# Academic Experiences in a Cross-national Tertiary Program:
# Language Immersion Amid the Sciences

Yusuke Sakurai
*Cairo University*

This paper explores Malaysian students' problems within their science and engineering tertiary courses in Japanese through their diary entries and semi-structured interviews. The study analyses how students implement management strategies to overcome their problems. Although many studies are available regarding students' academic activities in a foreign language, few of those have reported upon foreign students' academic experiences in Japanese science and engineering courses within their in-country program. The students predominantly had difficulties in writing experiment reports, understanding scientific concepts, and reading Chinese characters (*kanji*). Management strategies that they significantly employed to overcome their problems were peer cooperation and the use of internet resources. The paper discusses potential support that the program and the language course can provide for these students.

The internationalisation of tertiary education has been rapidly advancing worldwide. This trend is an important concern not only for English speaking universities but also for non-English speaking universities. The Japanese government stipulated guidelines for the contribution towards international education, which is called "The Asia Gateway Plan." It underscores the expansion of educational opportunities for foreign students, the importance of foreign students for national sustainable development, and Japanese intellectual contribution to world communities. This trend has drawn increasing attention from universities in Japan.

The cross-national program is one of the pathways to universities abroad and has obtained world-wide recognition. Within the programs, the students are enrolled in home-country courses for a few years and then go on to study in the host country to finish earning their degree. Many programs have been launched for students intending to enter overseas universities, for example, in Australia, the United Kingdom, and the United States. Some pathways also exist to enter Japanese universities, one of which is the milieu of this study.

The Japanese Associate Degree Program (JAD) in which the current study was conducted is located at a tertiary institute in Malaysia. Approximately ninety Malaysian students are admitted to the program on scholarship every year. They are enrolled in one-year matriculation and two year university-level courses in Malaysia, majoring in science or engineering (U1 and U2, see Figure 1). The curriculum is developed equivalently to science and engineering courses in Japanese universities. The students complete the remaining two years of study (U3 and U4) for an undergraduate degree in Japan. In the university-equivalent courses in Malaysia, academic activities are mainly undertaken in the Japanese language. Similar programs have also been administered in other countries, such as China, Thailand, and Vietnam.

This research seeks to explore students' problems within science and engineering academic study in the JAD and analyses how students put into practice adjustment strategies for their problems. This study may promote better understanding of students' academic difficulties and needs in cross-national programs. In addition, it may also help academic staff understand certain keys for student success in academic study and efficient development of autonomous learning strategies.

**Previous Research**

It is extremely difficult for international students to handle their tertiary study in a new environment (Alazzi & Chiodo, 2006), and it is quite certain that language proficiency becomes an inevitable factor for academic success in a foreign language setting. However, literature indicates that difficulties experienced by international students do not necessarily arise from poor linguistic proficiency. Unfamiliarity with particular learning styles, lack of classroom interaction experience, and gaps in pedagogical policies of secondary school curriculum between students' homes and host countries can be potential factors that hinder

an international student's academic success. It is necessary for international students to be aware of these differences and to make efforts to adjust their learning behaviour (Novera, 2004).

Novera (2004) addresses Indonesian international postgraduates studying in Australia, and reports a variety of barriers in writing essays, making oral presentations, and discussing with peers/academic staff. Novera (2004) notes that these difficulties are not only attributable to linguistic difficulties but also to different pedagogical approaches between Indonesia and Australia. The paper shows that writing essays was the most difficult academic requirement, and that the major problem appeared the result of lack of previous work experience within Australia, since the students were expected to have some previous work experience for essay assignments. Another reason was that the students had never composed written assignments in their home country except for an undergraduate final-year research paper. Novera (2004) also reveals that the postgraduates struggled in classroom discussions because of the lack of prior experience with discussions in English and of hesitation in debating with their instructors, from which local peers did not refrain. Novera (2004) claims that international students are required to accommodate to the different learning styles of the host country for successful completion in a new environment.

Figure 1
JAD Educational System

| Year | Location | Academic Level | |
|---|---|---|---|
| 1 | Malaysia | Matriculation | |
| 2 | | University | U1 |
| 3 | | | U2 |
| 4 | Japan | University | U3 |
| 5 | | | U4 |

Hellstén and Prescotte (2004) gathered international students' commentaries on communication with academic staff. Their study indicates that although international students have difficulty contributing in class and group discussions, some of them felt disappointed when academic staff spoke slowly for international students' sake. Hellstén and Prescotte (2004) argue that this is because the staff's behaviour may be considered as marginalization of the international students from the local students. For international students' problem solving, the paper stresses the importance of availability of academic consultation. They also discuss the usefulness of online community boards for students of foreign language due to the asynchronous nature of the interaction.

When it comes to the science and engineering fields in particular, failure to acquire technical corpus may lead to poor academic performance (Kitahama, 1996). Furthermore, scholars claim that it is more difficult for international students to acquire the proper usage of specific scientific expressions than mere terminology. It is often the case that lexica commonly used as standard may technically mean something different in the science field (Kitahama, 1996). Then, Malaysian students' study experiences in secondary scientific subjects may affect their academic achievement in Japanese tertiary courses. Kitahama (1995) points out some pedagogical differences in secondary chemistry curriculum between Japan and Malaysia. For example, Malaysian textbooks put more emphasis on mathematical calculation exercises and chemical equations, whereas Japanese textbooks focus more on graphic explanation of fundamental principles. Karino (2006) compares secondary physics syllabi implemented in Japan and Malaysia and indicates that fundamental knowledge and learning experience at the pre-university entry level seem different. He explains that Malaysian students are expected to learn concrete phenomena rather than understand universally generalisable phenomena through mathematical perspectives. These differences in educational policy and practice in both countries may cause Malaysian students' troubles when they study in Japanese tertiary courses.

**Conceptual Framework: The Definition and its Application**

The studies reviewed above have been chiefly conducted on students' academic problems. However, little research has been done upon students' management processes used to overcome their problems. The present study sheds light on how they use these processes in the context of their academic study, which is conceptualised by Marriott (2004). Marriott (2004) intrinsically extends Neustupný's (1985; 1994) language management framework that illuminates how interlocutors in intercultural communication develop their interactive competence. Marriott further applied the concept to international students' academic experiences. According to Neustupný, interaction in intercultural contact situations entails three types of competence: grammatical/

linguistic competence, sociolinguistic competence, and sociocultural competence. He also delineates the model of management processes in intercultural communication. The model can be outlined as follows: when deviations from norms occur in interaction, which causes problems, then the deviations may be noted or remain unnoted by participants in the setting. The deviations noted are evaluated positively, negatively, or neutrally. If the deviations are evaluated negatively, adjustment strategies may be planned and implemented to remove the problems. The process may be undertaken repeatedly if the initial strategies seem ineffective.

Marriott (2005) claims the three interactive components and the management process model are also applicable to academic contact situations (see Figure 2). The framework has been applied and its validity examined in L2 intercultural academic settings by some scholars (e.g., Nemoto, 2002; Yamada, 2003). Research on international students' academic management processes has reported that a variety of adjustment strategies were employed to overcome academic difficulties. Yamada (2003), for example, examined difficulties confronted by Japanese exchange students studying at an Australian university using a qualitative method. She points out that students had more trouble when they were unable to take control of the activities by themselves, such as participating in lectures and group discussions rather than writing and reading. The students in Yamada's (2003) study implemented many strategies such as attending faculty-based workshops, asking questions of their academic staff, or seeking help from local peers regarding questions that came up in their studies. The students also expended effort to communicate with the native English speakers to improve their oral and aural proficiencies in order to solve difficulties in listening to lectures and discussing with local peers in class. Yamada (2003) also reports that one student did not note her own deviation from particular academic norms, so it took a long while to solve her problems in the new academic environment. She could not recognise her problems in writing essays until she had received the lecturer's feedback on her writing. She could not note her deviations and carry out any adjustments. The paper stresses the importance of students' recognizing and noting their deviations from certain norms as early as they can.

Figure 2

Management Process Model
(based on Neustupny, 1985, Marriott, 2005)
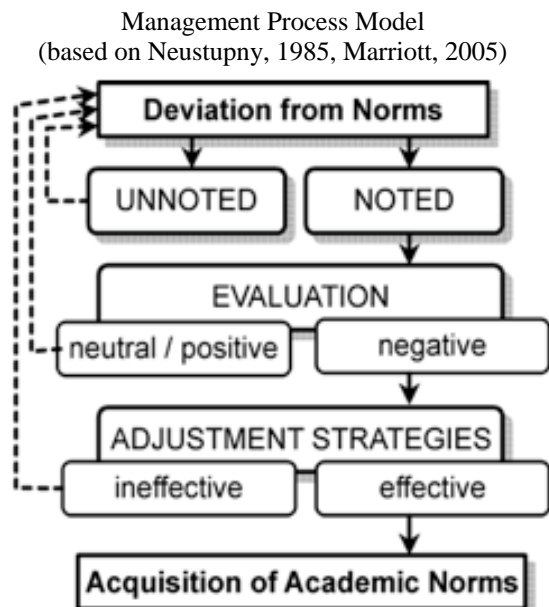


Nemoto (2002) investigated Japanese international students' essay writing processes in depth and showed that insufficient knowledge of discursive structure and requirements for academic essays resulted in students' academic difficulties. Lack of familiarity with the genre of written assignments was also considered a significant factor for the poor writing. Nemoto (2002) revealed that the students employed a number of adjustment strategies to overcome their difficulties. Some strategy use, such as teacher's written feedback on previous essays, did not always enable the students to solve their problems but rather bewildered them.

Derived from Neustupný's (1985, 1994) management model and Marriott's (2005) concept of academic interaction, this study intends to investigate students' perceptions of their academic difficulties and to reveal their adjustment strategies. It deals with the following questions: What types of difficulties did Malaysian students in the JAD perceive in the early stage of their academic study in Japanese? What adjustment strategies did the students employ to overcome their problems?

## Methodology

### Participants and Setting

This study deals with eight Malaysian undergraduate students (five females and three males) in engineering and science courses in

Malaysia. The informants are all self-selected volunteers and are referred to as F1 to F5 for females and as M1 to M3 for males, subsequently. Their ages vary between 18 and 20. They had each completed one-year matriculation courses and had been studying in university freshman level courses at the time of the present study. Table 1 shows the major subjects they were enrolled in, lecturers' nationalities, and languages used in academic activities. During the matriculation, they studied Japanese in class for approximately 600 hours and obtained the Certificate of Japanese Proficiency Test Level 3 (Intermediate Entry Level). Since that time, they studied Japanese approximately 10 hours a week for more than three months. They were expected to perform their academic tasks in Japanese. In addition, the informants' accommodations were the JAD's Halls of Residence, where Japanese teaching assistants (TAs) from Japan lived together.

The students were required to undertake various types of activities. Based on previous works (e.g., Yamada, 2003; Marriott, 2005) and interviews with the JAD lecturers, this study pays attention to students' behaviours and perceptions in the following academic activities: attending lectures, working out scientific problems (in class and as assignments), performing experiments, reading academic resources (e.g., textbooks and lecture handouts), and writing experiment reports. The students were assigned to write report papers about the results of chemistry and physics experiments every two weeks respectively. The students also had video lectures offered in alliance with one of the Japanese tertiary institutions, but students' experiences regarding the subject are beyond the scope of the current study because this project did not gain acceptance from the course coordinator.

Table 1
Brief Overview of Students' Courses

|  | Matriculation Year 1 | | University Year 2 | |
|---|---|---|---|---|
| Subjects | Japanese Language (≈ 20 hr/wk) | Physics, Math, IT, Chemistry, Creative Subject (≈ 14 hr/wk) | Japanese Language (≈10 hr/wk) | Physics, Math, IT, Chemistry, Creative Subject (≈ 20 hr/wk) |
| Lecturers | Japanese, Malay | Malay, Japanese | Japanese, Malay | Japanese |
| Language | Japanese | Japanese | Malay | Japanese |

## Data Collection

The main data for this study were collected through two procedures: informants' diary entries about their study experience and semi-structured interviews in which further elaboration of informants' diary entries were made. The interviews with the informants aimed to explore more detailed information on the students' problems and how they dealt with the problems in the course of their study. The diary entries and interviews were mostly conducted in Japanese. However, the informants were encouraged to use English when they could not articulate their thoughts in Japanese effectively. After the interviews were transcribed, the researcher and a research assistant (a master-level graduate student) identified students' academic difficulties and problems as reported in student diary entries and interviews. Afterwards, they coded the difficulties and strategies based on the framework of Neustupný's (1985, 1994) Management Process Model and discussed discrepancies that arose in their analysis. Before and after the semester, the researcher interviewed the five science and engineering lecturers in the JAD and asked about students' activities and duties required in each subject. Employing multiple methods in data collection and analysis, it is envisaged that this study deals with potential threats to validity. The researcher taught informants' Japanese language subjects in the prior year but not at the time when the research project was conducted. Of particular note is that this study throws light on students' naturally occurring management processes, which experimental and product-based studies cannot reveal.

## Findings and Discussion

### Lecture

The informants participated in three or four science and engineering lectures on a daily basis, and they made a large number of comments on the lectures. Unlike existing literature, the informants' comments revealed that they experienced a variety of levels of linguistic difficulty in lectures. All lecturers reported that they delivered lectures in simpler Japanese, and some of them used English as well at the early stage of the semester in order to facilitate students' understanding. Five informants (F1, F3, M1, M2 and M3) recognised that the lecturers deliberately spoke

slowly and succinctly because the lecturers knew the students' Japanese proficiency level. Hellstén and Prescotte (2004) found that international students in Australia indicated a negative attitude toward lecturers' lower level language use in class, but the informants in the present study did not give any evaluation for that. This may be because the students in Australia aspired to more challenging learning experiences (Hellstén & Prescott, 2004, p. 347) and perceived they were ready to do so, but the present informants may have preferred understandable lectures to challenging ones since their linguistic proficiency was still quite low for understanding lectures. Only F5 once found that a lecturer spoke too fast for her to understand the content. She reported that one of her classmates fortunately raised his/her hand and questioned, but she could not understand the lecturer's follow up explanation, so she asked her peer later. On the other hand, F3 and M2 noted that lecturers used many words that they had not learned, and this caused incomprehension of the lecture. To overcome the difficulty, F3 consulted her dictionary and asked a peer sitting next to her, while M2 asked a peer next to him to explain again, but found that the peer did not understand either.

Tertiary level students are required to understand abstract concepts and sophisticated ideas. When five informants (F1, F2, M1, M2 and M3) experienced difficulty in understanding scientific terminology or concepts, adjustment strategies they used were: referring to online encyclopaedia in English at home/school (F1); revising the lesson by oneself (F2); reading textbooks before the next lesson (M2); and asking their peers at home (M1) or TAs in class (M3). M1, however, reported that his peers occasionally could not explain and so could not help him solve the problems. F1 confessed that she did not refer to the Japanese website because of too many kanji (Chinese-origin script) characters used. Additionally, in a programming class with TAs, when F1, F2, and F3 could not complete assigned computer programs, F1 and F2 sought the TAs' help, and F2 and F3 received feedback from peers. F3 had her computer program modified by the lecturer in class so that her program worked properly, as was intended.

The JAD students had to cope with academic workload which tertiary level students are expected to handle. F5 felt it was so hard to remember a number of programming commands that she tried to build programs by herself again later. F2 found classes at the JAD much more difficult than her secondary classes had been. She had to listen to a lecture, take notes, and perform challenging exercise problems in textbooks one after another, which caused her to become "really mixed up." She rectified the trouble by reviewing the lesson later at home. She also encountered trouble when the lecturer's explanation, calculation, and whiteboard notes were too fast for her to keep up with. She reported that she then ignored the process of the calculation but tried to memorise the final outcome of the mathematic manipulation. Also, she sometimes concentrated on listening to and comprehending the lecturer's explanation without taking notes in order not to miss important points. Essentially, F2 employed adjustment strategies to selectively concentrate on what she considered important in class.

## Assigned Worksheets

The students were assigned at least one end-of-lesson check up worksheet a week by their physics, mathematics, and chemistry lecturers. All the informants reported their difficulty in completing the worksheets, but through adjustment strategy use, they overcame their difficulties. They all worked with, or received help from peers to undertake the weekly assigned worksheets. F1, F3, and M3 referred to lecture handouts and their notes they took in class. F3 and F4 commented that they did not use textbooks due to the heavy burden of reading kanji characters (F3) and considerable time needed to read in Japanese (F4). Indeed, few kanji reading guides (furigana) were seen in their textbooks. Although seven informants discussed their problems face to face with their peers, F1 once asked her peer about mathematics problems through online chatting. She mentioned that the peer was good at mathematics, and she could not ask him directly because male students lived in a different building and were not allowed to enter the females' residence.

Interestingly, the informants employed different adjustment strategies depending on lecturers' course policies. According to the informants, their mathematics lecturer gave brief feedback on worksheet problems that many students were unable to solve. Therefore, they did not necessarily have to solve all the problems if they were too difficult. Six informants (F1, F4, F5, M1, M2, and M3) sometimes deliberately did not answer all the mathematics problems when they could not. However, no informants except F1 reported that they submitted their incomplete worksheets to physics and chemistry lecturers. They managed to

answer all the problems by asking peers (all informants) or senior students (F3). F1 ended up failing to complete a few physics tasks, though she submitted it after she worked hard to solve problems by referring to her lecture notes and consulting peers. As Cao and Nietfeld (2007) argue with regard to college students' self-regulatory strategy use, the informants in the current study also selected different strategies in accordance with course requirements and academics' support. They controlled their own learning, taking into account class characteristics.

As mentioned earlier, the implementation of adjustment strategies did not straightforwardly guarantee the resolution of problems. In addition to F1's case above, three informants (F4, M2, and M3) reported that they could not obtain some answers in mathematics worksheets even through peer discussion. They, thus, deliberately left the answer sheet blank and anticipated their lecturer's feedback in class.

## Experiments and Experiment Report Papers

The students had a physics or chemistry experiment every week. The informants claimed that they enjoyed the experiments and did not encounter many difficulties. Only F4 commented that she twice had trouble in understanding the lecturer's explanation on experiments, but she coped with it by asking her lecturer, friends, and TAs. All the informants commented on their prior experience of experiments in secondary schools, and little difference was seen between secondary school and the JAD. This does not support Karino's (2006) claim that Malaysian secondary students rarely carry out scientific experiments using laboratory instruments and had serious problems writing the subsequent experiment reports.

Previous literature has reported that international students of non-English background had their essays proofread by native English speakers (Nemoto, 2002; Yamada, 2003). In this study, however, despite the fact that Japanese is a foreign language for these students, little linguistic difficulty was reported on experiment report writing. Only F1 and F2 claimed that they were not confident in writing in Japanese, but they did not implement any adjustment strategies. Three informants (F2, M2, and M3) showed the researcher their physics experiment reports received back from the lecturer. The lecturer added some feedback on content and stylistic norms of scientific reports, but no comments were made on grammatical and textual mistakes. The lecturer provided oral feedback in class on the students' linguistic mistakes and recommended a suitable textual style. However, only F2 noted that it was valuable for further writing. Nonetheless, it seems important for the JAD students to have the opportunity to note deviation from linguistic and sociolinguistic norms in academic writing, as Neustupny's Management Process Model indicates that suitable academic norms are not acquired without student's noting (Neustupný, 1985; Marriott, 2005).

In addition to linguistic difficulty, some informants noted difficulty understanding what was expected to be written in the discussion section of the experiment reports. In the reports, the students were required to write about validity, reliability, and reasons for the failure or success of the experiment. Five informants (F1, F2, F3, F4, and F5) found it difficult to digest the results of the experiment from a scientific perspective. In order to rectify the situation, a major adjustment strategy identified was peer discussion. Four (F1, F3, F4, and F5) of them discussed what to write in the discussion section with peers. Furthermore, they reported some other strategies to overcome their individual problems. F1 and F3 accessed an online encyclopaedia, Wikipedia, in English to study the experiment topic. F3 asked her senior peer studying in Japan about the experiment through online chatting. In addition, F4 had no idea how figures and tables should be presented in the paper, which led her to borrow a senior peer's past experiment paper to learn the appropriate format. These cases show the similarity to Nemoto's (2002) study in which international students of non-English background relied on peers' feedback and reading resources in their native language for their essay writing. The current informants heavily relied on peers and digitised reading resources in a more familiar language than Japanese. Nemoto's students also reported that they consulted their lecturer when they were not confident enough about what they planned for written assignments. However, the informants of the current study never visited their lecturers to discuss their writings.

## Textbooks and Reading Resources

Reading textbooks and reference resources plays an important role in academic settings and is closely intertwined with other activities (Spack, 1997). However, the informants in the present study rarely

read textbooks despite the fact that they owned at least one prescribed textbook for each subject. Even when the informants faced various problems, they seldom looked at the textbooks. It seemed difficult for the students to read them because of the lexical difficulty. Four informants (F1, F2, M1, and M2) complained that there were a large number of unfamiliar kanji scripts, and three (F2, M1, and M3) struggled because of a great deal of scientific terminology in the textbooks. F2 and F3 reported they had referred to the mathematics textbook but did not actually read the text. They merely followed the mathematical processes of calculation in the textbooks. The two commented that they could understand it without bothering themselves with kanji characters or scientific terminology. All the lecturers except one noted that they did not expect their students to read the textbooks before class. Some delivered lectures based on handouts and PowerPoint slides without referring to textbooks. Lecturers' handouts had kanji reading aids (furigana), and consequently the students were easily able to access word meanings through dictionary use. Reading academic texts helps students develop their understanding of subject matter. Moreover, for students of foreign language, it can provide them with opportunity to note linguistic proficiency required in their academic study. Yet, the informants did not recognise its importance and the academic staff seemingly failed to make their students aware of it.

There are some other reasons why the informants did not utilise the textbooks for their academic purpose. F2 and F3 explained that examination questions were based on lecture handouts or content explained in class, not from the textbooks. Also, F1 found it easier to read internet sites in English to understand scientific concepts than to read Japanese textbooks; English was much easier for her to read. Literature also shows that scientifically specific lexical difficulty is the severest in academic reading (Kitahama, 1996).

One lecturer frequently asked students to read a textbook aloud in class. The students, therefore, put their efforts into looking up kanji readings and unfamiliar terminologies before class. Dictionaries were used to look up kanji words and scientific terms. The informants also asked TAs in class, utilised the computer support tool for kanji input, consulted online dictionaries (F1), and asked their peers (M1). However, these strategies did not always reduce the difficulty. F2 and M2 could not find some scientific terms in their dictionaries because some terms were highly

specialised for standard dictionaries. F2 asked her lecturer later in class, whereas M2 mentioned he gave up because he could not come up with any solutions.

**Concluding Discussion**

While the literature contains a large number of studies addressing international students' difficulties in English speaking countries, none has focused on Malaysian students of Japanese language within science and engineering courses in a home-country program. This study uncovered their perceived problems and adjustment processes in the academic situation in detail through the concept of the management framework (see Appendix A). The implications obtained in the present study can be taken into account for foreign students' better academic experiences in other cross-national tertiary programs. Of course, the sample of the current study is small and collected exclusively within a single institution. Therefore, the findings for these individual cases cannot be overgeneralised.

The linguistic competence required in the JAD was very high. Informants' knowledge in kanji characters and scientific terms deviates from what was expected in the academic setting. Major adjustment strategies the informants utilised were receiving help from peers and consulting dictionaries/online resources. However, some informants could not solve this lexical problem because several terms were too specialised for their dictionaries to cover. Also, informants' linguistic deviations in experiment reports from academic norm were hardly noted. This may be due to a lack of opportunity to obtain feedback from more proficient speakers

There were not many cases in which the informants encountered problems in terms of sociolinguistic competence. Only one informant noted her deviation of textual style in her report paper from the academic norm. In this case, the lecturer implemented an adjustment strategy and gave oral feedback on suitable textual style for academic writing, which did not appear very effective.

The informants needed to deal with heavy workloads and address specialised matters. They then discussed problems with peers and anticipated the lecturer's support provided in class. Although the informants had serious difficulty understanding what they were expected to write in the experiment papers, they overcame this obstacle by means of peer collaboration.

For better academic experiences, it appears that the students need to surmount difficulties derived from kanji and scientific terminologies. Indeed, they learned frequently-used vocabulary in the engineering field in the prior year, making use of commercial textbooks compiled for the purpose, but the JAD Japanese courses did not put strong emphasis on student kanji acquisition of the corresponding vocabulary. As literature has already pointed out, it is of utmost urgency for foreign students of Japanese to tenaciously learn technical terminology to carry out academic activities (Kitahama, 1996).

Investigations of students' kanji acquisition and use in a cross-national program such as this should also be encouraged. Literature has focused on academic experiences of students with kanji backgrounds more than students with non kanji backgrounds, as a larger number of the former are studying in Japan. Effects of struggles in kanji on academic study have not been fully examined. The informants of this study gave up reading textbooks as a result of difficulty with kanji as well as scientific terminologies, though reading textbooks is necessary not only to undertake academic pursuit but also to improve lexical proficiency.

Sufficient feedback is needed for the students' linguistic and sociolinguistic performances in experiment report papers. Despite linguistic inappropriateness in students' papers, little feedback was provided. Effectiveness of teacher feedback on students' deviations and problems has not achieved consensus among researchers. However, the informants in this study had no chance to note their linguistic deviations and therefore did not trigger any adjustment strategy use. Under the management model, it is important for students to note their deviation from the norms. It is likely that teacher feedback would trigger students' noting and potentially implementing adjustment strategies.

Academic staff and TAs' roles are also open for discussion. The present study shows that academic staff and TAs' roles were confined within the classroom in terms of students' academic activities. It is worth mentioning that some informants chatted with and went out for meals with TAs but claimed that they never talked about study experiences after school with TAs. Two lecturers also admitted there were no students who visited them during the semester for academic inquiry. A few informants explained this was because they thought their lecturers were too busy to spare time for them out of class. Easy access to academics and TAs would help students who ended up with unsolved problems make a breakthrough. Regular consultation hours should be set and announced to students, and online communication tools such as email and online bulletin board systems may be useful for their private inquiries. As Marriott (2005) and Nemoto (2002) point out, a learning support center is vital for students of foreign language backgrounds and has already become common among universities in English speaking countries. TAs might also play a role in mediating students' learning.

Cao and Nietfeld (2007) point out that course characteristics, rather than the problem type, influence students' adjustment strategy use. In the current study, the informants were required to read the chemistry textbook aloud in class, which caused them to use various strategies to consult unknown kanji readings beforehand. In contrast, they hardly read textbooks of the other subjects and never had the chance to note the deviation of their linguistic proficiency from the standard textual level expected for tertiary study. It seems important for course coordinators to consider the necessary study skills and strategies that foreign students need to acquire for their academic achievement.

For further investigation, students' and academics' reciprocal management processes have remained undiscovered. This study elucidated students' management processes in academic context. However, the important point of the management model rests in its multilateral nature of community members, and it is worth examining who implements what adjustment strategies and for what purposes. Furthermore, this study scrutinised students' management processes from the macro perspective, and relatively more studies have been undertaken vis-à-vis students' academic writing processes. However, little research has been reported on management processes in other academic activities in depth, such as oral presentations, reading, and lecture participation. Robust and detailed studies are crucial to understand international students' academic experience so that students receive prompt support to improve academic experiences in unfamiliar settings. This effort would make a substantial contribution to the worldwide concern for the facilitation of international students' experiences amidst the rapid progression of internationalization.

**References**

Alazzi, K., & Chiodo, J. J. (2006). Uncovering problems and identifying coping strategies of Middle Eastern university students. *International Education, 35*(2), 65-105.

Cao, L., & Nietfeld, J. L. (2007). College students' metacognitive awareness of difficulties in learning the class content does not automatically lead to adjustment of study strategies. *Australian Journal of Educational & Developmental Psychology, 7*, 31-46.

Hellstén, M., & Prescott, A. (2004). Learning at university: The international student experience. *International Education Journal, 5*(3), 344-351.

Karino, S. (2006). マレーシアにおける高校物理の概観 [A brief overview on secondary physics education in Malaysia]. 大学の物理教育 [*Physics Education in University*], *12*(3), 169-172.

Kitahama, H. (1995). 理工系学部へ進学する外国人留学生のための化学教育(Ⅰ): 「予備教育」における現状紹介と日本語教育との連携の重要性の指摘 [Chemical education for foreign students who are going to enter scientific or engineering university courses(Ⅰ):A present state in "preliminary education for foreign students" and an importance of the linkage with Japanese language education]. 化学と教育 [*Chemical Education*], *43*(2), 117-121.

Kitahama, H. (1996). 理工系学部へ進学する外国人留学生のための化学教育 (Ⅱ) － 「理工系専門日本語教育」と「化学日本事情教育」を組み込んだカリキュラムー [Chemical education for foreign students who are going to enter scientific or engineering university courses (Ⅱ) -A curriculum which contains teaching "scientific Japanese" and "Japanese scientific background"-]. 化学と教育 [*Chemical Education*], *44*(6), 387-390.

Marriott, H. (2004). A programmatic exploration of issues in the academic interaction of Japanese students overseas. *Journal of Asian Pacific Communication, 14*(1), 33-54.

Marriott, H. (2005). 日本人留学生のアカデミック英語能力の発達 [The development of Japanese overseas students' English academic competence]. 日本語学 [Japanese language studies], 24(3), 86-97.

Nemoto, H. (2002). Japanese exchange students' management strategies in academic writing. *ASAA E-Journal of Linguistics & Language Teaching.* Retrieved from http://www.arts.unsw.edu.au/languages/asaa_ejournal.

Neustupný, J. V. (1985). Language norms in Australian-Japanese contact situations. In M. Clyne (Ed.), *Australia, Meeting Place of Languages* (pp. 161-170). Canberra, AU: Pacific Linguistics.

Neustupný, J. V. (1994). 外国人とのコミュニケーション [*Communicating with Foreigners*] (25 ed.). Tokyo, JP: Iwanami Shinsho.

Novera, I. A. (2004). Indonesian postgraduate students studying in Australia: An examination of their academic, social and cultural experiences. *International Education Journal, 5*(4), 475-486.

Spack, R. (1997). The acquisition of academic literacy in a second language: A longitudinal case study. Written Communication, 14(1), 3-62.

Yamada, K. (2003). Japanese students' perceptions of difficulties with study activities at an Australian university. *ASAA E-Journal of Linguistics & Language Teaching.* Retrieved http://www.arts.unsw.edu.au/languages/asaa_ejournal.

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YUSUKE SAKURAI is a visiting lecturer in the Department of Japanese Language and Literature, Faculty of Arts, Cairo University, Egypt. He earned his MA in Australia. He has taught Japanese in several countries, including Thailand, Australia, and Malaysia. His research focuses on: foreign language acquisition; international education; computer assisted language learning.

Appendix A
Some Examples of Students' Management Processes