
Feature Article

On the Motivation of Science Majors Learning English as a Foreign Language: A Case Study from Japan

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English has now become a global language, which necessitates reconsideration of Second Language (L2) motivation, especially integrative motivation in an EFL context. In the L2 Motivational Self System recently advanced by Dörnyei, integrative and instrumental motivation are reformulated as a single, inseparable concept. The present study examines how the motivation of Japanese EFL learners may be influenced by opportunities to listen to lectures in English given by possible Japanese role models as the students reflect upon their future self-images. The students were all computer science majors in a rural area in Japan. Under two kinds of measures, a questionnaire with open-ended questions and a modified Attitude/Motivation Test Battery, the changes in English L2 motivation were examined qualitatively. The results indicate that there were several types of positive changes, possibly caused by the development of their ideal L2 selves. Though learner motivation is influenced by many factors, exposure to established members of a target language community can partly account for these changes.

英語が国際語としての地位を確立したことで、英語学習の動機づけ（特にEFL環境での統合的動機付け）について再検討の必要性が生じている。Dörnyeiにより提唱されたL2 Motivational Self Systemでは、統合的、道具的動機付けを1つの不可分な概念に組み直したが、本研究では、日本人英語学習者が、将来の自分像に近いと思われるロールモデルによる英語の講義を聞くことで、英語学習に対する動機づけがどのような影響を受けるのかを調査した。日本の地方に住む、コンピュータ理工学専攻の大学生が本研究に参加し、彼らの動機づけを自由回答形式の質問とAttitude/Motivation Test Battery の2つの方法で精査した。その結果、英語学習における理想的な自分像（ideal L2 self）が具体化されたことにより生じたと推測され

る、肯定的な変化が観測された。動機づけは多くの要因から影響を受けるが、目標言語（国際語としての英語）環境の構成員との接触が、この変化の一因であったと思われる。

Motivation has been recognized as crucially important in sustaining efforts to achieve a future goal. With respect to language, Dörnyei (2005, 2006) formulated the Second Language (L2) Motivational Self System, suggesting that learners' vivid images of their ideal L2 selves are associated with higher motivation. This paper reports on an attempt to motivate Japanese university students learning English as a Foreign Language (EFL) following this framework. The participants are university students majoring in computer science and engineering in Japan, where English is one of the key subjects for admission to a university. Having finished college entrance examinations, many of these students seem to have lost their sense of purpose in studying English. As an attempt to help those students formulate more vivid future self-images, the present author, with the cooperation of the university, held a series of four conferences (the Symposia on Global Citizenship) giving students opportunities to listen to short English lectures presented by possible role models of their ideal L2 selves. The speakers were Japanese business people who had grown up in Japan and used English professionally in everyday work as members of the Global English community. It was hypothesized that this experience would provide the students with a clearer ideal L2 self, resulting in a renewed enthusiasm for studying English. The observed changes in the participants' motivation are reported.

The paper first reviews how the conceptualization of integrative motivation developed with the advent of Global English and then considers the motivation of Japanese university students majoring in science and engineering. The paper will then describe the methodology adopted in this research, including the Symposia on Global Citizenship, and present qualitative discussion on the results of two measures: an open-ended questionnaire conducted immediately after each symposium and a modified Attitude/Motivation Test Battery (AMTB) conducted before and after the four-month research period.

Though this is a report of a case study conducted in one university

specializing in computer science and engineering, important and potentially useful implications are highlighted for educators whose students seem to suffer from a loss of sense of purpose in studying English.

Motivation in the Field of Second Language Acquisition

In the field of second language acquisition (SLA), motivation is regarded as one of the important individual difference (ID) variables that account for the degree of success in acquiring an L2. Gardner (1985) described L2 motivation as a composite that involves “the combination of effort plus desire to achieve the goal of learning the language plus favorable attitudes toward learning the language” (p. 10).

Past research has shown that motivation is a multi-faceted, complex construct. For example, the concepts of intrinsic and extrinsic motivation (Deci & Ryan, 1985) have been introduced and investigated extensively in SLA research. More recent work (Dörnyei & Csizer, 2002; Williams & Burden, 1997) identified other motivational constructs. Among these, research has refocused on integrative motivation, which was first postulated by Gardner and Lambert (1959). This construct originally referred to “the desire to learn an L2 of a valued community so that one can communicate with members of the community and sometimes even become like them” (Dörnyei & Ushioda, 2009, p. 22). This was later re-interpreted in a broader sense to encompass a more general positive disposition towards the target language community (Dörnyei, 1994; Gardner, 2001). According to Csizer and Dörnyei (2005), integrative motivation is the single most important factor in shaping L2 motivated behavior though in studies with Japanese students, instrumental factors have also consistently emerged (Irie, 2003; Johnson, 1996; McGuire, 2000; Miyahara, Nemoto, Yamanaka, Murakami, Kinoshita, & Yamamoto, 1997; Yashima, 2000).

Emergence of Global English

As English has become a global communication tool, its use as a lingua franca has increased worldwide, and the concept of integrativeness has evolved to reflect the characteristics of the target language community of Global English (Coetzee-

Van Rooy, 2006). Because English does not belong to a specific, geographically-defined community of speakers (Dörnyei & Ushioda, 2010), its target language community is an abstract entity which does not reflect a particular culture or region where native speakers live. In a sense, it is a virtual community. Accordingly, those who can achieve what they want or need to through English can be regarded as members of this target language community no matter where they live.

Another development in the concept of integrativeness, related to the first, is the blending of integrative and instrumental motivation (Dörnyei, 2006). To many EFL learners who wish to integrate with the virtual global community, higher proficiency in L2 means more solid citizenship in the global community, bringing with it pragmatic benefits such as meeting more people, enjoying more opportunities, and finding lucrative jobs. This aspect of motivation, a desire to acquire an L2 as an instrument for achieving practical purposes, is traditionally classified as instrumental motivation. By attaining sufficient English proficiency and enjoying these benefits, learners can regard themselves as members of a global community. Consequently, for many EFL learners, integrative motivation can be viewed as an extension of instrumental motivation, underscoring that the two constructs are not easily separable.

Integrativeness as Part of Self-identity

Since the target language community for EFL learners is a non-specific, imagined, virtual community, identity as a member of the Global English community can also be an *imagined identity* (Wenger, 1998, cited in Dörnyei, 2006). This has brought about an intriguing reconceptualization of integrative motivation, namely as being one aspect of individual identity. Dörnyei and Ushioda (2009) argue that it should be considered not in reference to somebody else or an external group of people (including a target language community) but in terms of the “internal domain of self and identity” (p. 3). Accordingly, integrative motivation now means a basic identification process within the individual’s self-concept (Dörnyei, 2003; Dörnyei & Csizer, 2002).

Based on the new conceptualization of integrative motivation as self-identity, Dörnyei proposed the “ideal self” and the “ought-to self” (or “ought self”) in his

new theory, the L2 Motivational Self System (2005, 2009). The ideal self is “the representation of the attributes that one would ideally like to possess” (Dörnyei & Ushioda, 2009, p. 13). The attributes of the EFL learner’s ideal self can include high English proficiency or membership in a global community, which will facilitate the learner’s motivated behavior. Dörnyei referred to this L2-specific facet of ideal self as “ideal L2 self”. As a result, integrative motivation in SLA has been reformulated as ideal L2 self. That is, if a learner’s imagined ideal L2 self is a person who is a competent member of a community in which English is used as an instrument for particular purposes, that learner can be viewed as having an integrative disposition. In this way, the L2 Motivational Self System encompasses both integrativeness and instrumentality and can be applied to the rapidly globalizing EFL context.

Integrativeness as part of one’s identity is not easily alterable. Allen and Herron (2003) report that there was no significant change in learners’ integrative motivation after a six-week study-abroad program in France. Gardner, Masgoret, Tennant, & Mihic (2004) investigated the effects of a one-year language instruction course on language attitudes, motivation, and anxiety. The results showed no significant change in integrativeness (i.e., attitude toward French Canadians, interest in foreign languages or integrative orientation).

Motivation of Japanese EFL Learners

Having briefly reviewed the development of the conceptualization of L2 motivation, this section moves on to describe the motivation of the EFL learners who participated in the present study, namely Japanese university students majoring in computer science and engineering.

Japanese children study English as part of their mandatory education before choosing their undergraduate major subject. Passing the entrance examinations for high school and university very often becomes the primary purpose of studying English until matriculation. Under the current Japanese educational system, the subjects covered in these university entrance examinations differ according to what the student hopes to major in at college or university. Personal experience suggests that those who seek to major in science generally do not study English as

seriously in high school as those who wish to study humanities.

Moreover, after they are admitted to university, many students whose major is not directly related to English lose any sense of purpose in studying English, resulting in unimpressive levels of English proficiency. The average score on the Test of English for International Communication (TOEIC) for university, junior college, and specialized schools' students majoring in science, engineering or agriculture was 409 (equivalent to TOEFL Paper Based Test or 'PBT' 427), and that for information science majors, the field of study to which participants in the present study belong, was 390 (equivalent to TOEFL PBT 421), while those for law majors and sociology majors were both 441 (equivalent to TOEFL PBT 438), and that for international relations major was 479 (equivalent to TOEFL PBT 452) (Educational Testing Service, 2010). Some mature and professionally-minded students may recognize the necessity of English as they continue to study it in college and regain their sense of purpose in studying the language while some may not.

Methodology

Purpose

The goal of the present study was to investigate the effects of the provision of vivid and realistic role models on L2 motivation. The participants were Japanese undergraduates majoring in computer science and engineering. The research examines the types of changes (if any) in L2 motivation self-reported after hearing English lectures by possible role models. The investigation was implemented by offering a series of symposia, outlined below. The results of two measures, also explained in a later section, were analyzed qualitatively.

Having a vivid image of one's ideal L2 self can give a sense of purpose and motivation, but Japanese science EFL students living in a rural area in northeastern Japan are not easily exposed to the global community, and this makes it difficult for them to create a vivid image of their ideal L2 selves. In order to present them with possible models for their own ideal L2 selves, four symposia were held, one each month between November 2009 and February 2010, with two invited

speakers on each occasion. The attempt was made to select eight speakers who were members of the Global English community by applying the following five criteria: possessing Japanese citizenship; having spent most of their lives in Japan; having studied in the regular Japanese educational system; having learned the basics of English through formal instruction; and using English for their international business. Among the eight speakers, six were working for a company. Two of them were presidents, two were graduates of the university where the symposia were held, and the last two were company employees who graduated from other universities. The remaining two were professional counselors on studying abroad. It would have been ideal to have only former science majors as speakers, but it was extremely difficult to find business people who were willing to come to northeastern Japan and who had high enough English proficiency to give a lecture in English. Therefore, only four of the speakers held a bachelor's degree in science, but none of the eight had majored in English.

They were asked to give a 30- to 40-minute lecture in plain English. The topics included, but were not limited to professional development; English in the workplace; global diversity and tolerance; global team management; working in an international environment; their experiences as a learner and a professional user of World English; what they did and should have done in college; and any advice they might have for university students. The symposia were held on Friday evenings once a month in a big lecture theater, which can hold over 250 students. Each symposium had about 80 attendees on average, the majority of whom were undergraduates.

Participants

The Symposia on Global Citizenship were open to all students (undergraduates, graduates and junior college students) and university faculty members. To evaluate any influence of the symposia on university students, 38 undergraduates were recruited. They volunteered by responding to the email calling for participation in this research. Their responsibilities included completing pre- and post-treatment measures and attending three or more symposia, but it transpired that only 19 fulfilled this commitment, to whom a 1,000 yen book

certificate was awarded as a gratuity. Participants ranged from first to fourth year students of computer science and engineering. Their English proficiency was fairly low (average TOEIC score 350, SD = 86, equivalent to TOEFL PBT 418), and many of them did not study English unless it was a required subject. However, the university where this research was conducted requires students to write a graduation thesis in English, a lingua franca in the field of information and communications technology and offers courses of English for Science and Technology. Furthermore, about 40% of the faculty members are non-Japanese. By learning English in such an environment, students should have awareness of the importance of English in their field.

Measure 1 – The questionnaire

Two measures were used to examine students' L2 motivation. The first, a short questionnaire (Appendix A) was conducted directly after each symposium to examine students' feelings because heightened motivation immediately after the lecture would likely diminish relatively quickly thereafter. The questionnaire was distributed at the beginning of each symposium to all attendees (not only the 38 study participants), who were requested to answer it after listening to the lectures and submit it to a box placed at the front before they left the venue. Providing personal information was optional, but many attendees provided their names and student numbers voluntarily. The questionnaire had four items. There was one four-point Likert scale question asking for a global impression of the symposium (from "Very good" to "Needs improvement"); two open-ended questions, "What are some impressive points in today's lecture?" and "What are your opinions about the content of today's lecture?"; and two questions asking how much of the two English lectures they understood. The degree of comprehension was asked separately for each lecturer because their presentation styles as well as English varied to a great extent. They answered these by choosing a point on a line, indicating 0% understanding on the left end to 100% on the right end.

The survey was made intentionally short in order to maximize the response rate; if respondents had to stay long to answer it (the lectures were held on Friday evening), they would have been reluctant to take the survey. If it had been taken

home for completion, on the other hand, many of the participants likely would not have taken the trouble to answer and submit the survey on a later day. Still there were students who did not answer all the questions.

Measure 2 – Modified AMTB

The second measure was created by modifying and translating items of Gardner's Attitude/Motivation Test Battery (AMTB) – English version (Gardner, 2004) into Japanese though this modified form was not revalidated. There were 100 six-point Likert scale items, rated from 1 (Strong disagreement) to 6 (Strong agreement). Due to the large number of items, only the 16 most relevant to the discussion pertaining to this study are provided in Appendix B. The responses to negatively worded items (inverse items) were reverse-coded when the results were calculated (e.g., 6 points were reverse-coded as 1 point, 2 as 5, and so on) so that higher points consistently indicated higher motivation. Measure 2 was administered online before the first symposium in October 2009 as a pre-test and after the last one in February 2010 as a post-test. The 38 students were instructed to answer the questions intuitively. They were allowed to take measure 2 anywhere in order to secure a 100% response rate, though this made it impossible to control the conditions under which they completed the measure and other extraneous variables.

In contrast with measure 1, the goal of this second measure was to identify any changes in their L2 motivation over the four-month period. Changes in their motivation can be attributed to many factors, such as English classes, experience outside school, people they have met, books, TV programs, magazines etc., but participation in the symposia might be one of them.

Results and Discussion

In this section, the results of measures 1 and 2 are discussed. Several types of changes related to their motivation and ideal L2 self were found. Six students who represent different patterns of changes are discussed here.

Case 1: Only instrumental motivation improved.

Case 2: Integrative motivation improved with initially high instrumental motivation.

Case 3: Both integrative and instrumental motivation improved, resulting in better liking of English.

Case 4: Attitude toward learning English improved, resulting in improved integrative motivation.

Case 5: Instrumental and integrative motivation were initially high, and motivated behavior was facilitated.

Case 6: Instrumental motivation seemed to have deteriorated.

In what follows, English translations of participants' answers to the open-ended questions in measure 1 are provided first in italics. Because the items elicited general feelings and opinions after listening to the lectures, only responses pertinent to the research question are discussed here. The symposium and item number that the response relates to are indicated in the parentheses after the response. The types of changes that are inferred from their answers are also indicated. Though the concept of ideal L2 self encompasses both integrative and instrumental motivation, when it is clearly associated with either, it is so indicated. It should be noted that participants' responses to the survey were based on what they understood from the English lectures. The averages of the 19 participants' self-reported comprehension of the lectures ranged from approximately 55% to 90% across the eight lectures.

Next, measure 2 results are presented and discussed. The question statements used are presented within quotation marks. When the responses between the pre- and post-treatment administrations differ by two points or more, it was regarded that a change had taken place. Considering that the items were presented in a six-point Likert scale, a change of two points was not trivial. If a student (dis)agreed or strongly (dis)agreed in the pre-test and the difference could not be two points or more because of the ceiling effect, special attention was paid, and the changes in their motivation were analyzed holistically, taking the responses to measure 1 and other items in measure 2 into account. Because the concept of ideal L2 self involves integrative and instrumental motivation, the items associated with these two kinds of motivation are mainly examined here. When necessary, items

that involve other kinds of motivation (e.g., intention to make actual efforts, or attitude toward learning English) are also discussed.

Case 1: Participant H (male, sophomore, attended three symposia)

Measure 1

This was very stimulating, and now I feel like I have finally found what I should aim at. (November Symposium, Q2) – Clearer image of his ideal L2 self.

I felt like my attitude toward English has changed by learning something new in English, rather than by learning English. (December Symposium, Q2) – Increased instrumental motivation.

I wish I could speak English well and fight and survive in a globalized society. (December Symposium, Q3) – Conceptualization of his ideal L2 self.

These responses indicate that participant H obtained a clearer image of his ideal L2 self after listening to lectures in November and December. However, the results of measure 2 show a slightly different picture.

Measure 2

The only measure that showed the improvement was the one concerning the instrumental motivation, item 10 “Studying English is important because it will be useful in getting a good job.” He strongly agreed with this in the post-test while he had only slightly agreed with it in the pre-test. However, his integrative motivation decreased; he strongly disagreed with item 5 “Knowing English isn’t really an important goal in my life” in the pre-test but only slightly disagreed with it in the post-test. This suggests that the clearer self-image he had perceived in November and December weakened gradually over the three months. Furthermore, improvement of his L2-related behavior was not observed. He slightly disagreed with item 1 “I don’t pay much attention to the feedback I receive in my English class” in the pre-test but slightly agreed with this in the post-test. Similarly, he only slightly disagreed that “I don’t bother checking my assignments when I get them back from my English teacher” (item 7) in both pre- and post-tests. These responses to measures 1 and 2 suggest that the instrumental

motivation improved but that the concrete image of his ideal L2 self perceived in November and December was not sustained, resulting in no changes in his behavior.

Case 2: Student K (male, junior, attended three symposia)

Measure 1

It was good that I could learn what kind of English skills are required by companies. (November Symposium, Q3) – Stimulus to instrumental motivation.

When reading documents about specs [for developing applications] and selling computer applications, if I can use English as a means of communication, I will enjoy more options. (December Symposium, Q2) – Clearer image of his ideal L2 self and increased instrumental motivation.

The QA session after the lectures made me think about the future of this country. (February Symposium, Q3) – Conceptualization of his ideal L2 self.

This student regarded English as a communication tool used in companies in November, and one month later, he developed a clearer vision about his future, being a global computer software developer/dealer. During the last symposium, he thought of what he would be able to do as a Japanese who would also be a member of the global community. His future L2 self became more realistic with improved instrumental and integrative motivation.

Measure 2

He had a strong instrumental motivation even before attending the symposia. He disagreed with item 2 “I won’t get a job that requires English” and agreed with item 8 “Studying English is important because it will allow me to meet and converse with more and varied people” and item 10 “Studying English is important because it will be useful in getting a good job,” all of which indicate his moderately strong instrumental motivation. In the post-test, he strongly disagreed with item 2 and strongly agreed with items 8 and 10, suggesting his instrumental motivation became even stronger. (The difference in the scores of these items is only one point due to the ceiling effect). What distinguishes Student K from Student H is that his integrative motivation also increased. Student K slightly

agreed with item 5 “Knowing English isn’t really an important goal in my life” in the pre-test but strongly disagreed with it in the post-test, indicating that his ideal self-concept now included high English proficiency, an essential attribute to secure membership within the global community. This, and his strong intention to use English for his career and for meeting and conversing with more and varied people, suggests that he perceived a stronger desire to become a member of the target language community.

Case 3: Student N (male, junior, attended four symposia)

Measure 1

It is important to try to believe that English is important. (November Symposium, Q2) – Attempt to increase instrumental motivation.

It is important to continue to practice, reading, speaking, and listening to English. Never give up. (November Symposium, Q3) – Intention to make efforts.

Practice of speaking and listening to English is necessary to be good at English. (December Symposium, Q2) – Acknowledgement of the importance of practice.

English is necessary to broaden my own world. (February Symposium, Q3) – Conceptualization of his ideal L2 self.

Proficiency in English will enable me to have a wider global network. (February Symposium, Q2) – Strong instrumental motivation and conceptualization of his ideal L2 self.

It seems as if he intentionally tried to believe that English was important and that sustained efforts were necessary to learn English in November and December, though solely from these responses, it cannot be known whether he actually made efforts. In the last symposium, his ambition to have a larger global network in the wider world became associated with high English ability. This association implies that his ideal L2 self should be competent in English.

Measure 2

Student N demonstrated improvement in seven items by two points or more, which was the largest number of items that showed changes among the 19 students. Only four items that depict the types of changes he went through are

discussed here to avoid repetition. His deliberate attempt to believe that English is important seemed successful. His instrumental motivation became stronger. He agreed with item 14 “I won’t have any difficulties at work even if I cannot use English” in the pre-test but disagreed with it in the post-test. His integrative motivation also improved from slight disagreement with item 5 “Knowing English isn’t really an important goal in my life” in the pre-test to strong disagreement in the post-test. Most of all, he came to like English more and hoped to acquire English skills beyond a basic level. He strongly agreed with items 6 “I hate English” and 15 “I haven’t any great wish to learn more than the basics of English” in the pre-test whereas in the post-test he slightly disagreed with them. Although these changes in measure 2 with this magnitude were noteworthy, as conceded above, they cannot be attributed solely to participation in the symposia, because other extraneous variables may have intervened to change his attitude toward learning English over these four months.

Case 4: Student O (male, freshman, attended three symposia)

Measure 1

I have truly realized the importance of English. I would like to make even more efforts. (November Symposium, Q3) – Increased instrumental motivation and increased intention to make efforts.

After the November Symposium, he decided to make the effort to learn more English, which itself is not unusual after listening to a stimulating talk. What is special about Student O is that he actually demonstrated a better attitude toward learning English in the results of measure 2, discussed below. In fact, he wrote *I could understand this very last symposium very well!!* after the February symposium. Though self-evaluation is not always accurate, this comment can be interpreted as a sign of his confidence in English.

Measure 2

Student O gained a better attitude toward learning English and had more positive feelings about English and stronger integrative motivation. He agreed with item 11 “I tend to give up and not pay attention when I don’t understand my

English teacher's explanation of something" in the pre-treatment administration but disagreed with it in the post-treatment measure. He also started to enjoy watching foreign TV shows with English subtitles more than those dubbed into Japanese. He slightly agreed with item 13 "I would rather see a TV program dubbed into our language than in its own language with subtitles" in the pre-test but strongly disagreed with it in the post-test. It is conceivable that he enjoyed learning English and liked it more as a result of his own efforts and success. In fact, he only slightly disagreed with item 6 "I hate English" before the series of symposia, but he strongly disagreed with it after attending them, and he disagreed that "Learning English is really great" (item 3) in the pre-test but agreed with it in the post-test. Furthermore, having high English oral proficiency became part of his future self; he agreed with item 5 "Knowing English isn't really an important goal in my life" in the pre-test but disagreed with it in the post-test. Again, it is certain that many factors contributed to his growth, but it is probable that his participation in the four symposia was one of them. Apparently, he maintained his strong motivation. At the time of writing this paper, two years after the last symposium, he is studying in the United States in the university's mid-term exchange program.

Case 5: Student I (female, junior, attended four symposia)

Measure 1

I will make efforts to become able to understand spoken English without relying on visual support. (November Symposium, Q2) – Increased intention to make efforts.

It sounded very attractive that we can sell things and communicate with people in the world using information technology. English is also a powerful tool to deal with the world. (December Symposium, Q3) – Strong instrumental motivation and conceptualization of her ideal L2 self.

Being able to understand English has made it possible that I actually enjoy knowing something new. I would like to continue working on my English. (February Symposium, Q2) – Strong instrumental motivation and intention to continue her efforts.

According to her responses to the open-ended questions, she was a motivated student from the beginning. Since this university is a computer science university, many of the students view themselves as future IT professionals, and she seems to integrate her identity as an IT specialist and as an English user, a possible image of her ideal (L2) self in December.

Measure 2

The results of the pre-treatment administration indicate that she had high integrative and instrumental motivation even before the symposia started and kept them high over the four months. She strongly agreed with item 8 “Studying English is important because it will allow me to meet and converse with more and varied people” and strongly disagreed with item 5 “Knowing English isn’t really an important goal in my life” in both pre- and post-treatment administrations. With high integrative and instrumental motivation, she made more efforts to learn English, indicated by the fact that she disagreed that “I make a point of trying to understand all the English I see and hear” (item 4) in the pre-test, but slightly agreed in the post-test. Her attitude toward learning English also changed positively; she disagreed that “Learning English is really great” (item 3) in the pre-test but agreed with it in the post-test. Similarly, she slightly agreed with item 9 “I put off my English homework as much as possible” in the pre-test while she disagreed with the item in the post-test. Unfortunately however, it is unclear how her more concrete future self-image caused by the participation in the symposia and the originally high instrumental and integrative motivation induced these positive changes in her behavior.

Case 6: Student U (male, junior, attended four symposia)

Measure 1

Rather than spending time to earn money now [such as for a part-time job], it is more important to spend time for acquiring English, which will become necessary in the future. (January Symposium, Q3) – Intention to make efforts and strong instrumental motivation.

Student U left many of the items in the survey blank. This response suggests

that perhaps he knew English was important for his future and had intention to study English. This trait is not rare among the participants, but he had additional peculiar, but understandable, changes, discussed below.

Measure 2

Student U's instrumental motivation deteriorated by three points. He agreed that "Studying English is important because it will be useful in getting a good job" (item 10) in the pre-test but disagreed with it in the post-test. Considering that the usefulness of English in finding a job was one of the most commonly discussed topics in the symposia, and that Student U appears to be motivated from his response to the open-ended question, this result seems contradictory. There are two possible explanations. The first is that he liked learning English. He strongly agreed with items 12 "I plan to learn as much English as possible" and 16 "English is one of my favorite courses" in both pre- and post-treatment administrations of measure 2. In other words, his intrinsic motivation was originally very high, and possibly became higher for some reason, which might have caused him to feel reluctant to degrade English to just a means to get a good job. Another possible reason is that he decided not to find a job. In fact, now, two years after the symposia ended, he is in graduate school. It is possible that he had decided to be a researcher sometime during these four months. For him, English is important to do research and write papers, but not to find a good job.

In summary, analyzing the responses to the two measures revealed that there were several types of changes in L2 motivation in the four-month period: improvement in one or both of instrumental and integrative motivation, more concrete and clearer ideal L2 self-image, more efforts to learn English, or a more favorable disposition toward English. The results confirm that L2 motivation is a complicated variable of individual difference, being influenced by many factors. In addition, which aspects of L2 motivation are affected by a particular experience and how strongly they are affected also differ from student to student.

Limitations

In addition to those already stated, there are some other weaknesses in this study. The most significant is that the effects of the symposia on ideal L2 self were inferred from the answers to the open-ended questions in the survey and the items concerning integrative and instrumental motivation in the modified AMTB. Questions directly asking what kind of ideal self they had before the series of symposia and how it changed after attending them would have revealed how the symposia influenced participants' ideal L2 selves more clearly.

There are also a few modifications that probably should be made if another set of similar symposia were held. In these four symposia, the speakers were much older than the participants, and most of them had high social status, which might have prevented the students from perceiving them as plausible models. In the future, persons closer to the students in terms of status and age could be invited as speakers. Additionally, based on the fact that the majority of these students in this study would go on to work for companies after they graduated, it was assumed that the kind of global society they would belong to in the future would be one where engineers of various nationalities communicate with each other for business purposes, hence the speakers were selected accordingly. However, for students with a different self-image, the symposia may not have been influential, as exemplified by Student U. Finally, many of the items in measure 2 used the expression "native speakers of English" instead of "those who are proficient in English," and it would be helpful to revise these items.

Conclusion

This paper reports a case study conducted in a computer science university in Japan. The purpose of the study was to develop in students the goal of studying English within the framework of Dörnyei's L2 Motivational Self System. A series of four symposia were held, each of which had two speakers who likely shared some of the same characteristics as the students' ideal L2 selves. The motivation of computer science majors was investigated qualitatively via two measures, one designed to identify the short-term effects of the lectures in the symposia and the

other the change in motivation over a four-month period. Among 19 students who completed the research protocol, six students, representing different patterns of changes, were discussed in this paper. Examining the short-term and mid-term effects of the lectures over the four-month period offered insights into the students' development of L2 motivation. The developments in their feelings and thoughts might have been caused by many factors — it is by no means the claim here that the series of symposia triggered all these changes — but it is nonetheless probable that participation in the symposia accounts for these in part.

As discussed, after the entrance examination, many university students in science and engineering seem to lose their sense of purpose in studying English (aside from earning sufficient credits to graduate). The present study indicates that it is possible for the university and English teachers to help them form a clearer image of their ideal L2 selves by leading them to recognize the importance and usefulness of English as an instrument for achieving something more practical. It is the students themselves who make the decision whether they want to belong to a global society, and if they do, what particular society they wish to belong to, since this concerns the construction of their identity. Nonetheless, the author believes that it is one of the responsibilities of higher education to show them as many options for their future as possible. With concrete and clear images of their future selves as members of a target language community of Global English, it is expected that English instruction will become more effective for Japanese students who would not otherwise perceive an immediate need for it.

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Appendix B

Measure 2: Items discussed in this paper:

Students indicated the level of agreement with a situation described by an item by selecting one of the following Likert options:

- | | |
|----------------------|-------------------|
| 1. Strongly disagree | 4. Slightly agree |
| 2. Disagree | 5. Agree |
| 3. Slightly disagree | 6. Strongly agree |

When the original AMTB was translated into Japanese, the choice of “moderately (dis)agree” was replaced by “(dis)agree” due to the unnaturalness of Japanese wording.

1. I don't pay much attention to the feedback I receive in my English class.
2. I won't get a job that requires English.
3. Learning English is really great.
4. I make a point of trying to understand all the English I see and hear.
5. Knowing English isn't really an important goal in my life.
6. I hate English.
7. I don't bother checking my assignments when I get them back from my English teacher.
8. Studying English is important because it will allow me to meet and converse with more and varied people.
9. I put off my English homework as much as possible.
10. Studying English is important because it will be useful in getting a good job.
11. I tend to give up and not pay attention when I don't understand my English teacher's explanation of something.
12. I plan to learn as much English as possible.
13. I would rather see a TV program dubbed into our language than in its own language with subtitles.
14. I won't have any difficulties at work even if I cannot use English.
15. I haven't any great wish to learn more than the basics of English.
16. English is one of my favorite courses.