

Challenges in the English language environment at higher educational institutions in Japan: From the perspective of international graduate students in the field of science

IWATSUKI Junko

Abstract

Since the Japanese government introduced “Plan for 300,000 Exchange Students” in 2008, higher educational institutions of the nation have been striving to increase the number of international students by strategically creating education programs targeted for them. Indeed, these programs are attracting many international students to Japan, significantly boosting their number. The rapid growth of the international student population has led to English communication problems in Japanese universities. Here I investigated the communication problems experienced by international students in Japan, focusing on science graduate students who require daily communication with their supervisors and cohort in their thesis laboratory. Quantitative analysis of an online survey was conducted, followed by interviews of selected participants. It was found that the majority of the participants were satisfied with their current study environment in Japan, in line with the recent government report on the significant “globalization” of Japanese higher educational institutions. However, cases were identified where students expressed concerns about their English communication in Japan, including issues related to their personal situations. It seems that the shorter international students stay in Japan, the stronger they feel about their communication problems with Japanese students. It is evident that, with the continued growth of the international student population in Japan, more personalized care for international students, especially for those experiencing adjustment and communication problems, needs to be considered with high priority.

Key words: Japanese higher educational institutions, globalization, international students, English communication, science graduate students

1. Introduction

Among the advanced countries, Japan has been facing a particularly serious decline in the birthrate. Therefore, in recent years, the Japanese government is pushing forward to increase the number of workers from other countries. A legislative bill to accept more foreign “Specified Skilled Workers” in Japan was approved by the Diet and became effective in April 2019 (Ministry of Foreign Affairs of Japan, 2019). The low birthrate in Japan over the years has also resulted in the shrinking population under 18 years old, from its peak of 205,000 in 1992 to 118,000 in 2018, as the media put it

the “18-year-old population problem” (Ministry of Education, Sports, Culture, Science and Technology [MEXT], 2018). Not surprisingly, many universities in this country are suffering from under-enrollment issues. Therefore, MEXT announced in 2008 “Plan for 300,000 Exchange Students”, aiming to boost the number of international students by the year 2020 (MEXT, 2008). Moreover, the government launched various funding programs in order to “globalize” the environment of higher educational institutions, such as *Global Centers of Excellence (GCOE) Program*, *Global 30 (G30) Project*, *Program for Leading Graduate Schools*, *Inter-University Exchange Programs*, and currently, *Top Global University (TGU) Program* that started in 2014. Thus, it has never been so important for Japanese universities to internationalize their education and research environment as a survival strategy in order to increase student enrollment with governmental funding.

The concerted efforts by the Japanese government and universities to recruit more international students appear to be quite successful. A recent survey conducted by the Japan Student Services Organization (JASSO, 2018) showed that the number of international students in Japan had more than doubled during the last ten years, from 132,720 to 298,980. This significant growth included a 46% increase in the number of graduate students, from 35,405 in 2009 to 50,184 in 2018. Indeed, being ranked sixth, Japan was the only Asian country among the popular destinations of international students; according to University World News (2012), “The top destination countries in 2010 were the United States (19%), United Kingdom (11%), Australia (8%), France (7%), Germany (6%) and Japan (4%)”. They also pointed out, “East Asia and the Pacific is the largest source of international students, representing 28% of the world’s 3.6 million mobile students in 2010”. When we looked at the distribution in Japan, students from Southeast Asia (279,250) constituted the largest portion of the international students’ population, followed by those from Europe (10,115), North America (3,415), Africa (2,380), Latin America (1,546), Middle East (1,457), Oceania (809), and others (8) (JASSO, 2018). Importantly, these data suggested that most of the international students in Japan were from non-English speaking countries. However, their communication with professors and other students in Japanese universities is naturally in English, which is a second (L2) or third language (L3) for both parties. Therefore, English communication in Japanese universities is likely to be a source of issues, particularly during the time of a huge influx of international students to Japan.

In this study, I focus on international graduate students in the field of science and investigate the communication problems that arise in Japanese higher educational institutions. The participants in this study are limited to those in the field of science, since the English language is notably a major requirement in the field; it is needed for submitting papers to international journals, attending international conferences, and using technical terms (Tsugawa, Gosho, Nakamura, Sakata, Sugiura, &

Takeda, 2000). Because scientific research is mostly conducted in English, international students in the field do not need to learn the Japanese language (Furumoto, Noda, & Matsushita, 2006). In addition, my analyses are concentrated on graduate students, who are expected to have frequent, in-depth discussions in their thesis laboratory, in contrast to undergraduate students who mostly attend lectures. Through the investigation of English communication problems experienced by international graduate students in Japan, this study aims to provide clues to creating a better learning experience for them, thus contributing to the globalization of higher education in Japan.

This study has been conducted in three parts: a preliminary questionnaire, a quantitative questionnaire, and follow-up interviews, with the following specific research questions:

- (1) What are the communication problems for international graduate students when they study in Japan?
- (2) What problems arise in their research laboratory when communicating with Japanese students and faculty members?
- (3) How could Japanese students and faculty members prepare themselves in order to overcome communication issues with international graduate students?

2. Previous Studies on International Students in Japan

2.1 Language Used by International Students During Their Research Activities in Japan

Previous studies on international graduate students in Japan suggested that ability in Japanese was less required for students in science when compared to those in humanities. Goto (2009) focused on the language usage of international graduate students in the field of pharmaceutical science from a country where Chinese characters were used, specifically Thailand, which had active academic exchange programs with pharmacy schools in Japan.

He visited Thailand and conducted a questionnaire survey of 32 Thai researchers who had received a master's or a doctoral degree in Japan, followed by interviews based on the survey outcome. While they wrote their theses mostly in English, it was evident that daily communication with other members of the laboratory, including oral presentations and discussions in research seminars, were mostly in Japanese. In particular, they were often required to listen to and discuss research presentations in Japanese when Japanese students gave the presentations.

It was concluded that, for Thai students in Japanese pharmacy schools, Japanese language ability was not important in conducting their own research, but the ability was essential to participate in academic activities as a community member of their laboratories.

2.2 Challenges for International Students

The population of international students studying abroad has drastically increased in the last decade, with various problems and challenges arising. Although the most popular destinations for international students were the U. S. and the U. K., Japan is their top choice in Asia (University World News, 2012).

Since there is only limited research on issues faced by international students in non-English speaking countries, Lee (2017) investigated the challenges of four international students in Japan, from Vietnam, Philippines, Brazil, and China, using field notes, face-to-face oral interviews, focal group conversations and semi-structured written interviews.

He identified psychological (stress, anxiety, loneliness, and depression), living (financial stress), sociocultural (stereotyping, cultural fatigue) and linguistic (difficulty in talking with native Japanese speakers) issues that they had experienced. Having a supporting group, positive attitude, interaction with Japanese friends, financial assistance and useful learning strategies would better assist international students. He also pointed out that it was necessary for international students to know about the cultural issues, as well as being aware of the potential challenges in advance to tackle the situation effectively.

2.3 Adjustment Patterns of International Students in Japan

The number of international students in Japan has steadily increased due to the government's plan to take on 100,000 international students by 2000. Tanaka, Takai, Kohyama, & Fujihara (1994) conducted a comprehensive questionnaire survey of international students in Japan to evaluate different aspects of their adjustment with respect to their demographic traits. Twenty-four international students were interviewed about their adjustment to Japanese society, and the interview data were analyzed to form items for a questionnaire survey, in which 237 international students of various ethnical backgrounds participated.

Factor analysis of the survey results identified four components, "general adjustment (interpersonal stress, daily life stress, loneliness, behavioral conformity)", "internally controlled adjustment (internal stress coping, personal state of well-being, attributed tendencies toward success/failure)", "affiliation adjustment (interpersonal orientation, satisfaction with daily life, psychosomatic state)" and "externally dependent adjustment (external stress coping, satisfaction with progress in learning Japanese language and culture)". Further analysis of these four factors and the demographic traits of the survey participants found, "Asian participants generally were less adjusted than those of Western and Latin American cultures; U-curve patterns (Lysgaard, 1955) with time were not evident in three of the four factors; those more proficient in the Japanese language did not prove to be

generally better off than those less fortunate; and scholarship recipients were better adjusted than those relying on private sources for funding”.

2.4 Significance of the Previous Studies and Their Relevance to This Study

As summarized above, Goto (2009) delved into the usage of the Japanese language by international graduate students in the field of science and found that the ability to use Japanese did not affect the students' research activities. Thus, it is likely that many science students come to Japan without learning Japanese and that their major communication language in Japan is English. Therefore, I decided to focus on international graduate students in the field of science in my study of English communication issues in Japanese higher educational institutions. On the other hand, Lee (2017) investigated the adjustment problems experienced by international students from Vietnam, the Philippines, Brazil, and China, who were non-native English speakers. The present study also examines problems experienced by international students from non-native English-speaking countries, and the sociocultural and linguistic issues investigated by Lee (2017) are closely related to those examined in my study. Tanaka *et al.* (1994) tried to identify the factors that affected how international students at Japanese higher educational institutions adjusted themselves to Japanese society. Although my current research specifically focuses on English communication problems of international graduate students, both Lee's and Tanaka *et al.*'s studies provided useful insights into how international students can prepare themselves before coming to Japan.

3. Methods

Three different approaches; a preliminary questionnaire, a quantitative questionnaire, and follow up interviews were made to examine the experiences of international students in their universities and thesis laboratories. The preliminary questionnaire was conducted to gauge the types of problems that international students encounter. The collected information was then used to design the quantitative questionnaire. Finally, follow-up interviews were conducted to corroborate the findings in the quantitative questionnaire.

3.1 Participants and Procedure

3.1.1 Pilot Questionnaire

A pilot questionnaire was conducted online (Appendix “Preliminary Questionnaire”), with eleven international students who were non-native English speakers enrolled in graduate programs in the field of science (Table 1); five volunteers from Nara Institute of Science and Technology

(NAIST) and six from Nagoya University (NU).

Table 1
Demographics

Student	Nationality	Discipline	Institution	Year
1	Filipino	Information Science	NAIST	D3
2	Malaysian	Biological Sciences	NAIST	Ph D
3	Vietnamese	Biological Sciences	NAIST	D3
4	Vietnamese	Biological Sciences	NAIST	D3
5	Vietnamese	Materials Science	NAIST	D3
6	Chinese	Medicine	NU	M1
7	Chinese	Medicine	NU	D1
8	Chinese	Engineering	NU	M1
9	Chinese	Engineering	NU	M1
10	Mongolian	Medicine	NU	D1
11	Korean	Engineering	NU	M1

3.1.2 Quantitative Questionnaire

Based on the responses to the pilot questionnaire, I created and disseminated an online quantitative questionnaire (Appendix “Research Questionnaire”). The questionnaire consisted of seventy-two questions, including *Institutional Issues*, *Communication with Japanese Students*, and *Communication with Japanese Professors*. The participants were asked to respond on a five-point Likert scale (Wray & Bloomer, 2006) from Strongly Disagree (1) to Strongly Agree (5).

Fifty-five international graduate students in the field of science enrolled at NU, NAIST, and Osaka University participated in this study. All the participants were non-native English speakers who volunteered to participate in this study. The breakdown of their countries of origin is as follows: Bangladesh (4), Belgium (1), Brazil (1), Cambodia (1), China (3), Colombia (1), Denmark (1), Egypt (1), Philippines (8), Germany (4), Hong Kong (1), Indonesia (5), Korea (1), Malaysia (11), Myanmar (1), Russia (1), Thai (5), and Vietnam (5). There were 33 (60%) male and 19 (35%) female respondents, and 3 (5%) indicated non-binary or unknown. The participants’ length of stay in Japan ranged from less than a year 15%, one year 15%, two years 24%, three years 20%, four years 11%, to five or more years 15%. Seven were in the first year of their master’s programs (M1), nine in the second year of their master’s programs (M2), eleven in the first year of their doctoral programs (D1), seven in the second year of their doctoral programs (D2), twelve in the third year of their doctoral programs (D3), and three had been in their doctoral programs for more than three years. Two had completed their Ph. D. and four chose not to specify. The disciplines of the participants included Medicine, Biological sciences, Bio-agriculture science, Materials science, Informatics, and Information science.

The data were analyzed using the JMP Pro Version 14.2.0 software to evaluate the possible correlations of the participants' responses to the questionnaire with *Length of Stay in Japan*, *Gender*, and *Economic Group* (Table 2) by the One-way Analysis of Variance (ANOVA).

Table 2
Categories of The Variables

Variables	Categories
<i>Length of Stay in Japan</i>	1. Five years or more (L) 2. Under five years (S)
<i>Gender</i>	1. Male 2. Female
<i>Economic Group</i>	The <i>Economic Groups</i> were organized according to the international graduate students' countries' economic criteria; GDP per capita (Central Intelligence Agency, 2017). 1. \$10,000 or higher (A) 2. Lower than \$9,999 (B) <i>Countries are as follows:</i> <i>A: Bangladesh, Brazilian, Cambodian, Chinese, Colombian, Egyptian, Filipino, Indonesian, Thai, & Vietnamese</i> <i>B: Belgium, Danish, German, Hong Kong, Malaysian, & Russian</i>

The quantitative data were supplemented by qualitative data gathered from the follow-up interviews described below.

3.1.3 Follow-up Interviews

Qualitative data were obtained through interviews with four international students that had participated in the quantitative questionnaire (Table 3). Based on the data collected from the questionnaire, I asked further questions to extend the analyses of the questionnaire results.

Table 3
Description of The Interviewees

Student	Nationality	Year	Gender
A	Vietnamese	D3	Female
B	Malaysian	PhD	Male
C	Filipino	M2	Male
D	Russian	D1	Male

The "one-on-one" interviews were conducted via Skype. English was used in the interviews, which were audio-recorded for later analyses with the consent of each participant.

4. Results

4.1 Preliminary Questionnaire

In the preliminary questionnaire, I asked the participants to answer questions (1) - (4) below freely. As indicated by the representative responses to each question summarized below, some students answered that Japanese students (or faculty members) needed to improve their English skills, while others stated that cultural differences caused miscommunication issues. Thus, most of the international graduate students indicated that there should be some kind of “effort” between international graduate students and Japanese students (faculty members) in order to overcome communication issues:

(1) What are your communication problems when studying/pursuing research in Japanese higher educational institutions?

- “Learning Japanese is necessary to live a normal life in Japan. Basic Japanese is not enough.”
- “A small problem is the usage of American English in Japan. I have been learning British English since young, so sometimes there are some miscommunications between my friends (Japanese) and I when I speak unfamiliar words (such as I called elevator as lift, etc.)”
- “Emergency announcements are only available in Japanese, which might pose certain levels of risks to non-Japanese speaking foreign students.”

(2) What problems arose in the research lab when communicating with Japanese students and faculty members?

- “Many of them severely lack communication ability in speaking and writing.”
- “The main problem is that most of the seminars, presentations, lab progress meetings, and Journal club presentations are in Japanese.”
- “Some Japanese students (not majority) are very shy to communicate when I spoke English to them.”
- “In Japan, some Japanese faculty members/students do not fully express themselves. The ambiguous expressions may confuse some foreign students who are not familiar with this culture.”
- “They sometimes use the translation software on PC or smartphone to translate the information to English before talking with me”

(3) How could Japanese students and faculty members prepare themselves in order to overcome communication issues with international graduate students?

- “Both parties (international graduate students and Japanese students/faculty members) have to put efforts to overcome the communication issues.”
- “The labs can prepare English manuals/instructions and also sending emails in both Japanese and English.”
- “After-work parties may help to strengthen the relationships and communications between Japanese students/staffs with foreign students.”

(4) What would you advise other students to do in order to prepare themselves before coming to Japan to study?

- “Learn some basic Japanese such as *hiraganal/katakana*, as well as some greetings. The basic knowledge of Japanese can enhance their Japanese learning in Japan.”
- “Japan is a fast-paced and competitive country; students are advised to mentally prepare themselves to withstand the stresses that might come with the high-level research studies. Also, if the students are enrolling in traditional Japanese universities, the students should beware of the hierarchy order (e. g., senior-junior relationship), which is common in the society, to avoid any troubles.”

As seen in the comments by the participants above, they have varied opinions based on their personal experiences regarding English communication problems in Japan. To examine how common those opinions are among international graduate students, the opinions and comments collected in the preliminary questionnaire were converted to quantitative questionnaire questions with the Likert scale.

4.2 Quantitative Questionnaire

Fifty-five international graduate students in the field of science (section 3.1.2) volunteered to participate in the quantitative questionnaire that covered the three categories, *Institutional Issues*, *Communication with Japanese Students*, and *Communication with Japanese Professors*. Their responses to the questionnaire questions were analyzed by the One-way Analysis of Variance (ANOVA) to evaluate possible correlations with the three variables (Table 2), *Length of Stay in Japan*, *Gender*, and *Economic Group*. These analyses were followed up by interviewing the questionnaire participants who were willing to cooperate further in the study.

Using this approach, significant differences were detected in the question category *Institutional Issues*; responses to one out of the eight questions in this category showed statistically significant

differences ($p < .05$) by *Gender* (Figure 1, Table 4). In another question category, *Communication with Japanese Students*, statistically significant differences were identified in the participants' responses to three out of the 12 questions; responses to two questions ($p < .05$ and $p < .001$) by *Length of Staying in Japan* (Figure 2, Table 7 and Figure 3, Table 8, respectively), and responses to one question ($p < .01$) by *Economic Group* (Figure 4, Table 9). Responses to one of the eight questions in the category *Communication with Japanese Professors* also showed statistically significant differences ($p < .05$) by *Gender* (Figure 5, Table 10). I will describe these findings in detail below.

4.2.1 Institutional Issues

ANOVA was applied to detect possible correlations by examining *Length of Stay in Japan*, *Gender*, and *Economic Group* as independent variables (Table 2), and *Institutional Issues* as dependent variables. Results show that there was no significant correlation ($p > .05$). However, when ANOVA was applied to *Institutional Issues* by *Gender*, significant association between the two variables were seen ($p < .05$), as shown in Figure 1 and Table 4.

Figure 1
Institutional Issues by Gender
 Q: "International students are treated favorably by the university"

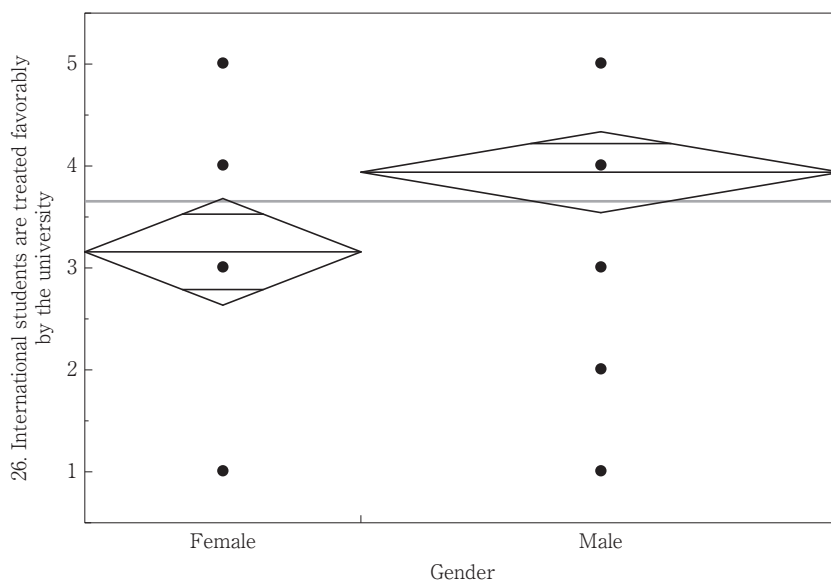


Table 4

ANOVA: *Institutional Issues by Gender*

Q: *“International students are treated favorably by the university”*

Source	Degree of Freedom	F Ratio	p value
Gender	1	5.7170	.0206*

(* $p < .05$)

The above results indicate that the male participants more strongly feel that they are treated favorably by the university than the female participants. To further this finding, I interviewed one of the male participants who mentioned that he was generally very happy about the Japanese institutions’ ‘welcome-ness’:

[Excerpt 1]

“Most of the cases, international students are very welcomed...sometimes international students are more welcome than the Japanese students. The staff tries to make the best effort to help them. That’s the great job, I think.”

I asked him if there was any negative aspect in his experience. As shown in Excerpt 2, a possible cultural difference was mentioned regarding how he felt about not being treated “favorably”:

[Excerpt 2]

“Japanese mentality is different to other foreign countries. It’s a good level of behavior, but sometimes we don’t understand. For example, in my country, when there is a new student coming to the lab, it is natural to first meet them at the airport, but in Japan I was surprised when I got directions how to get to the university. I struggled because I didn’t know how to speak Japanese and get directions when I got lost. This is when I felt that international students were not treated favorably.”

For further analysis of problems in Japanese higher educational institutions, the participants’ responses to the question “I am satisfied with the Japanese language courses provided by my university” are shown in Table 5. 23 students out of 55 (57%) chose Strongly Agree (level 5 on the Likert scale) or Agree (level 4), whereas 8 (15%) chose Strongly Disagree (level 1) or Disagree (level 2).

Table 5

Responses to Q: "I am satisfied with the Japanese language courses provided by my university"

Likert scale	1	2	3	4	5	Total
Participants	1 (2%)	7 (13%)	24 (29%)	16 (44%)	7 (13%)	55 (100%)

Although the majority of the respondents chose level 3 or higher, I focused on those who chose Strongly Disagree (level 1) or Disagree (level 2) to sound out their opinions through interviews. As indicated in Excerpt 3, the interviewee pointed out that Japanese language classes offered to international students do not meet their needs very well and that the curricula are designed based on the timeline set by the Japanese government:

[Excerpt 3]

“All the Japanese lessons are not really based on the student’s ability or their needs. Most of the time, it is textbook-based and repetitive (always starting from *jikoshokai* (self-introduction)), so you already get bored. The system is slightly old. In my country there is a kind of a “buddy-system”, where low-level students are paired up with high-level students and, so they could teach those in need of assistance. This also helped when making new connection with people. This may not be just about the professors, but more on the education process itself because there is always a timeline to finish such and such by a certain time in the academic year.”

As pointed out above, it is possible that Japanese language classes offered to international students may need further improvements. On the other hand, as shown in Table 5, many students had favorable opinions about the Japanese classes that they were enrolled in. Indeed, it is not surprising that the participants’ responses were significantly affected by their personal experience and situation. For example, Table 6 below summarizes how the participants responded to the question “I am happy with what the Japanese university offers as extra-curriculum opportunities for everyone”; 33 participants out of 55 (60%) chose Strongly Agree (level 5 on the Likert scale) or Agree (level 4), and only 4 participants (7%) chose Strongly Disagree (level 1) or Disagree (level 2).

Table 6

Responses to Q: "I am happy with what the Japanese university offers as extra curriculum opportunities for everyone"

Likert scale	1	2	3	4	5	Total
participants	1 (2%)	3 (5%)	18 (33%)	18 (33%)	15 (27%)	55 (100%)

Among those who answered Strongly Disagree or Disagree is a student whose thesis laboratory was off-campus, hampering the student’s participation in extra-curricular activities:

[Excerpt 4]

“I think the Japanese support and volunteer classes are nice...the trouble is that...for example in my case, the student dormitory is far from my core laboratory. Every day, I go out of my dormitory and come to my lab (which is off-campus) and it is difficult for me to go back to join such classes (or events) because the time schedule did not suit me, so I rarely joined them. Even the lunch time Japanese volunteer clubs, I could not go back to the venue since it was so far from my lab.”

Obviously, this student’s negative response to the question, “I am happy with what the Japanese university offers as extra-curriculum opportunities for everyone”, is due to the off-campus location of her/his laboratory, and not to the quality or frequency of the extra-curriculum opportunities offered. Thus, depending on questions asked, very mixed views can be collected in the questionnaire category *Institutional Issues*, reflecting the diversity of participants’ experiences and situations and the uniqueness of their host institutions. On the other hand, international students’ communication issues examined in the next section may be less affected by institution-specific situations.

4.2.2 Communication with Japanese Students

Statistically significant differences ($p < .05$) were found in the following cases when ANOVA was applied:

- *Communication with Japanese Students by Length of Stay in Japan*
- *Communication with Japanese Students by Economic Group*

Communication with Japanese Students by Length of Stay in Japan

“My English is understood by my lab mates” was one of the questions in the questionnaire category *Communication with Japanese Students*, and the participants’ responses to “My English is understood by my lab mates” were examined by their *Length of Stay in Japan*; as shown in Figure 2 and Table 7, there was a significant correlation ($p < .05$).

Figure 2

Communication with Japanese Students by Length of Stay in Japan

Q: “My English is understood by my lab mates”

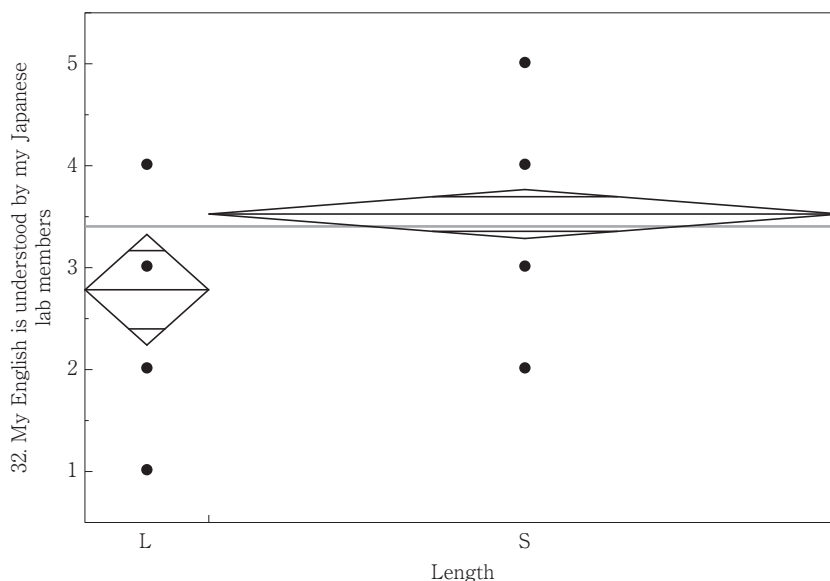


Table 7

ANOVA: *Communication with Japanese Students by Length of Stay in Japan*

Q: “My English is understood by my lab mates”

Source	Degree of Freedom	F Ratio	p value
Length	1	6.3027	.0151*

(* $p < .05$)

The results suggest that the participants who have lived in Japan for five years or longer (designated “L”) feel that their English is less understood by their Japanese lab members, compared to those who have lived in Japan less than five years (designated “S”). To further investigate why students with a shorter stay in Japan could have more confidence in their English communication, I interviewed a student (“S”) who chose Strongly Agree with the question “My English is understood by my lab mates”. As mentioned in Excerpt 5 below, the participants belonged to a laboratory with a rule that all the students had to speak in English during their research activities:

[Excerpt 5]

“In my case, my laboratory is quite unique in the sense that my professor always has a rule to speak all lab meeting and collaboration in English in order to help other international students

...sometimes the master students (Japanese) don't know how to speak in English, and they explain in Japanese. One example is when they present, they do it in English, but when they finish and there are questions in English, they say 'sorry I have to switch to Japanese' and they start to talk in Japanese. But in general, English is good and it's only a matter of practice."

It is unknown how "unique" such a laboratory is; however, a recent significant increase in the number of international graduate students in Japanese universities may have encouraged their research laboratories to use English as an official language.

The question "My English is understood by my lab mates" discussed above is related to another question in the category *Communication with Japanese Students*: "It is very difficult making conversation with Japanese lab mates", which was also examined by *Length of Stay in Japan*. Again, there was a significant correlation ($p < .001$) as shown in Figure 3 and Table 8.

Figure 3

Communication with Japanese Students by Length of Stay in Japan

Q: "It is very difficult making conversation with Japanese lab mates"

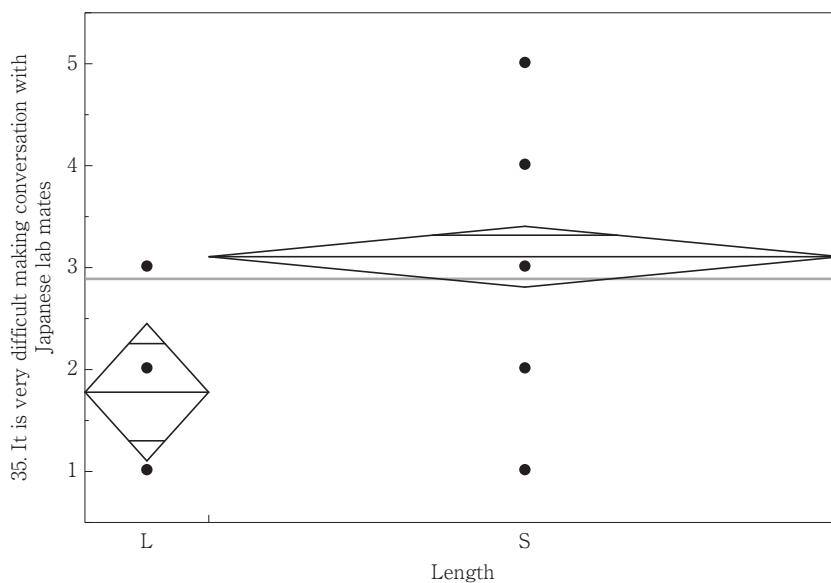


Table 8

ANOVA: *Communication with Japanese Students by Length of Stay in Japan*

Q: *“It is very difficult making conversation with Japanese lab mates”*

Source	Degree of Freedom	F Ratio	p value
Length	1	18.0835	.0007***

(*** $p < .001$)

The analysis above suggests that the international students with shorter stays in Japan (“S” in Figure 3) find it more difficult to converse with Japanese lab mates, in comparison to those staying longer in Japan (“L”). As seen in Excerpt 6 below, one student (“S”) pointed out in the follow-up interview that it was difficult to maintain a conversation with Japanese students because the conversation stopped when they bumped into the “language barrier”:

[Excerpt 6]

“It’s sometime very difficult because if you try to explain in English and they don’t understand, then you have to switch to Japanese. In my case, it’s okay to switch to Japanese because I could speak Japanese, but what about others who don’t know Japanese… it would be like two students talking to each other but don’t know what to say anymore, it would be a very terrifying moment, I guess.”

Another student with shorter stay (“S”) described how shy Japanese students in her/his lab were and that they were perhaps scared to talk with foreigners, preventing her/him from communicating well with them:

[Excerpt 7]

The problem is when I want to talk with Japanese students in my lab. First, they are silent and they rarely talk… to a foreigner, and when I want to talk, they say “I’m not good at English” or they are scared of us or something like that. But it’s not a big problem because when we want to directly talk, we can use body language, so I can understand and they can understand what I want … Sometimes we use body language and sometimes we use Google translator… with some students there is no catch ball (in communication) so sometimes I intentionally ask them for their help to communicate well.

In addition to the English ability of Japanese students, their shyness seems to be another barrier in their communication with international students. However, the longer international students stay in the same laboratory, the more they become acquainted with their Japanese colleagues; therefore,

international students staying longer in Japan might experience less communication difficulty derived from the shyness of their Japanese lab mates.

Communication with Japanese Students by Economic Group

My statistical analysis of another *Communication with Japanese Students* category question “I feel that nuances are lost in translation when speaking with my lab mates” detected a significant association ($p < .01$) between the participants’ responses to this question and the *Economic Group* variable (Table 2) as shown in Figure 4 and Table 9.

Figure 4

Communication with Japanese Students by Economic Group

Q: “I feel that nuances are lost in translation when speaking with my lab mates”

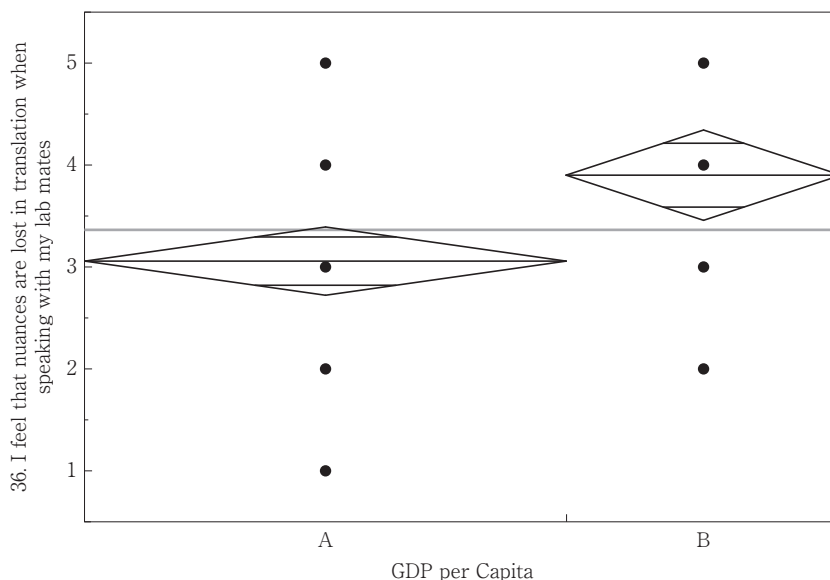


Table 9

ANOVA: *Communication with Japanese Students by Economic Group*

Q: “I feel that nuances are lost in translation when speaking with my lab mates”

Source	Degree of Freedom	F Ratio	p value
Length	1	9.2715	.0036**

(** $p < .01$)

The *Economic Groups* are based on the GDP per capita of students’ home countries (Table 2). The student participants whose home countries’ GDP per capita is lower than \$9,999 (designated

“B”) are more likely to choose Strongly Agree (level 5 on the Likert scale) and Agree (level 4) to the question “I feel that nuances are lost in translation when speaking with my lab mates” statement. On the other hand, students whose home countries’ GDP per capita is \$10,000 or higher (designated “A”) tend to choose Strongly disagree (level 1) and Disagree (level 2). One possible explanation for this observation is that students from the “A” countries have more opportunities for English education in their home countries than those from the “B” countries, including private tutoring; thus, “A” country students might have been better prepared for English communication, feeling less frustrated to express themselves in English. On the other hand, my interview with one of the participants from a “B” country pointed to Japanese students’ carelessness/indifference to nuances when they speak in English:

[Excerpt 8]

“A lot of (Japanese) people in my lab use the word *I don't care* intended for *kinishinai* (I don't mind), but in reality, it literally means *doudemoii* (I don't care), a negative word. There is always a discussion in the lab that the two words in Japanese mean very different in English...and that is the kind of communication I feel that is always lost in translation and people get the wrong idea/impression amongst each other. I think these small things are needed to know.”

Therefore, it is likely that the participants’ responses to the question “I feel that nuances are lost in translation when speaking with my lab mates” were affected by the English ability of the participants as well as that of their Japanese lab mates.

The results described in this section illuminated the concerns of international graduate students in their communication with Japanese students. Their concern levels seem to be affected by their length of stay in Japan and the economic levels of their home countries. Importantly, however, individual responses to the questionnaire questions show reasons that can be significantly different from person to person.

4.2.3 Communication with Japanese Professors

I performed ANOVA to detect possible correlations by examining the three variables (*Length of Stay in Japan, Economic Group, and Gender*) as independent variables and the participants’ responses to the *Communication with Japanese Professors* questions as dependent variables. There was a significant association when examined by *Gender* ($p < .05$) as shown in Figure 5 and Table 10.

Figure 5
Communication with Japanese Professors by Gender
 Q: “My English is understood by my professor”

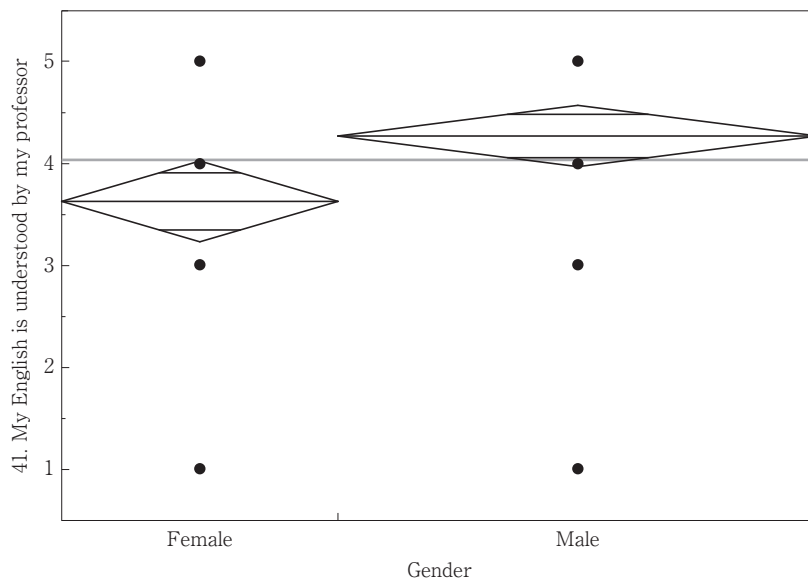


Table 10
Communication with Japanese Professors by Gender
 Q: “My English is understood by my professor”

Source	Degree of Freedom	F Ratio	p value
Length	1	6.7041	.0126*

(* $p < .05$)

Although both male and female participants showed relatively favorable responses to the question “My English is understood by my professor”, the statistical analysis found that the female students slightly leaned toward Neutral (level 3 on the Likert scale; Figure 5), compared to the male students in regard to their level of confidence in English communication with their professors.

To look more deeply into how international graduate students perceive communication issues with their Japanese professors, I examined the Likert scale distribution of their responses to Q1, Q2, Q3, and Q4 in the category *Communication with Japanese Professors*.

Table 11

Responses to Q1, Q2, Q3, and Q4 in The Category Communication with Japanese Professors

Likert scale		1	2	3	4	5	Total
Q1.	participants	27 (49%)	16 (29%)	9 (16%)	3 (5%)	0 (0%)	55 (100%)
Q2.	participants	25 (45%)	15 (27%)	9 (16%)	5 (9%)	1 (2%)	55 (100%)
Q3.	participants	15 (27%)	16 (29%)	16 (29%)	7 (13%)	1 (2%)	55 (100%)
Q4.	participants	23 (42%)	16 (29%)	10 (18%)	5 (9%)	1 (2%)	55 (100%)

Note: Q1. *“My professor’s English is difficult to understand”*

Q2. *“It is very difficult making conversation with my professor”*

Q3. *“I feel that nuances are lost in translation when speaking with my professor”*

Q4. *“I am hesitant to consult/communicate with my professor in English when I am stuck with my research”*

As shown in Table 11, only a small number of the participants chose Agree (level 4 on the Likert scale) and Strongly Agree (Level 5) in response to these questions, suggesting that the majority of the participants do not discern serious communication problems with their professors. However, to understand what kind of communication issues exist between international students and their professors, I interviewed one of the participants whose responses in the Communication with Japanese Professors category were overall negative. As indicated in Excerpt 9 from the interview, the issue was a “language-barrier” between the student and the professor:

[Excerpt 9]

Student C: “My professor is not used to speaking (English). I know he is very intelligent and smart, but I can’t really speak to him...converse to him easily and...if I am asking questions, sometimes it’s really hard to communicate. I know he is trying his best to teach us.”

Interviewer: “Do you get any help from other *senseis*?”

Student C: “Yes I do...but most time the real technical details I can only get from the main sensei and nobody else can explain.”

Interviewer: “When you get advice from the main sensei, is there another...like an associate professor or assistant professor in the same room? Or is it just one-on-one?”

Student C: One-on-one.

Interviewer: “That’s a little problematic, isn’t it?”

Student C: “Yes, ever since I changed my (research) topic and also I finished (changed) my (other) supervisor...”

Interviewer: “Is it working when you talk with other instructors, such as assistant professors?”

Student C: “Yes, it’s working...”

Interviewer: “Good, good, good, good”

This student chose Agree (level 4 on the Likert scale) in Q4, “I am hesitant to consult/communicate with my professor in English when I am stuck with my research” (Table 11) and therefore, questions related to Q4 were also asked (Excerpt 10):

[Excerpt 10]

Interviewer: “When it becomes very difficult to talk about technical terms (with your main professor), what is the best way to get over that issue? What do you think, because in the room it’s you and the professor only?”

Student C: “I try writing down my questions and send him an email instead and I think it worked fine. After that we are talking in person.”

Interviewer: “That’s very good to hear. I am happy to hear that you know, you’re trying very hard, you’re putting effort and trying to communicate with him in every way.”

Student C: “My problem is that I don’t know enough Japanese. My *sensei* is really kind and supportive too…it’s not really a problem.”

From the interview excerpt above, it is evident that not all professors in Japanese higher educational institutions are fluent in oral English communication. However, in their laboratories, international graduate students are devising means to communicate better with the professors, such as communication in writing. It is possible that similar efforts are being made also by the participants who did not indicate serious communication issues with their professors in their responses to the questionnaire.

5. Discussion

Tsugawa *et al.* (2000) pointed out that the English language was more of a requirement in the field of science because, in this field, papers were mostly submitted in English to international journals, presentations were delivered in English at international conferences, and English technical terms were used most of the time. Furumoto *et al.* (2006) and Goto (2009) added that, in the field of science, international students in Japan were not forced to learn the Japanese language since research was mostly conducted in English. Therefore, the participants of this study were limited to international students in the field of science in order to focus on their English communication environment in Japan. In addition, the study was centered on graduate students, who are likely to experience more rigorous communications in their thesis laboratory, in comparison to undergraduate students who

mostly spend their time in lectures. For example, graduate students are expected to have “one-on-one” discussions with their thesis supervisor. The preliminary questionnaire and the quantitative questionnaire followed by interviews in this study were conducted to probe the English communication problems of international graduate students in their host institutions and laboratories.

During my preliminary questionnaire study, I further considered the scope of the survey; who should be included in my questionnaire study. For Filipino students, their national language is Tagalog, but some of them may use English as their primary language. However, when I interviewed a student from the Philippines, I learned that many of them spoke Tagalog at home and used English as their second language. Therefore, it was decided to include Filipino students in this research. It was also considered whether Chinese students could be included in this research. Students from the countries of *kanji* cultures are able to use Chinese characters as a means of communication with Japanese people, in addition to English. In other words, the *kanji* literacy may provide Chinese students with an advantage in general communication with Japanese people over international students from *non-kanji* countries. Therefore, the questionnaires in this study were specifically focused on English communication problems, which are likely to be also experienced by Chinese students in Japan. Overall, the responses collected during the preliminary questionnaire study were based on students’ own experiences in their academic lives in Japan; thus, they were helpful in designing the quantitative questionnaire.

Some limitations of the study surfaced during the analysis of the quantitative questionnaire. The male/female ratio (19 female, 33 male and 3 non-binary) and the regional distribution of the students’ home countries were not entirely balanced between the compared groups. Although the biased male/female ratio cannot be avoided in the field of science, a male-dominant discipline, further investigation with a much larger sample size would improve the quality of the statistical analysis.

Below, I will further discuss my results in light of the three research questions of this study: (1) What are the communication problems for international graduate students when they study in Japan?; (2) What problems arise in their research laboratory when communicating with Japanese students and faculty members?; (3) How could Japanese students and faculty members prepare themselves in order to overcome communication issues with international graduate students?

5.1 English Communication Problems in Japanese Higher Educational Institutions

In this study, multiple communication problems in Japanese higher educational institutions were uncovered through the student surveys and interviews. The quantitative questionnaire found that most of the international graduate students were generally satisfied, but a few issues were raised. Examples

of such issues include Japanese language classes that do not meet students' needs very well due to their curricula set by the Japanese government. Previous studies also suggested that instructors' understanding of the cultural backgrounds of students affected the students' experiences in learning languages (Gay, 2000; Pai, Adler, & Shadiow, 2006; Lin, & Scherz, 2014). Thus, reassessment of international students' needs and cultural backgrounds seems to be essential to improve the curricula of Japanese language education.

Another concern raised during the follow-up interviews (Excerpts 1 and 2 in section 4.2.1) was that, despite Japanese institutions' 'welcomeness' to international students, what the institutional staff could do to support them is limited. One of the interviewees pointed out that, in her/his home country, international graduate students are more comprehensively supported; for instance, host laboratories first meet incoming students at the airport to make sure that they do not get lost on their way to the campus. The interviewee added that there might be cultural differences, as Japan is an advanced country and is known to be one of the safest places in the world. The decline in the administrative staff numbers due to the budget cuts in Japanese universities (MEXT, 2010) may also be the reason for the limited support for international students, despite the ongoing effort for "globalization" of the campus environment.

Since the "Plan for 300,000 Exchange Students" was introduced by the Japanese government (MEXT, 2008), various international programs have been implemented that aim to "globalize" Japanese universities. Although a comprehensive review of the outcome of those programs is yet to be conducted, an interim report of the *Top Global University (TGU) Program*, where 37 universities were chosen for a ten-year funding (2014–2023), was published by MEXT in February 2018. The report evaluated the achievements of the universities funded by the TGU program, including Nagoya University that was rated 'S' (the highest mark), as well as Nara Institute of Science and Technology and Osaka University, both of which received an 'A' (MEXT, 2018). The report indicated that the English environment had been significantly improved toward campus "globalization" of the universities funded by the TGU programs, such as English translation of institutional announcements and documentations as well as more specialists to support international students. The number of classes offered in English (19,533 classes in 2014 and 32,846 classes in 2017) and the number of courses that confer academic degrees through English-only curricula (873 in 2017) have also dramatically increased. These efforts may have contributed to the 40% increase in the international student population in Japan from 2014 to 2017 (49,618 in 2014 and 69,119 in 2017). Although these figures show great improvements in the overall internationalization of Japanese higher educational institutions, there are issues yet to be considered, including cares for individual international students suffering from adjustment problems in Japan, as observed in this study. Adjustment and acclimation of

international graduate students to Japan are likely to be significantly affected by the communication environment of their thesis laboratories where they mainly use English for daily interactions with Japanese students and professors.

5.2 English Communication Problems with Japanese Students and Faculty Members

As shown in Section 4.2.2, a significant correlation was detected in ANOVA, when the participants' responses to the *Communication with Japanese Students* questions were examined by the variable *Length of Stay in Japan*. The participants who had stayed in Japan for a longer period seemed to feel that their English was less understood by Japanese students, in comparison with the participants with a shorter stay in Japan (Figure 2 and Table 7). On the contrary, the international students who had stayed in Japan for a shorter period found it challenging to make conversations with Japanese lab mates more than those who had stayed in Japan for a longer period (Figure 3 and Table 8). It should be noted that these seemingly contradictory results could be due to the imbalance in the participating population; only nine lived in Japan for five years or more among the 55 participants. On the other hand, Tanaka *et al.* (1994) reported that international students were better adjusted and stabilized in due time, and their observation seem to be more consistent with my latter finding that the participants found less difficulty in conversation with Japanese lab mates after more years of stay. Indeed, some of the participants pointed out that Japanese students were very shy and avoided communication in English, but this communication barrier would be less of an issue after they became close with international students over the years. Thus, although my research did not focus on the “adjustment” of international students, I speculate that the communication issues of international students are intimately related to their adjustment issues, such as those studied by Tanaka *et al.* (1994). The relationship between communication and adjustment of international students may warrant further investigation.

ANOVA also detected a correlation when the participants' responses to the *Communication with Japanese Students* questions were examined by the variable *Economic Group* (Figure. 4 and Table 9). The participants from countries of lower GDP per capita (group “B”) showed stronger concerns when communicating with Japanese students in the laboratory. As I pointed out above, students from countries of higher GDP per capita (group “A”) might have more opportunities for English education in their home countries, and thus had higher confidence in English communication. This view was supported by one of the participants from an “A” country, who mentioned that private tutoring was quite popular in her/his country even if some schools did not offer English language classes. It should be noted that Japan is one of the “A” countries. It would be of interest to examine if

Japanese students have higher confidence in English communication than students from the “B” countries.

The English ability of Japanese students appears to be an important issue, because my study indicated that the participants had stronger concerns about English communication with Japanese students than with their professors. It is likely that faculty members have ample experience of interacting with international students and scholars; some of them may have even lived abroad using English daily. Indeed, the quantitative questionnaire in this study found that the participants were mostly satisfied when communicating with their professors, though the female participants appeared to be slightly less confident in English communication with their professors (Figure 5 and Table 10). On the other hand, there were a few participants who indicated their negative experience in communicating with professors (Table 11), and I decided to interview them to find out the reasons. One of the interviewees (Excerpts 9 and 10 in section 4.2.3) mentioned the difficulty of communicating in English with her/his supervising professor, a serious threat to the successful completion of thesis research. The interviewee fortunately found a solution that email exchanges combined with face-to-face discussions improved her/his communication with the professor. International students with similar problems are likely struggling to invent their own solutions, and therefore, sharing their experience and solutions through some systematic means would serve as a reasonable support for the international student community.

5.3 Preparation to Help Japanese Students and Faculty Members Overcome Communication Issues with International Graduate Students

As described above, international students are making efforts to better communicate with Japanese students and professors. In addition to email communications, the interviews conducted in this study found that international students also use Google Translation, and that some of them tried to speak slowly with gestures. Some interviewees also suggested that socializing opportunities outside of their laboratories are needed to become closely acquainted with each other. This seems to be an excellent and practical suggestion; faculty members and students in the host laboratory should be encouraged to organize such events to promote mutual understanding of cultural backgrounds. In addition, in my interviews I also collected comments that pointed out the importance of studying about Japan before international students arrive in Japan. Similarly, a previous study by Lee (2017) suggested that international students would be better off understanding the Japanese culture, and be prepared for the challenges in advance to effectively tackle the situation.

On the other hand, it is not clear if Japanese students and faculty members are currently making any effort to improve communication with international students. Although the current study focused

solely on the perspectives of international graduate students, the viewpoints of Japanese students and faculty members would add more to a better understanding of English communication issues in their laboratories. Surveys and interviews similar to this study can be conducted with Japanese students and faculty members whose laboratories host international graduate students.

In addition to such an expanded study to fully understand communication issues of international students in Japan, some system where international graduate students can share their experiences and problem solutions would be a useful support for them. I would also suggest thorough case studies of communication issues of international graduate students in Japan, as well as English communication training/workshops for Japanese graduate students and professors, in order to improve the current situation. Finally, during this study, I encountered a small number of international graduate students that faced serious adjustment and/or communication issues. I believe that immediate measures such as personalized care for international graduate students, especially for those experiencing adjustment problems, need to be considered as a high priority.

References

- Central Intelligence Agency. (2017). *The CIA world fact book*. Central Intelligence Agency.
- Furumoto, Y., Noda, T., & Matsushita, M. (2006). Japanese used by international students for academic purposes: A comparison between international students and Japanese students. *Research Bulletin, International Student Center, Kanazawa University*, 9, 24.
- Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Goto, H. (2009). Language used by international students during research activities in Japan: Based on a case study of Thai students of pharmaceutical science. *Journal of International Student Center, Toyama University*, 8, 13–22.
- Japan Student Services Organization (JASSO). (May 2018). *Survey on foreign student enrollment status*. pp. 2–4.
- Lee, J. S. (2017). Challenges of international students in a Japanese university: Ethnographic perspectives. *Journal of International Students*, 7 (1), 73–93.
- Lin, S-Y., Scherz, D. S. (2014). Challenges facing Asian international graduate students in the US: Pedagogical considerations in higher education. *Journal of International Students* 4 (1), 16–33.
- Lysgaard, S. (1955). Adjustment in a foreign society: Norwegian Fulbright grantees visiting the United States. *International Social Science Bulletin*, 7, 45–51.
- Ministry of Education, Sports, Culture, Science and Technology. (2008). *A plan for 300,000 exchange students*. http://www.mext.go.jp/a_menu/koutou/ryugaku/___icsFiles/afieldfile/2009/10/02/1284755_2.pdf
- Ministry of Education, Sports, Culture, Science and Technology. (2018, December). *Regional distribution and scale of higher education institutions in regards to the declining 18-years-old Population*. http://www.mext.go.jp/component/b_menu/shingi/toushin/___icsFiles/afieldfile/2018/12/17/1411360_10_5_1.pdf
- Ministry of Education, Sports, Culture, Science and Technology. (2018). *Interim report for top global university project*.

- https://www.jsps.go.jp/j-sgu/data/kekka/h29_sgu_chukan_kekkasoukatsu.pdf
- Ministry of Education, Sports, Culture, Science and Technology. (2010, July). *Kokuritsudaigaku bejinkago no genjo to kadai ni tsuite: Chukan matome* [The present situation and issues of the post-national university corporation: Interim report]. https://www.mext.go.jp/a_menu/koutou/houjin/1295896.htm
- Ministry of Foreign Affairs of Japan. *Specified skilled workers*. <https://www.mofa.go.jp/mofaj/ca/fna/ssw/us/index.html>
- Pai, Y., Adler, S. A., & Shadiow, L. K. (2006). *Cultural foundations of education* (4th ed.). Pearson.
- Tanaka, T., Takai, J., Kohyama, T., & Fujihara, T. (1994). Adjustment patterns of international students in Japan. *International Journal of Intercultural Relations* 18 (1), 55–75.
- Tsugawa, A., Goshō, E., Nakamura, K., Sakata, N., Sugiura, M., & Takeda, J. (2000). A questionnaire survey analysis to investigate the needs of Japanese learning for international students and their supervisory professors in graduate school of science. *Journal of International Students Education, The University of Tokyo*, 5 (5), 1–26.
- University World News. (2012, November). *New UNESCO interactive map on global student mobility*. <https://www.universityworldnews.com/post.php?story=20121102143524394>
- Wray, A. M. & Bloomer, A. M. (2006). *Projects in linguistics* (2nd ed.). Hodder Arnold, p. 172.

Preliminary (Pilot) Questionnaire

Purpose of Research

The number of international students in Japan is increasing drastically, and there are new issues to consider. Amongst these international students, many of them are from non-English speaking countries. Therefore, communicating with Japanese students and faculty members naturally is in English, which is a second (L2) or third language (L3) for both parties.

As Japan reaches its goal of welcoming over 300,000 international students under the government scheme, “Globalization” will remain high priority. This study aims to provide clues to improve the learning experience for international students in Japan, thus contributing to globalization of its higher education. This research focuses on international graduate students of science in Japan who are non-native English speakers.

Please answer the questions below (Please be honest when you answer the questions and feel free to list up all you can think of).

* Required

1. Email address *

2. Affiliation (e. g. Nagoya University/former student at Nagoya University) *

3. Name of Graduate School (e. g. Graduate School of Engineering/former student at Graduate School of Engineering) *

4. Year *

Mark only one oval.

- M1
- M2
- Master's course (3rd year and above)
- D1
- D2
- D3
- Doctoral course (3rd year and above)
- Post Doctoral
- Others

5. Nationality *

6. Gender *

- Mark only one oval.*
- Male
- Female
- Prefer not to say

7. How long have you lived in Japan (in total years) ? *

Mark only one oval.

- Less than a year
- 1 year
- 2 years
- 3 years
- 4 years
- more than 5 years

8. Have you lived in other countries before starting your graduate education in Japan? *

Mark only one oval.

Yes

No

9. If “YES”, please state what countries you have lived in.

10. Have you traveled to another country for any lab exchanges/study abroad programs before coming to Japan? *

Mark only one oval.

Yes

No

11. If “YES”, please state what countries you have traveled to and how long.

Please share about your experiences using English in your home country

12. How many years have you studied English in school? *

Mark only one oval.

- Less than a year
 1~5 years
 5~10 years
 11~15 years
 Over 16 years

13. Did you study English at any extra curriculum classes/vocational school? *

Mark only one oval.

- Yes
 No

14. How many years have you studied English in extra curriculum classes/vocational school?

Mark only one oval.

- Less than a year
 1~5 years
 5~10 years
 11~15 years
 Over 16 years

15. Please evaluate your English proficiency: *

Mark only one oval per row.

	Not confident	Fair	Good	Fluent
Speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your experiences in Japanese higher education institutions

Please answer the following questions concisely using the box below:

16. What are your communication problems when studying/pursuing research in Japanese higher education institutions? If you have not experienced any problems, please state so*.

17. What problems arose in the research lab when communicating with Japanese students and faculty members? If you have not experienced any problems, please state so*.

18. How could Japanese students and faculty members prepare themselves in order to overcome communication issues with international graduate students? If you have found no communication issues with them, please state so*.

19. What would you advise other students to do in order to prepare themselves before coming to Japan to study? *

20. Please feel free to add any other information you would like to share.

Research Questionnaire

Purpose

As Japan reaches its goal of welcoming over 300,000 international students, language-related issues have become more apparent. Since many international students come from non-English speaking countries, English is naturally a second (L2) or third language (L3) used by both the student and their Japanese colleagues. This study aims to identify problems and propose practical solutions to improve the learning experience of international students in Japan. We focus on international graduate students of science in Japan, who are non-native English speakers.

There are 8 sections with 72 questions (approx. 10–15 mins). A progress bar will be shown so you will know how far you are in the questionnaire. Please answer the questions as honestly and as freely as possible.

Your voluntary participation in this survey is very much appreciated. Thank you for your help.

* Required

1. Email address *

General Questions

1. Affiliation *

e. g. Nagoya University/former student at
Nagoya University

2. Name of Graduate School *

e. g. Graduate School of Engineering/former student at Graduate School of Engineering

3. Year *

Mark only one oval.

- M1
- M2
- Master's course (3rd year and above)
- D1
- D2
- D3
- Doctoral course (3rd year and above)
- Post Doctoral
- Others

4. Nationality *

e. g. Vietnamese, Malaysian, etc...

5. Gender *

Mark only one oval.

- Female
- Male
- Non-binary
- Prefer not to answer

6. How long have you lived in Japan (in total years) ? *

Mark only one oval.

- Less than a year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 or more years

7. Have you lived in other countries before starting your graduate education in Japan? *

Mark only one oval.

- Yes
- No

9. If “YES”, please state what countries you have lived in.

e. g. 2 months in Taiwan

8. Have you traveled to another country for any lab exchanges/study abroad programs before coming to Japan? *

Mark only one oval.

- Yes
- No

If “YES”, please state what countries you have traveled to and for how long.

Please share about your experiences using English in your home country

9. Was English taught in school? *

Mark only one oval.

- Yes
 No

10. How many years have you studied in school? *

Mark only one oval.

- Did not study
 Less than one year
 1~5 years
 6~10 years
 11~15 years
 More than 16 years

11. Did you study English at any extra curriculum classes/vocational school? *

This includes people who were homeschooled.

Mark only one oval.

- Yes
 No

12. How many years have you studied in extra curriculum classes/vocational school? *

Mark only one oval.

- Did not study
 Less than 1 year
 1~5 years
 6~10 years
 11~15years
 More than 16 years

13. Please evaluate your English proficiency (Speaking) *

Mark only one oval.

	1	2	3	4	5	
Not confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Native fluency-level

14. Please evaluate your English proficiency (Writing) *

Mark only one oval.

	1	2	3	4	5	
Not confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Native fluency-level

15. Please evaluate your English proficiency (Reading) *

Mark only one oval.

	1	2	3	4	5	
Not confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Native fluency-level

16. Please evaluate your English proficiency (Listening) *

Mark only one oval.

	1	2	3	4	5	
Not confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Native fluency-level

17. The reason why I chose Japan as a destination to study is because, *

You may choose multiple answers from the checkboxes

Check all that apply.

- of opportunities to receive scholarships
- of appealing research facilities in Japan
- I was interested in pursuing my research under a specific professor/lab
- Others

18. I usually *

You may choose multiple answers from the checkboxes

Check all that apply.

- hang out only with my ethnic group
- hang out with Japanese
- hang out with foreigners
- none of the above

Your experiences during graduate studies in a Japanese university

Please answer using the scale from 1 (Strongly disagree) to 5 (Strongly agree)

19. I am happy with the English displays throughout the campus *

Mark only one oval.

1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Strongly agree

20. I am happy with what the Japanese university offers *

e. g. The lunch time Japanese volunteering sessions, Tea Time events for all students faculty members and admin staffs.

Mark only one oval.

1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Strongly agree

21. Emergency announcements are only in Japanese *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

22. Official announcements from the institutes are mostly written in Japanese *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

23. There aren't enough courses in English *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

24. I am satisfied with the Japanese language courses provided by my university *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

25. All the lectures at university are in Japanese *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

26. International students are treated favorably by the university *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Please feel free to add any other information you would like to share regarding communication problems at your university

Your experiences in your thesis lab

Please answer using the scale from 1 (Strongly disagree) to 5 (Strongly agree)

27. I am satisfied with my lab life in Japan*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

28. I communicate well with my lab mates *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

29. Japanese students' English is difficult to understand *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

30. I don't understand what Japanese students are talking about *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

31. Japanese students are not good with speaking English *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

32. My English is understood by my Japanese lab members *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

33. My lab mates are talking to me because they want to practice their English with me*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

34. Japanese students should practice how to speak English fluently *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

35. It is very difficult making conversation with Japanese lab mates *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

36. I feel that nuances are lost in translation when speaking with my lab mates *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

37. Japanese students are not good with writing English *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

38. Japanese students are not good with listening to English *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

39. I communicate well with my professor*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

40. My professor's English is difficult to understand *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

41. My English is understood by my professor *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

42. It is very difficult making conversation with my professor *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

43. I feel that nuances are lost in translation when speaking with my professor *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

44. I am hesitant to consult my professor when I am stuck with my research *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

45. My professor is trying very hard to communicate with me, but sometimes it's overwhelming*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

46. Some professors don't express their real thoughts clearly *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

47. I find that international students are treated differently in the lab *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

48. I have no problem accessing the lab equipment *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

49. I always feel out of the loop in the lab *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

50. I feel that email exchanges are often better *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

51. English is not the only problem when communicating, because we have different ideas/thoughts/views*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

52. My lab mates should be more cooperative to us international students *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Please feel free to add any other information you would like to share regarding communication problems in your lab

Advice to other students in your home country who wish to come to Japan to study

Please answer using the scale from 1 (Strongly disagree) to 5 (Strongly agree)

53. I would suggest they come study in Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

54. I think basic Japanese is not enough to live in Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

55. I highly recommend students to study basic Japanese before coming to Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

56. I would suggest they study business-level Japanese *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

57. It is necessary to study technical terms both in English and Japanese in your own field of research *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

58. I would suggest they study more speaking and writing in English *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

59. It is important to be not shy when communicating with Japanese or other international students *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

60. I would suggest they should be prepared for environmental changes *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

61. It is vital to understand the hierarchical order (e. g. junior-senior relationship) before coming to live in Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

62. I think is it vital to gather information about Japanese customs before coming to live in Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Please feel free to add any other information you would like to share regarding giving advice to other students in your home country who wish to come to Japan to study

Your life in Japan

Please answer using the scale from 1 (Strongly disagree) to 5 (Strongly agree)

63. I seldom feel homesick *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

64. I am happy living in Japan *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

65. I feel lonely at times *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

66. I have a Japanese friend whom I could rely on *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

67. People don't really seem to listen to what I want to say *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

68. People don't ask me any questions to get to know me better *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

69. People don't seem to be interested in talking to me *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

70. I would have chosen a different destination for study *

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Where would that have been?

Please write alternative countries

71. I have gone to see an on-campus counselor to seek advice *

Mark only one oval.

Yes

No

Please feel free to share any other information

This is the end of the survey

To enrich the content of my research I would like to ask a few people to cooperate in a follow-up interview. The interviews will be conducted through Skype or email.

72. Please let me know whether you would be able to participate in this interview *

Mark only one oval.

Yes, I will participate

No, I won't participate

「日本の高等教育機関における英語環境の課題
～理系大学院の外国人留学生からの視点～」

岩月淳子

政府の「留学生 30 万人計画」による留学生の飛躍的な増加に伴い、さまざまな課題が浮上している。本論文では、国内の理系大学院に在学する、英語を母語としない留学生の英語でのコミュニケーションについて、(1) 日本の高等教育機関の問題点、(2) 所属研究室における日本人教員・学生とのコミュニケーションの課題、および、(3) これらを解決するための方策について、量的・質的検証と考察を行った。調査結果から、日本の大学の教育研究環境に満足している留学生の割合が高いことが明らかになり、政府の継続的な「グローバル化」の促進が高等教育機関において成果をあげていると考えられた。一方、日本での滞在期間が短い留学生ほど、日本人学生とのコミュニケーションに不安を感じる傾向があることも明らかになった。お互いの文化的背景を理解するために、コミュニケーションの機会を重視するとともに、留学生に対する個別のケアも継続的に行う必要がある。

キーワード【日本の高等教育機関、グローバリゼーション、外国人留学生、英語コミュニケーション、理系大学院生】