

Article

English as a Vocational Passport: Japanese Medical Students and Second Language Learning Motivation

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Abstract: Recently, Japanese medical students are expected to acquire a high degree of English proficiency with the tacit understanding that it will feature in their future profession through interactions with non-Japanese patients and/or engagement with medical research. However, to the best of our knowledge, the motivation of Japanese medical students to learn English as a second language (L2) has not been studied. Using quantitative and qualitative questionnaires, we investigated the L2 learning motivation of second-year Japanese medical students and the degree to which the students have international posture, i.e., their awareness and openness to internationalization. The results revealed that the students were primarily instrumentally and vocationally motivated; in other words, their chief motivation for L2 learning came from an understanding of the usefulness of L2 proficiency for their future profession. The results also showed that the students had strong international posture, as evidenced by a deep desire to communicate internationally and an understanding of the role of English as a tool for global communication. The findings suggest that, to sustain or improve L2 learning motivation, educators should employ study materials that are pertinent to students' future needs and professions.



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1. Introduction

What reasons do our students have for learning English? This question has dominated second language acquisition (SLA) research ever since Gardner and Lambert [1] proposed two reasons, or orientations, motivating students to learn a second language (L2): integrative and instrumental. According to Gardner [2], integrative motivation serves as the learner's desire to become psychologically and socially closer to speakers of the target language, whilst instrumental motivation orients toward utilitarian purposes (such as work or education) without the psychosocial solidarity. However, Dörnyei and Clément [3], in a later study, asserted that the psychological and emotional identification of integrative motivation is associated more with fundamental self-image than with any desire to integrate into an L2 community. Drawing from research into the self and from self-discrepancy theory, Dörnyei and Clément proposed the L2 Motivational Self System (L2MSS), in which integrativeness becomes equated with either the Ideal L2 Self to actualize L2 proficiency for internal self-fulfillment or with the Ought To L2 Self to meet external expectations.

Over 20 years of SLA studies, including studies from Japan [4–6], have further shown L2 learning motivation to be separate from desires to integrate into Western cultures and to rest primarily in a drive to communicate more broadly with people from diverse cultures and ethnicities, reflective of an increasing awareness of English as a global lingua franca (EGLF). “International posture” (IP), a phrase coined by Yashima [7], describes an accepting mindset to dissimilar others as well as an interest in global affairs. Yashima [8] subsequently

noted a salutary effect on student IP, engendering a motivational effect on L2 learning, of educational opportunities or curricula that allow for visualization of future English opportunities (such as work or travels abroad). Similarly, Csizér and Kormos [9] noted the importance of career-specific relevant educational materials, such as those offered in English for specific purposes (ESP) courses, on motivation to aid students in accurately imagining their future selves/career. This notion was further supported by Apple et al. in a study of Japanese science and engineering students [10]. Conversely, course materials unrelated to future careers or Ideal L2 Self have been shown to negatively impact L2 learning motivation in Japanese students [11,12]. Thus, L2 motivation has shifted into the concept of an internal force that connects Ideal/Ought To L2 Self perceptions and global identity to career and personal desires, flexing and modulating effort as internal and external stimuli and goals dictate.

Apart from the study by Apple et al. [10], and despite the theoretically positive effect of ESP, L2 motivation studies of Japanese students possessing intrinsically high motivation (such as medical students) are scarce. Therefore, we here conducted quantitative and qualitative surveys of Japanese medical students taking an English for medical purposes (EMP) course to (1) characterize the L2 learning motivation of these Japanese medical students, and (2) reveal the degree of IP in such students. Our hypotheses were that (1) given their future professional need for English proficiency through interactions with non-Japanese patients and engagement with medical research, the students would be more instrumentally than integratively motivated to learn English, and (2) understanding the importance of global communication and EGLF for this type of communication, the students would have high levels of IP.

2. Materials and Methods

2.1. Study Setting and Participants

The study was conducted over the 2019–2020 school year at the medical faculty of a national university in Japan. The participants were second-year medical students taking a compulsory EMP course, having completed, in their first year, the compulsory general-English component of the school's English-language curriculum. In the first section of the EMP course, the students took ten 75-min lessons oriented around the medical history-taking interview: greeting the patient; history of the present illness; past medical history; social, family, and occupational history. In the second section of the course, they took fifteen 75-min lessons divided into three modules each respectively oriented around physical examinations, explaining diagnoses, and understanding and giving medical case presentations. A total of 149 students (35.5% female) participated in the course, and all but one student surveyed for this study was of Japanese ethnicity. Although English proficiency testing at the university is administered during entrance examinations, the EMP class comprises students of mixed ability levels, and individual scores are not made available to course instructors. For the purposes of the study and survey instrument design, we assumed a normal distribution of ability levels in line with previous classes in which objective grading verified that class performance was normally distributed.

2.2. Quantitative Survey: Motivation Questionnaire

A survey of L2 learning motivation was conducted at the end of the course. The questionnaire consisted of two parts: demographic information (age, sex, self-evaluation of English skill, and TOEFL iTP score) and an evaluation of integrative/instrumental motivation parameters. The 16 Likert-type items in the survey were adapted from a questionnaire used in a previous study by Tomak and Šendula-Pavelić on EMP learning motivation [13], with newly written items to meet the necessities of the current study. The items dealt with integrative/personal (items 1–8) and instrumental/vocational (items 9–16) aspects of motivation. The participants were asked to rate the importance of each item on a Likert-type scale as follows: (5) very important, (4) important, (3) of some importance, (2) of little importance, or (1) not important. To ensure student comprehension of the survey,

statements and answers were presented in both English and natively translated Japanese, with each English question or statement preceding its Japanese equivalent.

The numeric scores for the survey were independently tabulated by the three authors to ensure 100% error-free data. The Cronbach alpha score, indicating internal consistency and reliability, was 0.911, indicating high reliability. After verification, the data were analyzed in Excel for total responses for each Likert-type level, mean scores, and 95% confidence intervals (CIs).

2.3. Qualitative Survey (Coding)

In addition to the quantitative survey, a coding analysis was conducted in the expectation that it would provide a richer, more complete understanding of the L2 learning motivation of our sample. The coding instrument consisted of an anonymous freewriting exercise in which the students responded to the following directive: “In the space below, please write your reasons for learning English. Try to explain each reason. Write as many reasons as you can”. In addition, the students were asked to indicate if they had ever lived outside of Japan for longer than 3 months. The students were given 15 min for the freewriting exercise. After collection, the papers were evaluated for inclusion in the analysis according to the following criteria: (1) fully completed, (2) no nonsensical answers to question 2, and (3) responses to question 2 entirely in English. Students who indicated that they had lived outside of Japan for longer than 3 months were excluded from the analysis because their perceptions of English learning could be materially different from those of students who had only experienced the standard Japanese English education system to that point. After the freewriting responses were transcribed into digital text format, content analysis techniques [14], which allow a combination of qualitative and quantitative analyses, were applied. Firstly, codes were identified on the basis of ideas contained within discrete motivational statements. The codes were then transformed into categorical labels. The data were quantitatively assessed by calculating the counts and frequencies (%) of the motivational statements occurring within each category. Lastly, the categories were examined for any underlying meaningful patterns from which core themes might be deduced.

2.4. Ethical Considerations

The surveys were conducted anonymously, and participation requirements, including the right to opt out, were clearly explained in Japanese and English. Informed consent was obtained from each participant, and all aspects of this study were approved by the institutional review board (approval #2610).

3. Results

3.1. Quantitative Survey Completion and Results

Of the 149 distributed quantitative questionnaires, 32 were returned blank and four were eliminated for being incomplete, leaving a total of 113 analyzable surveys (average age, 20.67 ± 1.55 years; 35.4% female). The usable questionnaire rate of this survey was 75.8%. The survey results are summarized in Table 1.

Table 1. Quantitative survey results of the L2 learning motivation of this sample of Japanese medical students ($N = 113$).

Reason for Learning English	Motivation Type ¹	Total Responses to Likert-Type Items (% Responses)					Mean Scores (95% CI)
		1. Not Important	2. of Little Importance	3. of Some Importance	4. Important	5. Very Important	
It will allow me to enjoy traveling overseas more	Integrative	0 (0.0)	5 (4.4)	12 (10.6)	57 (50.4)	39 (34.5)	4.15 (4.00–4.30)
I may need to read research papers or textbooks in English	Instrumental	0 (0.0)	3 (2.7)	22 (19.5)	47 (41.6)	41 (36.3)	4.11 (3.96–4.27)
I may need to work with foreigners (international medical students, doctors, researchers) in Japan	Instrumental	1 (0.9)	4 (3.5)	27 (23.9)	45 (39.8)	36 (31.9)	3.98 (3.81–4.15)
I may need to take care of foreign patients in the future	Instrumental	0 (0.0)	5 (4.4)	29 (25.7)	45 (39.8)	34 (30.1)	3.96 (3.79–4.12)
I may need to write case reports or academic papers in English in the future	Instrumental	1 (0.9)	5 (4.4)	28 (24.8)	50 (44.2)	29 (25.7)	3.89 (3.73–4.06)
I may need to attend medical/scientific conferences in the future	Instrumental	3 (2.7)	6 (5.3)	31 (27.4)	49 (43.4)	24 (21.2)	3.75 (3.57–3.92)
If I have the opportunity to live abroad in the future, it will be easier to have a good social life	Integrative	3 (2.7)	9 (8.0)	32 (28.3)	41 (36.3)	28 (24.8)	3.73 (3.53–3.91)
Some of my medical studies (e.g., USMLE ² , overseas clinical clerkships) may be in English	Instrumental	2 (1.8)	12 (10.6)	29 (25.7)	41 (36.3)	29 (25.7)	3.73 (3.53–3.93)
It will allow me to have more foreign friends	Integrative	2 (1.8)	12 (10.6)	28 (24.8)	47 (41.6)	24 (21.2)	3.70 (3.51–3.88)
It will allow me to enjoy reading English-language books better	Integrative	1 (0.9)	8 (7.1)	38 (33.6)	45 (39.8)	21 (18.6)	3.68 (3.52–3.84)
It will allow me to use the Internet more smoothly	Instrumental	0 (0.0)	14 (12.4)	31 (27.4)	48 (42.5)	20 (17.7)	3.65 (3.48–3.83)
It will allow me to enjoy listening to English-language movies and videos better	Integrative	2 (1.8)	9 (8.0)	34 (30.1)	51 (45.1)	17 (15.0)	3.64 (3.47–3.80)
I may work abroad in the future	Instrumental	4 (3.5)	11 (9.7)	35 (31.0)	41 (36.3)	22 (19.5)	3.58 (3.39–3.78)
I may want to advance up the professional ladder	Instrumental	4 (3.5)	17 (15.0)	40 (35.4)	35 (31.0)	17 (15.0)	3.39 (3.20–3.58)
It will allow me to enjoy listening to English-language music better	Integrative	6 (5.3)	19 (16.8)	39 (34.5)	34 (30.1)	15 (13.3)	3.29 (3.09–3.49)
I am fascinated by the Western way of life	Integrative	5 (4.4)	31 (27.4)	47 (41.6)	24 (21.2)	6 (5.3)	2.96 (2.78–3.13)

¹ “Integrative”—type motivation and “instrumental”—type motivation correspond to “personal motivation” and “vocational motivation” in the qualitative survey, respectively. ² USMLE: United States Medical Licensing Examination.

Agreement was found with a majority of the survey items that reflect perceptions of the occupational daily life of a Japanese doctor within Japan or perceptions of EGLF for personal fulfillment. The highest observed agreements were with the following statements: “Learning English is important to me because it will allow me to enjoy traveling overseas more” (integrative; mean score 4.15, 95% CI 4.00–4.30); “Learning English is important to me because I may need to read research papers or textbooks in English” (instrumental; 4.11, 3.96–4.27); “Learning English is important to me because I may need to work with foreigners (international medical students, doctors, researchers) in Japan” (instrumental; 3.98, 3.81–4.15); “Learning English is important to me because I may need to take care of foreign patients in the future” (instrumental; 3.96, 3.79–4.12). In contrast, items that reflected psychological integration into a foreign culture, consumption of English-only entertainment, or using English within a Japanese-only hierarchy had the lowest levels of observed agreement, as seen in the responses to the following statements: “Learning English is of some importance to me because I am fascinated by the Western way of life” (integrative; 2.95, 2.78–3.13); “Learning English is of some importance to me because it will allow me to enjoy listening to English-language music better” (integrative; 3.29, 3.09–3.49); “Learning English is of some importance to me because I may want to advance up the professional ladder” (instrumental; 3.39, 3.20–3.58). Of note, none of the items had mean scores reflective of strong disagreement (mean scores lower than 2.95) or strong agreement (mean scores higher than 4.15).

3.2. Qualitative Survey Completion and Analysis Results

A total of 149 qualitative surveys were distributed, of which 27 were returned blank and eight were eliminated for being incomplete, leaving 114 surveys to analyze. The usable questionnaire rate of this survey was 76.5%.

From the 114 analyzed survey responses, 336 motivational statements were identified and coded into 21 categories as follows: care for foreign patients, work abroad, read articles, write articles, conference presentations, international collaboration, work (in general), cachet of English, obtain information, medical studies, study abroad, study (in general), academic requirement, English as an auxiliary language, communicate with foreigners, EGLF, broaden worldview, travel, media, personal (other), and fun. The most prevalent categories were communicate with foreigners ($n = 61$, 18.2%), EGLF ($n = 38$, 11.3%), travel ($n = 24$, 7.1%), read articles ($n = 22$, 6.5%), obtain information ($n = 21$, 6.3%), broaden worldview ($n = 21$, 6.3%), and care for foreign patients ($n = 19$, 5.7%). The coding labels were grouped into three broader core motivational themes: vocational, representing factors that will contribute to the student’s studies or future profession as a medical doctor, had the largest percentage of responses (47%); international posture, representing a general (i.e., not confined to vocation) desire or need to communicate and think internationally, had the second-largest number of responses (35%); personal, representing factors related to the respondents’ personal rather than professional lives, had the fewest number of responses (16%). The grouping of the coding labels into these broader core motivational themes was done through discussion among the authors. However, there are obvious areas of overlap within these categories; for example, those who are motivated by a desire to work or study abroad indeed express high levels of international posture, but, in our categorization, they were designated as “vocational” because these statements are related to the medical profession and the students’ studies toward that goal. The “international posture” and “personal” themes were thus deemed strongly correlative to coding labels representing “integrative” motivation, whilst the “vocational” themes were taken to correspond to coding labels representing “instrumental” motivation. Table 2 provides an explanation of each categorical label, example responses, and the counts and percentages of motivational statements belonging to each category.

Table 2. Qualitative survey (content analysis) results of the L2 learning motivation of this sample of Japanese medical students ($N = 114$).

Core Motivational Theme	Category (Code)	Example Motivational Statement	No. (%) of Motivational Statements
Vocational motivation ¹ 47.9%	<i>Academic activities</i>	"I should read many English paper in the future as a doctor. For me, the ability to read English is very important as an academic skill".	31 (9.2)
	<i>Medical studies</i>	"I want to read English books to learn a lot of medical words and diseases and treatment, so I learn English".	22 (6.5)
	<i>Obtain information</i>	"If I cannot read English, I cannot keep abreast of what is studied around the world".	21 (6.3)
	<i>Care for foreign patients</i>	"I'm studying English in order to communicate with patients from other countries".	19 (5.7)
	<i>Academic requirement</i>	"I have to learn English because of test. To enter the university, many Japanese study English".	15 (4.5)
	<i>English as an auxiliary language</i>	"We can get much more accurate information in English than in Japanese".	14 (4.2)
	<i>Work abroad</i>	"I want to work abroad as a doctor in the future".	14 (4.2)
	<i>International collaboration</i>	"To plan or conduct experiments in a group including overseas people, English is necessary".	7 (2.1)
	<i>Work (in general)</i>	"I learn English because it will be useful to work".	6 (1.8)
	<i>Cachet of English</i>	"People who can speak English get more respect from others".	6 (1.8)
International posture ² 35.7%	<i>Study abroad</i>	"After I become physician, I should study abroad to learn the latest medical technology".	6 (1.8)
	<i>Communicate with foreigners</i>	"I learn English because I want to communicate with many foreigners".	61 (18.2)
	<i>English as a global lingua franca (EGLF)</i>	"English is considered as a global language and many people in the world can use English".	38 (11.3)
Personal motivation ³ 16.3%	<i>Broaden worldview</i>	"To study English may enrich my life. To learn English may make my view wider".	21 (6.3)
	<i>Travel</i>	"Being able to speak English is useful when I travel abroad".	24 (7.1)
	<i>Media</i>	"I like reading English books in the original language because these books are more interesting than Japanese-translated books".	17 (5.1)
	<i>Fun</i>	"First, learning English has been fun for me since I was a child".	10 (3.0)
	<i>Personal (other)</i>	"I learn English to make friend and girlfriend in English-speaking countries".	4 (1.2)
			Total no. = 336

¹ Represents factors that will contribute to the student's studies or future profession as a medical doctor. ² Represents a general (i.e., not confined to vocation) desire or need to communicate and think internationally. ³ Represents factors related to the respondents' personal rather than professional lives.

4. Discussion

This study uncovered strong motivation across a range of instrumental and integrative orientations shaping the L2 learning motivation of a sample of Japanese second-year medical students. In support of our original hypothesis, instrumental reasons for learning EMP (or vocational motivation) were shown, in aggregate, to be predominant through both the quantitative and the qualitative surveys. Furthermore, both surveys yielded data revealing high levels of vocational IP in terms of students desiring vocational fulfilment at a global level such as by caring for foreign patients, collaborating with foreign medics/medical researchers, and keeping abreast of/contributing to the medical field through writing papers and attending conferences. Whilst these findings support our original hypothesis, the very high levels of motivation and IP shown by the students in terms of a more general desire to experience international spaces were not anticipated: “Learning English is important to me because it will allow me to enjoy traveling overseas more” was the highest-scoring item of the quantitative survey, and *communicate with foreigners* was the category with the most motivational statements of the qualitative survey. From these findings, we may deduce that this sample of Japanese medical students is vividly cognizant of the globalized community and understands the importance of English as both “the means and the end” [15] to adroitness within it. We should note, however, that both sets of results are generally grounded within the expectation of becoming a Japanese doctor working domestically (with some trips abroad to pursue career or personal goals) versus permanent international relocation to conduct medical work. Nevertheless, it does seem clear that traditional notions of integrative motivation for learning English being connected to integration into Western culture are indeed outdated; students already see themselves, to various degrees, as integrated within the global community. This is presumably facilitated by the ubiquity of the internet and social media. English, as suggested by Smokotin et al. [16], has become “a vehicular language to connect people with different language backgrounds”, and this more utilitarian understanding of English supports the use of ESP study materials to meet the students’ practical needs.

The findings of this study are in good agreement with those of previous studies related to the L2 learning motivation and IP of Japanese university students. In a study of English-language majors, Sawaki [5] showed that instrumental motivation was predominant among the students and that three of four factors strongly endorsing strong motivation were instrumental. Furthermore, the findings showed that the students considered English as a means for international communication, not for communication with a particular group. In our study, the finding that the lowest-scoring item on the quantitative survey was “Learning English is of some importance to me because I am fascinated by the Western way of life” suggests that the students were interested more in learning English for international communication than for communication with a particular Anglo-American group. Similarly, Yashima [6] noted that the students of her study were interested in interacting not so much with native English speakers as with people from diverse cultures. The importance of instrumental motivation (for academics, career, cachet) and of culturally and internationally driven motivation (intercultural friendships, travel, American/British music) were also shown. However, differently from our findings and those of Sawaki, many of the students of Yashima’s study, despite being increasingly aware of the need of English for use of the internet, still had only a vague understanding of how they would need to use English in the globalized world. This difference among the studies may be explained by the fact that the students of Yashima’s study were non-English majors and, therefore, did not have a certain purpose for learning English, whereas the English majors of Sawaki’s study and the medical students of the current study had a more concrete understanding of the need for English in their future professional lives.

Other studies on students with focused professional interest in learning English also uncovered orientations indicative of instrumentality and IP with regard to EGLF. A longitudinal interview-based investigation of the L2 learning motivational influences of Japanese engineering students revealed the following core themes at the end of the study:

future plans (career, study abroad); EFL learning environment; international friendship; requirement; self-efficacy [17]. Apple et al. [10] found that their science and engineering students were individually motivated to learn English to get and maintain a career, as well as for personal pleasure and interest. In a case study of science majors, Kaneko [18] highlighted that the students were instrumentally and integratively motivated to learn English to become members of a global English community that uses the language for the same career-based purposes as themselves. By contrast, he noted, non-English majors would have no purpose in learning English and, consequently, would possess less L2 learning motivation, which would manifest as unimpressive English proficiency. Indeed, apathy or lack of motivation in Japanese students who have no purpose in learning English has been called the LENOR (learning English for no obvious reason) effect [19,20]. This phenomenon may be responsible for the disconnect seen between Ideal and Ought To L2 Selves found in the L2 motivation literature, especially in Japanese high school and college students.

Because of the separation it makes between the Ideal and Ought To L2 Selves, the L2MSS model also assumes that each of these limited descriptors is sufficient to capture all potential selves within an L2 learner [21]. The actual equality of the Ideal vs. Ought To L2 Selves has been thrown into question by findings of the Ought To L2 Self's relative weakness against the Ideal L2 Self [21]. However, within the Ideal L2 Self, our results show a solid operationalization (i.e., "vividness") toward IP realized through the visualized success of the Ideal L2 Self, whilst student predictions of vocational achievement through L2 mastery indicate that external pressure to learn was less of an influence on the Ought To L2 Self than was the internal perception of an "ideal doctor" [22]. Thus, the conflicting findings of the weak Ought To L2 Self seen in SLA literature may not apply to highly motivated students in professional schools and our results indicate that the dual L2 selves (Ideal and Ought To) are tied together by ESP since it provides a more precise basis of potential future communication with others (in our case, centered around medicine).

The findings from our study also suggest that, to sustain or improve L2 learning motivation in Japanese profession-based schools, specific curricula emphasizing the utility of English in career achievement are required. Such activities may include task-specific vocabulary, grammar and vocabulary for description of findings or results, and insider communication methods ("shop talk") to facilitate international networking. Ideally, the students would be taught by a bona fide, English-speaking professional who would serve as a role model for the visualization of the future professional self. By vividly portraying future English needs and uses, such materials and activities will allow for accurate visualization of the possible L2 self and have a positive effect on L2 learning motivation.

The limitations of the current study must be acknowledged. Firstly, it was conducted at a single institution and, therefore, may not be generalizable to other medical universities in Japan. Secondly, we did not survey for learning situational factors (e.g., course, materials, teacher, classmates, extracurricular activities) that may have had an impact on motivation [23]. Because the survey was conducted toward the end of a yearlong EMP course, engagement with the course materials and activities could have explained, in part, the positive levels of motivation uncovered by the study. Lastly, we did not stratify the surveys for gender. Given that male and female learners display systematic differences in their dispositions toward language learning [3], future studies with such stratification and higher statistical power may yield interesting insights.

5. Conclusions

Within this group of medical students, instrumental/vocational aspects of motivation were the predominant drivers for L2 learning; however, this was coupled with high levels of IP. Our findings suggest the efficacy of study materials relevant to students' needs and future professions for increasing or sustaining L2 learning motivation because such materials provide not only a practical toolbox of useful specialist English but also a vision and understanding of the role of English in their future lives and careers.

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Informed Consent Statement: Informed consent was obtained from all the participants involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy issues.

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