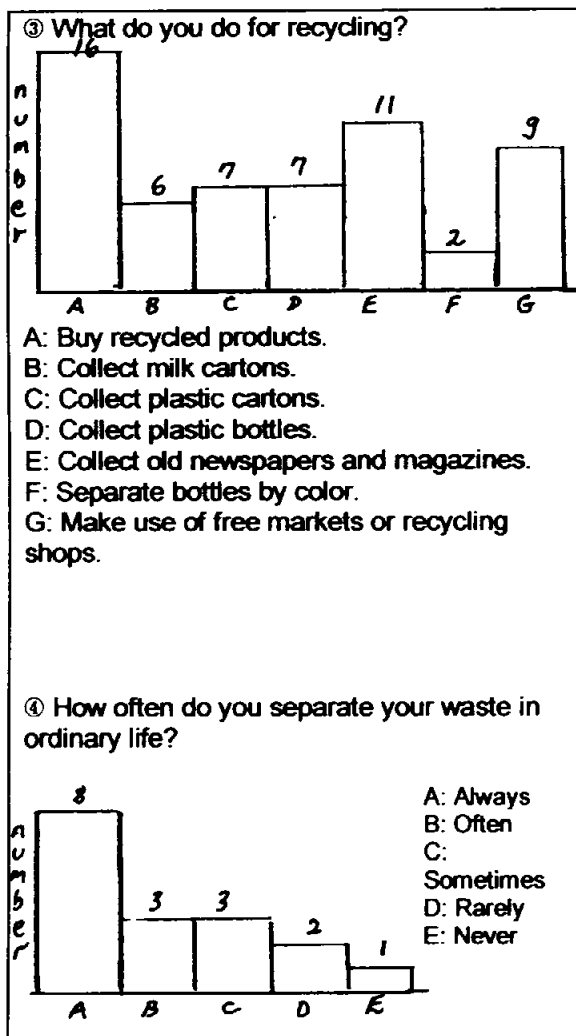
① Personal definition of recycling	
a) Reuse what other people used or wasted	12
b) Use resources effectively	3
c) Protect the environment	2
d) Save nature	2
e) Return to nature	1
f) Not to waste things	1
g) The system of ecology which has continued since before human beings appeared on earth	1
② Words or phrases that come to mind when people see the word recycling	
a) Reuse	4
b) Collecting recyclable things	3
c) Cans and bottles	3
d) Recycled papers	2
e) Ecology	2
f) Recyclable trash	1
g) Resources, Earth	1
h) Using limited resources to the best advantage	1
i) Exhaustion of natural resources	1
j) Ecological circle	1
k) Aluminum	1
l) Preserving nature	1
m) Secondary products	1
n) Protecting environment	1
o) Decreasing trash	1

**Table 3: The concern about recycling**

☆ **Results**



In "PART C", we looked at people's concern about recycling. In answering the first question, 91% are interested in recycling. We can thus say that people's consciousness of recycling is very high. But the answers to question 2 shows that a few people *Always* or *Often* recycle things. And most people recycle things only *Sometimes* or *Rarely*. These figures show that it is difficult to practice recycling although people are interested in recycling. In other words, we had better begin with easy things to practice recycling.



Look at question 3. The respondents could choose several items.

☆Discussion

There are several points of interest here. First of all items, item A (Buy recycled products) was the most popular. There are many recycled paper products these days. So buying such products may be easy. Second, item E (Collect old newspapers and magazines) and G (Make use of free markets or recycling shops) were also popular. Many people reported that they made use of used car shops. These kind of recycling seem to be accepted by people, because, in our opinion, these are easy to do and don't cost much. Lastly, however, new kinds of recycling (items B, C, D, and F) are not popular. One of the reasons may be that these are not accepted by people yet. Another reason may be that these don't have enough foundation. For example, there are a few tenders who can contract for recycling and it costs too much.

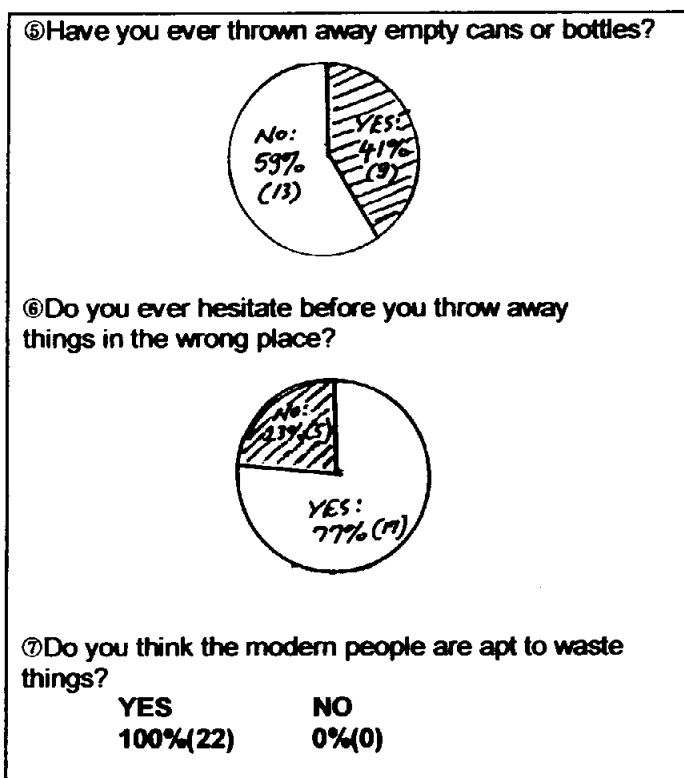
The result is that people who *Rarely* or *Never* recycle things must begin to buy recycled products and recycle old papers. What is more, people who usually recycle things must improve new kinds of recycling (for example, milk cartons, plastic cartons, plastic bottles, or separate bottles by color).

Table 4: The concern about recycling

The next set of questions explored moral aspects of the recycling problem. (Please refer to questions 4, 5, and 6. Question 4 is on the last page.) In question 4, *Always* was by far the most popular of all items. In question 5, 59% answered "NO". And in question 6, 77% answered "YES".

☆Discussion

These results show that most people have high moral standards. However, there is cause for concern. From our survey, it is clear that some people don't always separate their waste. Moreover, nearly half of our respondents had thrown away empty cans or bottles, whereas a quarter don't hesitate before throwing away things in the wrong place. Because of these results, we believe it is important to see if these numbers change in the future, and to determine whether they go up or down. If the level of public consciousness deteriorates, this will be more problem.



In question 7, all of the respondents answered that people nowadays waste things. Even if we ask more people to answer this question, we can predict that hardly anyone will give a negative response. We prepared five items in question 8 (about why you answered "YES" in 7) and we understand that respondents think "People waste too much food", "People buy new products frequently" and so on. People recognise this fact, but people don't think that they want to act to improve the situation.

It can't be said that people want to improve this situation strongly according to the answers people gave to Question 10. (People who answered "NO" are more than who answered "YES".)

In question 13, we asked about what will happen if the present situation continue ("People are apt to waste things. Garbage problems become serious ..."). Here, most people indicated "The environmental pollution will become more serious", or commented that "The Earth will overflow with garbage", and "The government will impose garbage tax on products". We think that these things will happen actually unless the present situation is improved.

☆ **Conclusion**

A lot of Japanese people have some kind of ideas about recycling, but they tend not to carry them out. On the other hand, there are still many people without interest in recycling. Indeed, Japanese students generally have less interest than foreign students. We believe there are three major reasons why this is so.

First, Japanese students didn't have much time to think or learn about social problems which seem unconnected with school and university examination. Second, people in Japan have generally been apt to turn a blind eye to what occurred beyond their closed world. Finally, Japanese people tend to

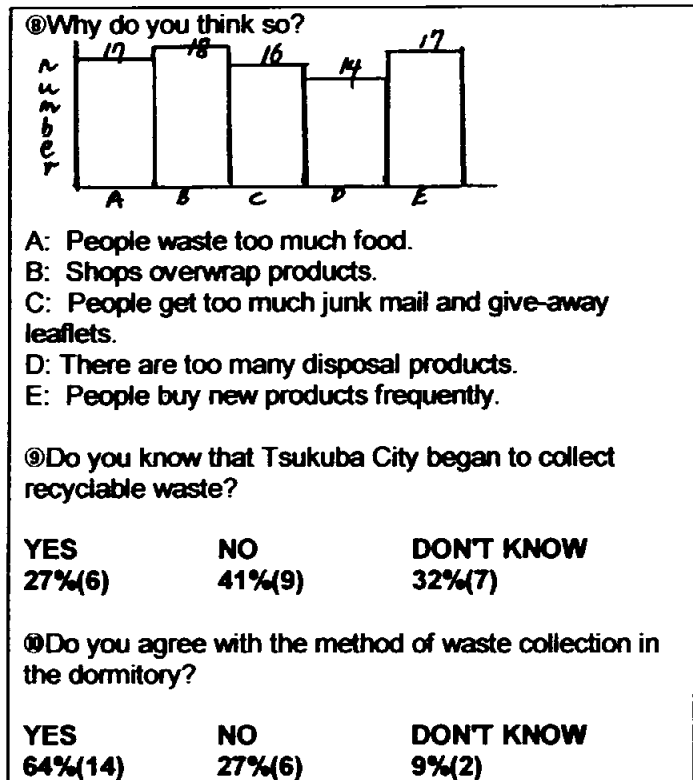
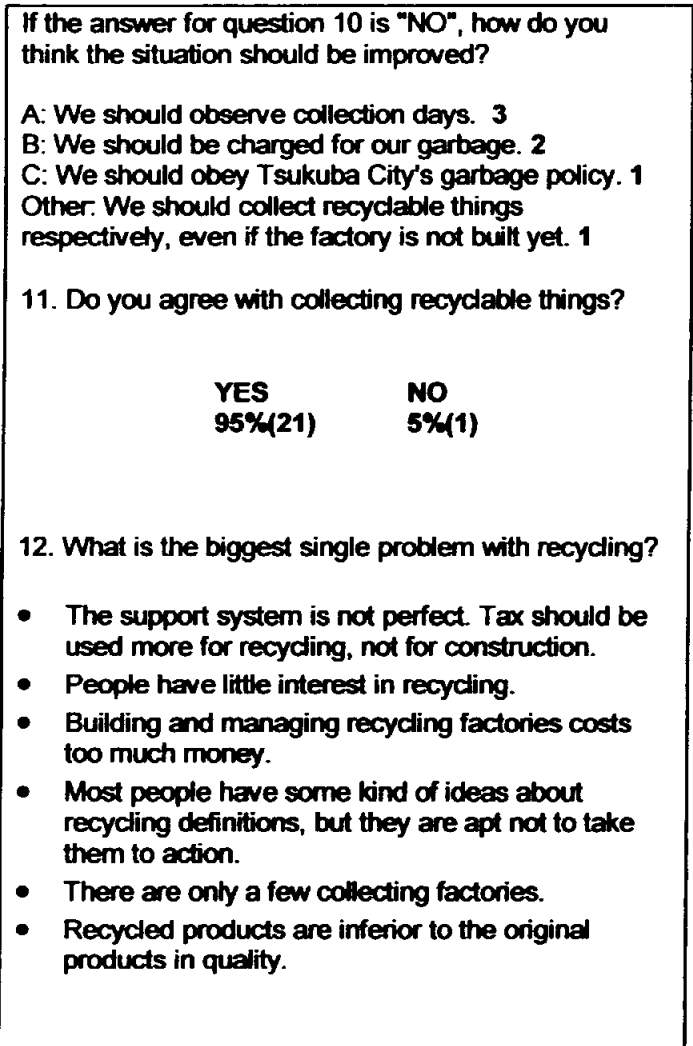


Table 5: The concern about recycling



depend on each other and shift their responsibility to others. We believe these are all because of the Japanese social and educational system, which takes academic career more seriously than anything. Everyone realizes: Those who can get a good grade in the examination are not always excellent people. But most people worry about grades. Without a revolution in these systems, the present situation will never change.

Mass production-mass consumption brought people the thought "money is everything". It also brought people material prosperity, but where have humanity and individuality gone? We should consider our life-style again in order to create a truly affluent country.

13. What effect do you think the present situation will cause in future?
- A: The Earth will overflow with garbage. 12
  - B: The environmental pollution become serious. 20
  - C: There will be no natural resources in the Earth. 13
  - D: There will be no reclaimed land in the Earth. 4
  - E: Technical progress will solve the garbage problem. 14
  - F: Nations will go to war for reclaimed lands. 3
  - G: The governments will impose garbage tax on products. 14

### Learner-initiated content and process: individual and group

In order to understand better the group research process, in the 1996 -1997 academic year, I collected learning notes in English from the students each week. These notes focussed on:

1. Personal goal (where the student wrote down their learning goal for that week)
2. Thinkwrite (where the student wrote freely on the development of their ideas about their group research project)
3. Learning diary (where the student reflected on what they had been doing and on what they had learned)
4. English speaking time (where the student charted the time they spent using English during the lesson (0-24%, 25-49%, 50-74%, 75-100%).

Later, the students were also asked to review the whole project process. For reasons of space, the display of example comments made by the students is limited to students' goals and learning diaries. The table on the following page shows a contrast between the two students' goals and reflective elaboration.

Table 2  
Two students' contrasting goals and learning diaries

Student A

Personal goal	Learning diary	English used
(Week 1) <i>not applicable</i>	I don't have TV. I don't read newspaper. I don't know social problems or issues very much.	25-49%
(Week 2) I have to make draft questionnaire.	We have the same theme of research project. But a person wants to research into volunteer work in Kobe. Another person wants to research into disaster area. Our group has two points to research.	50-74%
(Week 3) My personal goal is to finish my homework.	We made questionnaire about volunteer work and impression of the earthquake. Some of them may be useless.	50-74%
(Week 4) My personal goal is to make our questionnaire better.	We can finish making the questionnaire.	50-74%

(Table 2 continued)

Student B

Personal goal	Learning diary	English used
(Week 1) <i>not applicable</i>	It was hard to think about Japanese social problems in English, because I consider about these problems in Japanese. However, it was fun thinking about these problems as one of Japanese citizens. I gain this knowledge (about child crime) by watching TV news and reading newspaper.	50-74%
(Week 2) My personal goal is to find out more about bullying, and listen to other people's opinion.	I learned that there are different views and approaches to bullying. I also learned that human feelings are complex and difficult to understand. There are many factors that cause bullying. The factors could be social backgrounds, family problems, or it could be environmental disasters. (This was one of our group member's opinion.) We must now start the research to find out more about bullying.	50-74%
(Week 3) Firstly I would like to wake up early and not be late for this class. For our research, I think we must now find some news articles and some books about our research and re-think about our topic more deeply.	I think our group's English skill has improved dramatically. We might had been shy when we first met. However, we spoke many things in English today, and I think it is really important to keep it up.	50-74%
(Week 4) I want to do research on our topic in library so that I can find something that I don't know at the moment. I will search for some books and newspapers that have some information about "bullying". I also want to study how to make a good questionnaire.	I learned that there are many kinds of question, or in another words, many ways to ask people's opinion. It is important to choose the right way to ask people's opinion to get an answer that we want, or the answer that could be used in our research. I also felt that we need more information about bullying to deepen our thoughts.	50-74%

The difference between the explicit detail of the two students' goals and diaries led me to make a working distinction between *successful-completing groups* and *successful-but-slower completing groups*—on the basis that all students have their own pace of learning. On the one hand, it appeared that *successful-completing groups* knew how to set more specific personal goals. These goals related to:

1. The self

- using English with the group
- thinkwriting more from week to week

2. The group

- discussing their research topic in detail
- expressing their opinions clearly
- listening to others' opinions

3. The learning tasks

- understanding the topic better
- making the questionnaire better
- writing the end paper together

Moreover, *successful-completing groups* switched from English to Japanese and back to deepen their discussion. It seems that they also perceived a generally upward trend in their use of English



(50%+ over the first stage of the project); had at least one member who thinkwrote thoroughly each week, where there was also a high completion rate across the group of doing thinkwrites; carried (a) slower member(s) with them rather than slowed down to the slower member(s). Successful-completing groups switched languages to stay on task, completed writing tasks to take their ideas in English further, and had a positive perception of their own progress and their use of English in discussion. Essentially, they functioned pro-actively.

On the other hand, it seemed that *successful-but-slower-completing groups* tended to set more *general* personal goals, or goals that related to but *one part* of the total research process. Furthermore, they perceived a less marked upward trend in their use of English and showed less consistent quantities of thinkwriting done. There was also an uneven spread of reported commitment across the group. Successful-but slower-completing groups also recorded a more *general* level of awareness of their own work, and focussed on *difficulty* more than on interest. Since this contrast was very similar to what can be seen with the personal goals in Table 2 on the previous pages, I assumed some kind of connection/follow-through between specificity of personal/group goals and ability to detail personal/group progress.

A further important difference can be highlighted: Because *successful-completing groups* generally completed thinkwrite tasks, it seemed that they were also able to recycle ideas from here into their discussion and into the revisions they made to their questionnaires and report drafts. Successful-completing groups were, in addition, able to record concrete steps that they had taken. They might have found certain tasks difficult, but they also described them as interesting.

These perceived differences are summarised in Table 3 below. The characteristics of such content-based learning show a strong connection to those of learner autonomy (Benson & Voller, 1997; Dam, 1995; Little, 1995), where a principal question revolves around learner control of content. Thus, a focus on this important overlap between content-based learning and learner development can help inform the organisation of many aspects of such projects (Barfield, 1997).

Table 3  
Characteristics of successful co-operative group-based learning

Goals

- Concrete learning goals for self
- Concrete language goals for self

Roles

- Concrete interaction goals for group
- Clear sense of own role in group process (whether leader or not)

Use of language

- Positive sense of using English
- Perception of progress in using English
- Flexibility in switching to Japanese and back when necessary

Tasks

- Clear sense of tasks to be completed
- Clear sense of tasks that have been completed

Motivation

- Clear sense of challenge and interest
- Clear sense of learning and curiosity
- Clear sense of enjoyment

Research as both process and product

- Emerging sense of learning to think critically
- Emerging sense of learning from different opinions

### **Learner-initiated content and text**

The end report from these student research projects has shown how one realization of academic expository prose can be achieved by first-year Bio-Resources students. Because such a report does no more than approximate to the mature academic research paper—itsself by no means incontrovertibly fixed to some ideal form in every discipline—questions arise as to what features of academic writing students can and should be expected to master and produce in their first-year English classes. Bartholomae captures this dilemma succinctly:

Every time a student sits down to write for us, he has to invent the university for the occasion—invent the university, that is, or a branch of it, like History or Economics, or Anthropology or English. He has to learn to speak our language, to speak as we do, to try on the particular ways of knowing, selecting, evaluating, reporting, concluding and arguing that define the discourse of our community. Or perhaps I should say the various discourses of our community, since ... a student ... must work within fields where the rules governing the presentation of examples or the development of an argument are both distinct, and even to the professional, mysterious. (Bartholomae, 1985, p.134, cited in Johns, 1997, p.20)

The question becomes even more complicated in terms of writing in a foreign language. If university education is understood as a gradual approximation over several years to the conventions and discourse of academia (Bourdieu, Passeron & de Saint Martin, 1965; Johns, 1997; Swales & Feak, 1994), it might be argued that report-writing in the first year, based on the students' personal interests and here-and-now knowledge, should move towards conventional forms of representation of academic knowledge in the following aspects:

1. The text must be explicit.
2. Topic and argument should be prerevealed in the introduction.
3. Writers should provide "maps" or "signposts" for the readers throughout the texts, telling the readers where they have been in the text and where they are going.
4. The language of the texts should create a distance between the writer and text to give the appearance of objectivity.
5. Texts should maintain a "rubber-gloved" quality of voice and register.
6. Writers should take a guarded stance, especially when presenting argumentation and results.
7. Texts should display a vision of reality by members of the particular discourse community to which the text is addressed (or the particular faculty member who made the assignment).
8. Academic texts should display a set of social and authority relations; they should show the writer's understanding of the roles they play within the text or context.
9. Texts should acknowledge the complex and important nature of intertextuality, the exploitation of other texts without resort to plagiarism.
10. Texts should comply with the genre requirements of the community or classroom. (Johns, 1997, pp. 58-64)

These are academic community-driven standards; they might be best understood as a basis for writing criteria, which students may increasingly gain proficiency in as they move through their university education.

From this point of view, it is interesting to look at the example report in Figure 1 and to judge where and why the student writers flout these academic conventions. Clearly, the lay-out and presentation of the data tend towards a more popularised format than the strictly academic. In this case, this was intentional as students had compared survey reports and academic papers from different fields and magazine and journals in order to plan their own report. More importantly, however, the example report displays a certain clumsiness in terms of Johns's second, third and ninth criteria (2. *Topic and argument should be prerevealed in the introduction.* 3. *Writers should provide "maps" or "signposts" for the readers throughout the texts, telling the readers where they have been in the text and where they are going.* 9. *Texts should acknowledge the complex and important nature of intertextuality, the exploitation of other texts without resort to plagiarism.*) First, the student report introduces the topic of the report generally, but fails to signpost the reader to the further contents of the report, although subsequent sections tend to orient the reader more clearly. Second, the transformation from data collected and collated to data presented and displayed points to the inherent difficulty of moving from familiar writing modes of knowledge-telling, such as narrative and personal experience, towards knowledge-transformation, such as report writing (Bereiter & Scardamalia, 1987; Grabe & Kaplan, 1996). Because such issues are central elements in learning to write appropriate academic expository prose, they are dealt with in more detail in the next part of this paper.

To re-cap, the presentation of the early student-initiated projects shows how motivating it can be for students to exercise control over content choice. Evidence has been presented to show how this motivation works in terms of individual and group process, but certain reservations have been expressed as to how well students can achieve appropriate forms of academic expository writing over a 10-week project, scheduled at the rate of one 75-minute writing class a week. On this basis, the ground has now been prepared for an examination of how the writing course was developed towards a much stronger academic profile.

## **THE WRITING COURSE IN ITS LATER STAGES**

### **Focus on Global Issues: Overview of the later student-initiated projects**

The focus in the revised course falls on a questionnaire-based research project or academic critique review of two academic papers over one term. These form the two basic academic writing options. Unlike the first module, the emphasis falls on a much higher integration of specific writing, reading and planning skills. In the revised course, for example, if students choose the research project option, they are required to read and include a minimum of five English sources on their chosen research topic.

The reason for making this stipulation is not trivial. One lesson from the earlier version of the course was that it seemed doubtful whether students can do more than imitate a particular academic genre unless they are required to relate their own knowledge and questionnaire-derived

results to a wider body of existing knowledge in the same field. That is, they need to position their own research, as well as integrate other knowledge sources and display critical understanding of the field. Thus, time devoted to group work and group learning, a strong feature of the early version of the course, is, in the later revised course, channelled towards individualised reading and note-taking in the first few weeks. (This was also the case with the academic critique-review option, which, for reasons of space, is not dealt with in great detail here.)

### **Academic skills: The question of genre**

The genres of "conventional research paper" and "critique-review" were selected for the revised course after a consideration of what genres in English students at the University of Tsukuba can be reasonably expected to understand, produce and practise (Christie, 1993). It must be noted that it is by no means clear what the different departmental expectations across the university are. Indeed, different faculties will value different genres in different ways, as Johns notes:

...the production of texts is highly complex, no matter how formalized and predictable the final version may be ... Some genres do not appear, even at first glance, to be stable across texts. In literature, and in other humanities disciplines, unstable and unpredictable texts are often valued: Readers appreciate texts for variability in style and complexity of narrative... Because of the textual values in literature, faculty from this discipline may find the seemingly predictable texts of science and engineering to be dull, unimaginative, or poorly written ... On the other hand, scientists and engineers sometimes criticize writing in literature as "mere word play." They say, "This work is not rigorous"... (Students) are seldom told about textual conventions, principally because the rules have become second nature to their instructors, who have already been initiated into disciplinary practices. (Johns, 1997, pp. 45-46)

The revised individualised research project / critique-reviewing thus aims to act as an initiation into a whole range of academic skills, keeping in line with research and materials development in the EAP and ESP field. For example, although earlier academic writing textbooks (e.g., Oshima and Hogue, 1978) take essay as the central genre to be mastered, a more recent genre analysis-driven textbook for foreign students in English identifies the following genres as particularly valuable (Swales and Feak, 1994): general-specific texts, problem-solution texts, data commentaries, summaries, critiques, reaction papers, reviews, and research papers—essay, in other words, is formally subsumed into one of these genres, and thus subject to the particular constraints of that genre. Furthermore, Kamhi-Stein (Kahmi-Stein, 1997) identifies summarization as the core academic skill in content-based learning, noting that little research has been thus far carried out into content-based L2 summary-writing. All this leads us to a consideration of the enabling skills to be prioritized in the development of the course.

### **Academic skills: Towards the integration of study skills and knowledge sources**

It can be argued that reading English is the single most important English study skill that students must learn. This is why this skill forms the starting point for the revised course. Reading here moves beyond translation towards a first level of identifying main ideas and note-taking. The second-level involves strategic procedures for putting those first level skills into operation. In this respect, it is important that students use strategies that help them to access texts quickly. Critical procedures include: reading the first and last paragraphs of a text in detail; looking through the text in terms of titles, subtitles, section and sub-section headings, as well as considering lay-out and graphic information (photographs, pictures, diagrams, figures and graphs, for instance) as aids in building a visual image of the text; making predictions about the content of the 'body' by listing questions that the reader would like to find answers to; reading through paragraph-initial sentences only to try and identify where those questions might be answered; and, lastly, reading through the whole text more slowly, making notes, and mind-mapping key ideas and interesting points. All these procedures could well be considered core study skills for university students (though few seem to have practised them in their prior secondary education).

Note-taking and summarization skills naturally evolve out of these critical procedures, and create a third level of analytical skill. These include identifying text patterns and segments, and deleting unimportant details, as well as re-ordering ideas for possible inclusion in the later overview part of the student's own final paper. Other analytical skills involve integrating differing sources of knowledge into a coherent whole (selected questionnaire data and notes from reading), as well as paraphrasing key elements from sources and using original words for the end-paper. Finally, drafting, revising and editing on the basis of peer reader responses and discussion form a fourth level of enabling procedures for academic report-writing / critique-reviewing. In short, the push towards a greater dynamic balance between the student's own interest in global issues and the development of their academic skills requires a highly interactive and complex set of skills to be practised and combined. The results of such work can be seen in the following example report by a Humanities student majoring in archaeology.

Figure 2 Example student research report (Humanities 1999)

#### **Coral reefs**

Coral reefs area is one of the major habitats of a large variety of living things. For example, there are 4000 species of mollusks, 1500 species of fish, six species of turtles, 35 species of seabirds and 23 species of sea mammals at the Great Barrier Reef (Done, 1998). Today, many people have chances to see coral reefs, and mostly they think "coral reefs are beautiful". However, many coral reefs are in danger, and we don't have adequate knowledge about their destruction. We need to know not only the good points of coral reefs but also their opposite side. In this paper, I will examine the present condition of coral reefs.

In the past two decades, large bleaching events of coral reefs have been reported from widely separate parts of the world (Berkelmans and Oliver, 1999; Wilkinson and Hodgson, 1999). Coral bleaching means that the coral appears bare white because of losing their symbiotic algae and the pigments (natural coloring matter) of those algae with the abnormal rise in the sea water temperature. These algae are very small and simple plants that live close to reefs. The reasons for such corals' destruction are mainly the changes of the ocean environment and the human use of ocean.

Researchers report two main causes. One is natural stress. The major natural stresses to reefs are storms and waves, particularly tropical storms and cyclones (Wilkinson and Hodgson, 1999). Freshwater runoff and volcanic activity (for example, earthquakes) also damage reefs. According to Wilkinson and Hodgson (1999), for example, the widespread coral bleaching occurred in 1997-1998. One reason for this was one of the strongest El Niño events of this century. El Niño is the abnormal mass of warm water, which occurs off the coast of Peru every few years. Additionally, there are biological stresses produced by the crown-of thorns starfish and diseases.

Another major cause is human stress. In particular, over the past 50 years, human stresses have been becoming more major. Through the 20<sup>th</sup> century, human use of reefs, for example fishing and tourism, has contributed to the economic growth for countries. By increasing in human populations and economic activity, over-development, destructive fishing and land-based pollution occur. On this point, one researcher, Dr. Regget, said that the rising surface temperature of the sea caused by the greenhouse effect is causing the coral bleaching (The New York Times, 1995).

In order to protect nature from human stresses, there are several worldwide activities. To give an example, UNESCO (United Nations Educational, Scientific, and Cultural Organization) has an organization called the World Heritage Committee. It works to make sure that future generations can inherit the treasures of the past culture and nature, but most sites face a variety of threats, particularly in today's environment. The Reefs of Japan recently have been also damaged by sediment, pollution, and over-fishing. So efforts are being made to recommend the Shiraho Coral Reef in Okinawa as a World Heritage Site. However, compared with many advertisements for such activities, little research deals with our concrete knowledge about the present situation of the destruction and protection of coral reefs.

The purpose of this study is to investigate what the Japanese university students know about the destruction and protection of coral reefs. I examine to what extent they understand the present situation of coral reefs. I also look at their interests in activities to protect nature.

Participants were 1 male and 10 female first year students at the University of Tsukuba, and 1 female first year student at the University of Gunma. They participated voluntarily in the study. 83% were Humanities majors, and 17% majored in Medicine. All of the participants were Japanese. The 12 respondents were administered a questionnaire in English consisting of 10 items. The questionnaire had been previously piloted and revised in class. The questionnaire is included in Figure 1 below.

**Figure 1: Questionnaire on coral reefs**

- Q1 Have you ever seen coral reefs? Yes : Direct (where: ) / TV or Photo / No
- Q2 What image of coral reefs do you have?
- Q3 Do you know that many coral reefs in the world have died or are dying? Yes / No

- Q4 If Yes to Q3, what do you know about the destruction of coral reefs?  
(For example, present situation or its reasons)
- Q5 Do you know that Australia earns over US \$ 1.3 billion annually by use of the Reef?  
Yes / No
- Q6 Which do you think is more important for advanced nations?  
The economic development / the protection of nature  
And why do you think so?
- Q7 Do you know what the organization called the World Natural Heritage is? Yes / No
- Q8 If Yes to Q7, what do you think of recommending Shiraho Coral Reef as a World Heritage site? \*Shiraho Coral Reef is on Ishigaki Island in Okinawa.  
Good / Need reflection / No idea
- Q9 What do you think we should do to protect coral reefs?  
Governments:  
Individual:  
If you can think of other actions, please specify ( ):
- Q10 Do you have any other comments about coral reefs?

Chart 1 shows the number of the students, who know about the destruction of coral reefs. As can be seen from the chart, 75% of the respondents are familiar with this. Table 1 shows the relation between their opinions on nature and the knowledge of the World Natural Heritage. As can be seen from the table, most of the people who answered the questionnaire think that the protection of nature is more important than the economic development. However, many of the students surveyed don't know about the World Natural Heritage.

Chart 1

Do you know that many coral reefs in the world have died or are dying?

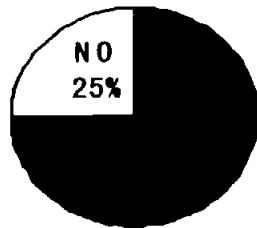
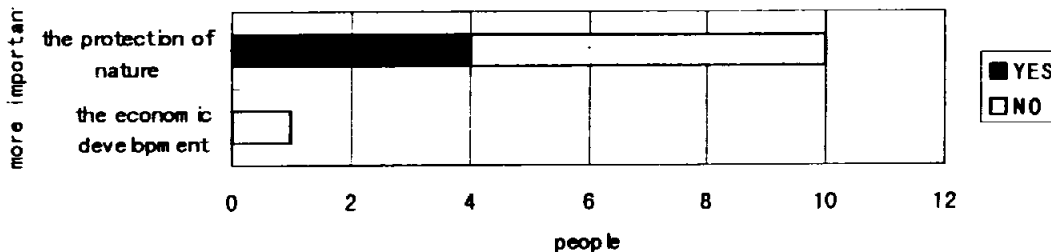


Table 1

Which do you think is more important for advanced nations?

Do you know what the organization called the World Natural Heritage is? YES / NO



From these results, it seems that many of the respondents have known about the destruction of coral reefs, and have interests in the protection of nature. On the other hand, however, the results also indicate that about two third of the respondents don't know the actual, concrete and worldwide activity for the protection of nature. This finding shows that the students' knowledge is not enough.

It can be said that, compared with the seriousness of the destruction, the actions for protection have not yet become widespread.

Some comments made by the respondents seem to support this claim. For example, one student who doesn't know the World Natural Heritage commented, "(We should) obey the rule (to protect coral reefs)." Another, who also doesn't know what the World Natural Heritage is, said "(We should) regulate companies (to protect coral reefs)." These comments are probably right. However, these can be seen as rather general. It seems that the respondents are ignorant of concrete activity, and tend to depend on big organizations for it. In other words, the actual activities are far from us.

Coral reefs are in danger. To protect them, the most general and easiest conclusion is to regulate the human use by laws. Though people don't have enough knowledge about the serious condition of coral reefs, they must obey the laws. Probably, such legal measures are good for the advanced countries. They can afford to care for coral reefs. For the developing countries, however, economic development may be more important. Those countries can't stop the destruction without a concrete knowledge about coral reefs and a strong will to protect them. That is our Japanese past, so we cannot blame them for their use of coral reefs. Therefore, in my view, depending on only each country's policy is not suitable to protect nature including coral reefs.

At this point, worldwide activities are more effective. Global groups often have wide view. They don't think of one country's benefit, but world benefit. One of the most important things in the world is natural environment. To recommend coral reefs as the natural heritage site is one way for the protection. Such sites are preserved from over-development, and are put under control. We cannot fish freely there. At some areas, however, indigenous tribes are prevented even from their traditional fishing. The people who live by fishing also need to change their way of fishing. So when we regulate the use, we need to consider the possible consequence on local communities and cultures.

In conclusion, we must have the global view and know many positions about coral reefs. Sometimes, an action is good for some positions, but is a disadvantage to other positions. Human beings cannot live without nature, so we need to protect it. In my view, what we can do is to understand actual condition of coral reefs as exact as we can. The number of the worldwide activities shows us the necessity for it. Concrete knowledge helps us to consider the destruction of nature in several viewpoints; it prevents us from thinking about such problems by misunderstanding or in only one position. Today, a few people know the destruction of coral reefs and act to protect it. "Worldwide" activities are not really worldwide. Most people know the actual activities vaguely. We have many sources to investigate and understand it. Before acting to protect nature, we have to know the exact situation of nature and consider more effective ways of protection. In order to do so, people who have known such information should give their knowledge to other people. Moreover, people who haven't known that yet should make effort to know today's condition of nature. To protect nature is for not only us but also future generations.

#### References

- Berkelmans, R. & Oliver, J.K. (1999). Large-scale bleaching of corals on the Great Barrier Reef. *Coral Reefs*, 18 (1), 55-60.
- Done, T. (1998). Science for management of the Great Barrier Reef. *Nature & Resources*, 34 (3), 16-29.



Emergency research to clarify the mechanism of coral bleaching phenomenon.(1999, January).  
STA Today.  
The world's coral reefs are in danger! (1995, April 17). The New York Times.  
Wilkinson, C. & Hodgson, G. (1999). Coral reefs and the 1997-1998 mass bleaching and mortality.  
*Nature & Resources* , 35 (2), 16-25.

### Academic skills: Towards reflective learning through problematization

Whichever of the two academic writing options the students choose, reading and note-taking form an important part of the starting phase. Yet, is there one set interpretation of a text to be made, or one set of skills to be deployed each time one sets out to read in a foreign language? The answer must surely be negative, which is one reason why an exclusive grammar translation approach to reading falls short in any discussion of developing generalizable critical thinking and study skills. Grammar translation works at a local word and sentence level, which to some extent shortcircuits the development of higher level, strategic reading skills.

At the same time, though, how can students learn to apply simple but effective reading skills for the task of reading academic sources? We may recall that in the early version of this course *successful-but-slower completing groups* in the Bio-Resources group predominantly focussed on difficulty, but could not generate solutions to the various problems that they recognised in doing their projects. In thinking this over, I realised that the focus on difficulty was not in itself the problem; in fact, that was a very healthy indication of the motivation to learn. Rather, the problem was that such a focus on difficulty had blocked certain students in the *successful-but-slower completing groups* and led them into a blind alley. Thus, one possible answer lies in focussing on difficulty and on the generation of action learning plans. Such a solution involves making students consider a range of skills, to explain the possible advantages and disadvantages, and to guide them to experiment, so that they themselves can notice and report whether a particular set of skills work for them and whether any problems arise in applying in such skills to the task at hand. This is essentially the key strategic change made in the planning and organisation of the revised course. It is, in other words, the development of strategic flexibility that became a core feature of the later course at all stages.

This approach to reading and writing, which might be understood as *the problematization of the application of reading and writing skills*, involves students writing short action plans, reviewing their successes and noticing difficulties, before moving towards articulating a new set of goals after such critical reflection. The reflection by the student included in the following table indicates both the potential and the process of such a student-centred approach for reading.

Table 4  
Example student reflection on problematising reading

<b>Plan</b>	<i>I would like to improve my reading and thinking skill. It is important for this option to understand the content of the paper properly. So the reading skill is needed. In addition, I have to state my opinion about the paper. Then the thinking skills is also needed. Anyway, I have to decide the source at first. I have been interested in</i>
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(Table 4 continued)

*education today recently. There are many problems which have to be solved immediately in school. So I will choose the academic journal about education.*

*Then I will read the journal slightly, and I will take a note when I come to the questions or the idea. Next I have to read the journal in detail and make a summary. I also have to sum up my opinion. When I make a summary it is important to explain the content of the journal in my own words. I will try not to use the sentence in the journal directly as much as possible.*

*It is difficult to understand the content of the article exactly because the article is difficult and very long. (...) Then my reading step is:*

- (i) to read introduction*
- (ii) to read the first sentence of each paragraph*
- (iii) to read the conclusion*

*I will read the article quickly and understand the content by reading according this step.*

**Review**

*The article that I chose have some sections. Each section has a main topic. So I changed my reading plan. First I read the introduction of the article. Then I decided to read the first paragraph of each section and the last paragraph of each section because I thought I could understand the content of each section. I thought the first paragraph was equal to the introduction of the section, and that the last paragraph was equal to the conclusion of the section.*

*I read the article in this way. I could understand the outline of the section, but sometime I could not. So I tried to read the second paragraph and the latter part of the section when I did not understand the outline.*

Several points can be noted here. First, the student relates the task at hand to wider learning goals that she has. Next, she plans her reading goals, and specifies particular steps that she will try. She then applies her plan, but reports certain problems. These problems do not throw her off track, however. The student revises her plan and develops her own new application of reading skills through critical reflection. In other words, she plans, applies, monitors, notices anomalies, and adapts her approach meaningfully for the task at hand.

A similar critical cognitive flexibility can be traced in how the writer of the coral reef report began her research project and started to narrow it down over a series of phases of writing, reading and discussion. As far as writing is concerned here, thinkwriting, loopwriting and mindmapping were used by the writer to focus her ideas.

Thinkwriting means writing down as much as you can in a given time; loopwriting means choosing the most interesting idea from the thinkwrite, and then continuing to write on that particular aspect (thus creating a more focussed thinkwrite), whereas mindmapping encourages the writer to draw out visually different connections and associations between the ideas that have been primed through the thinkwriting, loopwriting and in-class pair discussions. As shown in Table 5 on the next page, the writer's notes here also show that pair discussion helped her develop and plan her research.

**Table 5**  
**Example student reflection on problematising research through writing**

<b>Starting ideas</b>	<p>First, I wanted to research on the World Heritage (UNESCO). However, there are many things which assigned The World Heritage, and I couldn't find good journals this week. So I chose one from many heritages, Great Barrier Reef, which is one of the largest coral reefs in the world. Coral reefs are very much under influence of environmental pollution now. Great Barrier Reef is one example. I'm going to research on ocean pollution, too.</p> <p>The World Heritage          Great Barrier Reef          Coral reefs ( ocean pollution)          Break and Death of Coral reefs</p> <p>The reason why I chose Coral reefs: GBR</p> <ul style="list-style-type: none"> <li>• I saw the beautiful coral reefs in Okinawa when I was a high school student. In addition, I studied about development of ocean in some areas.</li> <li>• Most of World Heritages were on the way to breaking. So we should protect them.</li> </ul>		
	<p>World Heritage (my interest)</p> <table border="0"> <tr> <td> <ul style="list-style-type: none"> <li>⚡ The Statue of Liberty</li> <li>⚡ Galapagos National Park</li> <li>⚡ Great Barrier reef</li> <li>⚡ The Great Wall</li> <li>⚡ Yakushima</li> <li>⚡ Historic Monuments of Ancient Kyoto, Nara</li> <li>⚡ Genbaku Dome</li> </ul> </td> <td style="border-left: 1px solid black; padding-left: 10px;"> <ul style="list-style-type: none"> <li>⚡ The Archaeological Areas of Pompei</li> <li>⚡ The Pyramid Field</li> <li>⚡ Altamira Cave</li> <li>⚡ Göreme National Park</li> </ul> <p style="text-align: center;">Japan</p> </td> </tr> </table> <p style="text-align: right;">by "UNESCO" webpage</p> <p>⚡ means "Historical topic" Others are "Natural topic" I think natural topics are more world-wide problems.</p>	<ul style="list-style-type: none"> <li>⚡ The Statue of Liberty</li> <li>⚡ Galapagos National Park</li> <li>⚡ Great Barrier reef</li> <li>⚡ The Great Wall</li> <li>⚡ Yakushima</li> <li>⚡ Historic Monuments of Ancient Kyoto, Nara</li> <li>⚡ Genbaku Dome</li> </ul>	<ul style="list-style-type: none"> <li>⚡ The Archaeological Areas of Pompei</li> <li>⚡ The Pyramid Field</li> <li>⚡ Altamira Cave</li> <li>⚡ Göreme National Park</li> </ul> <p style="text-align: center;">Japan</p>
<ul style="list-style-type: none"> <li>⚡ The Statue of Liberty</li> <li>⚡ Galapagos National Park</li> <li>⚡ Great Barrier reef</li> <li>⚡ The Great Wall</li> <li>⚡ Yakushima</li> <li>⚡ Historic Monuments of Ancient Kyoto, Nara</li> <li>⚡ Genbaku Dome</li> </ul>	<ul style="list-style-type: none"> <li>⚡ The Archaeological Areas of Pompei</li> <li>⚡ The Pyramid Field</li> <li>⚡ Altamira Cave</li> <li>⚡ Göreme National Park</li> </ul> <p style="text-align: center;">Japan</p>		
<b>Thinkwriting</b>	<p>When we discuss my topic, I noticed the ocean pollution is very big problem to research. So I need to narrow it down, again. However, the topic of coral reefs aren't as wide as ocean pollution. I'm going to research on only coral reefs. I was asked about not only reefs' death but also reefs' protection. So I need to know the protection of coral reefs. In Addition, it is better to be able to show the present situation of coral reefs.</p>		
<b>Looping</b>	<p>In the world, there are many coral reefs. So I'll research on Great barrier Reef. However, it may not be near for us Japanese. I try to find articles about reefs in Okinawa, Japan. If I use them, my research will become nearer for us.</p> <p>I was asked about the protection of reefs. So I add it in my topic. (Break, Death and Protection of Coral reefs in Australia and Japan.)</p>		
<b>Mindmapping</b>	<pre> graph TD     GBR[GBR] --- WH[World Heritage protection]     GBR --- fishes     GBR --- CR[Coral reefs]     CR --- MD[many divers]     CR --- SST[sight seeing tourists]     GBR --- OR[other reefs]     OR --- World     GBR --- pollution     GBR --- Death     GBR --- Breaking     </pre>		

Similar flexibility in thinking critically plays an important role when the students act as peer readers of each draft of their papers in progress. The reader response displayed in Table 6, for example, was given to the author of the research paper in Figure 2 on her near-final draft.

**Table 6**  
**Example student reader-writer interaction on problematising writing**

<b>Reader response</b>	<p><i>Your writing is very compact and easy to read. Especially, I wan to imitate your overview. I can understand that you know the background to your field. It was very good that you showed two causes of coral reefs' destruction.</i></p> <p><i>In order to make your draft better I recommend you show that your research can help resolve problem. You state that there are several worldwide activities, such as UNESCO, and you introduce some of the movement specifically. If you added the effect of your research (how your research can help fill the gap you found), readers would have an interest in your paper more deeply.</i></p>
<b>Writer's plan</b>	<p><i>"Intended revisions for the overview complete final draft"</i></p> <p><i>I try to make my overview more clear. For example, pronouns, numbers, phenomenons, and so on. The destruction of coral reefs is actual phenomenon. So I want to try and make it clear in order to appeal it to the readers.</i></p>

Of particular interest here is the way the reader is able to frame her reader response positively and constructively (i.e., the peer feedback does not to seek to undermine the writer's confidence but rather aims to enhance it), while at the same time making some specific recommendations to the writer for improving the overview. The basis for these recommendations is further framed as a specific possible writing goal for the writer. On the other hand, whereas the writer focuses in her writing plan on localised revisions to make, she also recalls the overall purpose of her research and decides that she should keep that purpose in mind. In other words, the writer is able to respond on two specific levels to the reader's comment as she plans her final draft. That is, the writer is able to combine higher level strategic planning with lower level tactical decisions.

A fourth example of reflective learning through problematization lies in considering the researching of a global issue itself through designing and administering a questionnaire. Here, a questionnaire may be considered effective to the extent that it helps gather unexpected data for the researcher. This is important because such data challenge the researcher's assumptions and make him or her question their own values and preconceptions. Through interviewing the writer of the coral reef research paper, I was able to come a clearer appreciation of this very effect. The following table shows part of the transcript of the interview where the writer explains the unexpected difficulties that she faced, as well as recounts how she realised she could revise her questionnaire and make it better.

Table 7  
Example student reflection on problematising global issues research

<b>Interviewer</b>	<i>so my question is when did you decide to keep the two viewpoints in the overview?</i>
<b>Writer</b>	<i>before I did the questionnaire, I had two view points: the protection of nature and economic development. I thought... I thought ...mmm.. the all respondents answer the protection of nature is more important</i>
<b>Interviewer</b>	<i>right</i>
<b>Writer</b>	<i>than the economic development</i>
<b>Interviewer</b>	<i>but</i>
<b>Writer</b>	<i>but some some people answered economic development is more important</i>
<b>Interviewer</b>	<i>than the protection of nature</i>
<b>Writer</b>	<i>than the protection of nature ... shocking</i>
<b>Interviewer</b>	<i>yes ...</i>
<b>Writer</b>	<i>so ...if ... if economic development is more important than the protection of nature, mmmm, then merit of economic development... what is merit, I think I thought</i>
<b>Interviewer</b>	<i>mmm...</i>
<b>Writer</b>	<i>and my opinion about that merit</i>
<b>Interviewer</b>	<i>mmm...</i>
<b>Writer</b>	<i>I wrote in my conclusion</i>
<b>Interviewer</b>	<i>I see I understand Did that contradiction make you read more as well? Did you go ...did you read more background sources or was it mainly from your thinking</i>
<b>Writer</b>	<i>I read another sources</i>
<b>Interviewer</b>	<i>mmm ... (...)</i>
<b>Writer</b>	<i>after I I read answers from people and read others' opinions my questionnaire was very important for me</i>
<b>Interviewer</b>	<i>mmm....</i>
<b>Writer</b>	<i>after I got answers I had I had idea</i>
<b>Interviewer</b>	<i>mmm....</i>
<b>Writer</b>	<i>I should ask this question that question is more better</i>

Again, what is worthy of comment here is how each problem noticed by the writer has been considered, accepted, before action has been taken to go further. The student does not block or give up in the face of difficulty, but rather is able to learn from such challenges and to extend her action-reflection cycle. This pro-active way of learning might well be called *action learning* (Dick, 1998), where critical reflection is explicitly modelled and then required in each phase of the revised course.

## CONCLUSION

On reflection, the question of how we construct knowledge in our understanding of learning and teaching inevitably exercises a critical influence on the decisions that we make as teachers and on the expectations that our learners form. Is knowledge to be seen as

separate from the students' own lives—a cerebral test, as coolly neutral as a disembodied set of facts? Or is knowledge to be understood as something that relates to the whole person and to issues that pervade students' everyday lives?

According to Dam and Little (1999), Barnes is one of the key educational figures in making a clear distinction between two types of knowledge. Barnes, they report, distinguishes “school knowledge” and “action knowledge” in the following manner:

School knowledge is the knowledge which someone else presents to us. We partly grasp it, enough to answer the teacher's questions, to do exercises, or to answer examination questions, but it remains someone else's knowledge, not ours. If we never use this knowledge we probably forget it. In so far as we use knowledge for our own purposes however we begin to incorporate it into our view of the world, and to use parts of it to cope with the exigencies of living. Once the knowledge becomes incorporated into that view of the world on which our actions are based I would say that it has become “action knowledge”. (Barnes 1976, p.81, cited in Dam and Little, 1999)

Here, in such an interpretation, teaching and learning move away from the transmission of knowledge in itself to questions of constructing a bridge between “school knowledge” and “action knowledge”. Creating and sustaining the bridge between the students' own personal experience and academic knowledge and its representation embody a recurrent theme in content-based foreign language learning—and, one might add, in a living education that values students' autonomous and interdependent learning.

Thus, to reframe the presentation in this paper of the early writing course and later revised writing course, we may see that both modules require the learner to apply and transform both action and school knowledge, in Barnes's terms. The early version of the writing course made a strong case for action knowledge as the central motivating factor in starting out with group-based content learning. The cooperative group work style was judged to be close to the cooperative group work that Bio-Resources students do in lab work and field projects. The interactive focus of the project created problems, however, and led to a reconsideration of the strengths and weaknesses of such an interpretation of content-based learning. Difficulty in itself was identified as a key element in motivating learning, but difficulty-solving strategies were identified as the missing link between action knowledge and school knowledge. A second revised version of the writing course was then presented and considered. Here, the students were Humanities majors, whose academic style of learning and working may be understood to be more individual, perhaps even competitive. Rather than focus on the interactive-cooperative nature that the early course prioritised, the emphasis in the revised course was placed on the development of collaborative, critical and reflective skills in individualised projects. The later version also claimed the development of school knowledge, i.e., academic knowledge, as a central organising principle, but placed this within a unifying concept of action learning.

In the end, what I hope this paper has to some extent achieved is to show how students' thinking and language skills can be developed in English in relatively motivating and effective

ways. The projects are not perfect, for there would be nothing to be gained from presenting a perfect match between teaching and learning. Anomalies exist. Some could be identified and then explored. From such contradictions, some modest insights could be gained. Indeed, both one-term modules pay respect to learning as a web of social, affective and cognitive forces and factors. Teaching becomes an effort to understand that web ever more finely, so that learners may set and accomplish their own goals within an organised framework. Might that not also fit your understanding of what is to be valued in education?

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### Author's note

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### References

- Barfield, A.W. (1997, October). *Exploring the learner-as-researcher paradigm*. Learner development national special interest group colloquium presentation at the 23<sup>rd</sup> JALT international conference. Hamamatsu, Japan.
- Barnes, D. (1976). *From communication to curriculum*. Harmondsworth: Penguin.
- Bartholomae, D. (1985). Inventing the university. In M. Rose (Ed.), *When a writer can't write: Studies in writer's block and other composing process problems* (pp. 134-165). New York: Guildford Press.
- Benson, P., & Voller, P. (Eds.). (1997). *Autonomy & independence in language learning*. London: Longman.
- Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, New Jersey: Lawrence Erlbaum.
- Bourdieu, P., Passeron, J.-C., & de Saint Martin, M. (1965). *Academic discourse* (R. Teese, Trans.). Stanford, California: Stanford University Press.
- Christie, F. (1993). Curriculum genres: planning for effective teaching. In Cope, B., & Kalantzis, M. (Eds.), *The powers of literacy: A genre approach to teaching writing* (pp. 154-178). London: The Falmer Press.
- Dam, L. (1995). *Learner autonomy: From theory to practice*. Trinity College, Dublin: Authentik.
- Dam, L., & Little, D. (1999). Autonomy in foreign language learning: From classroom practice to generalizable theory. In Barfield, A.W., Cunningham, J., Katsura, H., Kobayashi, K., Padden, N., Parry, N., & Watanabe, M. (Eds.), *On JALT98: Focus on the classroom: Interpretations* (pp. 127-136). Tokyo: Japan Association for Language Teaching.
- Dick, B. (1998). *AREOL seminar: Action research and evaluation on-line*. [On-line]. Available at: <http://www.scu.edu.au/schools/gcm/ar/arhome.html>
- Grabe, W., & Kaplan, R.B. (1996). *Theory and practice of writing*. London: Longman.
- Johns, A.M. (1997). *Text, role and context*. Cambridge: Cambridge University Press.
- Kamhi-Stein, L.D. (1997). Enhancing student performance through discipline-based summarization-strategy instruction. In M.A. Snow & D.M. Brinton (Eds.), *The content-based classroom: Perspectives on integrating language and content* (pp. 248-262). New York: Addison Wesley Longman.
- Little, D. (1995). *Learner autonomy: Definitions, issues and problems*. Trinity College, Dublin: Authentik.
- Oshima, A., & Hogue, A. (1978). *Writing academic English* (2<sup>nd</sup> ed.). New York: Addison-Wesley.
- Ridley, J. (1997). *Learner autonomy: Developing learners' thinking skills*. Trinity College, Dublin: Authentik.
- Swales, J.M., & Feak, C.B. (1994). *Academic writing for graduate students: Essential tasks and skills*. Ann Arbor: University of Michigan Press.