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## **A Longitudinal Investigation of the Relationship between Motivation and Late Second Language Speech Learning in Classroom Settings**

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### **Abstract**

The current study set out to examine the role of learner motivation in second language (L2) speech learning in English-as-a-Foreign-Language classrooms. The motivational orientations of 40 first-year university Japanese students were surveyed via a tailored questionnaire and linked to their spontaneous speech development, elicited via a timed picture description task at the onset and end of one academic semester, in terms of perceived comprehensibility (i.e., ease of understanding) and accentedness (i.e., linguistic nativelikeness). Significant improvement in comprehensibility (but not accentedness) was found among certain individuals. These students likely showed a strong motivation to study English for their future career development as a vague and long-term goal, as well as a high degree of concern for improving comprehensibility, grammatical accuracy and complexity.

*Key words:* Second language speech, Comprehensibility, Accent, Motivation, Learner orientation

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Late second language acquisition (SLA)<sup>2</sup> is a complex phenomenon whose processes and products are affected by a range of individual and contextual factors. One well-researched variable is motivation, specifically its relationship with L2 oral proficiency. Many second language (L2) speech researchers have explored the extent to which highly motivated late L2 learners can *ultimately* attain nativelike performance after years of immersion in naturalistic settings. For example, L2 learners with highly advanced oral proficiency are likely to have a great deal of professional motivation (e.g., “to teach an L2 as university-level academic jobs”: Moyer, 1999), instrumental motivation (e.g., “to get a job and/or respect at work”: Flege, Munro, & MacKay, 1995) and integrative motivation (e.g., “to have as many native speaking friends as possible”: Flege, Yeni-Komsian, & Liu, 1999). These learners also likely show strong concern for attaining L2 pronunciation accuracy (e.g., “to pronounce English without any L2 accent”: Bongaerts, Summeren, Planken, & Schils, 1997). Surprisingly, however, few studies have ever examined how late L2 learners with varied levels of motivation can differentially improve their interlanguage systems, especially in *classroom* settings.

The foreign language learning classroom typically involves limited exposure to the target language in terms of quantity (several hours per week), source (mainly the teacher), and quality (great variability in teachers’ oral fluency and general proficiency). Although some researchers have conducted longitudinal investigations into the development of L2 speech in such classrooms, students generally fail to show significant improvement on the continuum of comprehensibility (Baker-Smemoe & Haslam, 2013), accentedness (Muñoz & Llanes, 2014) and phonological fluency, lexicogrammatical accuracy, and complexity (Mora & Valls-Ferrar, 2012). Unlike naturalistic SLA, where many L2 learners show quick and robust improvement given the ample opportunities to use the target language on a daily basis, these results suggest that successful foreign language learning may require certain individual profiles, such as an early age of acquisition (Larson-Hall, 2008), high language aptitude (Baker-Smemoe & Haslam, 2013), and frequent L2 use outside of classrooms (Muñoz, 2014). Whereas motivation is believed to be one component of the individual difference profile, it is as of yet unknown how it actually relates to the longitudinal development of L2 oral proficiency.

In the current project, we took an exploratory approach towards re-examining the predictive power of motivation for L2 speech learning. First, we surveyed the motivation profiles of a specific group of L2 learners—Japanese EFL university students—by elaborating a tailored questionnaire based on theories (e.g., international posture) and empirical findings (e.g., Yashima, 2002) directly related to the target population of the study. Using a longitudinal research design, we then expounded whether, to what degree and how different types of motivation facilitated the development of two different areas of L2 oral proficiency, namely comprehensibility and accentedness, in a group of 40 first-year university students in Japan over one academic semester.

### Background

#### L2 Motivation Research

Traditionally, L2 motivation has been conceptualized according to integrativeness (personal interest in the target language culture and community) and instrumentality (practical, utilitarian, and immediate learning goals; Gardner & Lambert, 1972). Although the model has

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<sup>2</sup> In this paper, late SLA is defined as the learning of the L2 after the age of 11-12, when learners are assumed to gradually lose their access to incidental and implicit learning mechanisms (used for successful first language acquisition) and instead mainly rely on intentional and explicit learning strategies (Abrahamsson & Hyltenstam, 2009).

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been used to reflect L2 learners' motivational orientation in naturalistic settings (Gardner, 2000), a growing number of researchers have examined what characterizes the types of motivation L2 learners have in various EFL contexts, where attitudes toward the target language are typically shaped by language teachers, class content and media rather than native speakers of the target language. In the context of Japanese EFL students (the focus of the present study), for example, Yashima and her colleagues have proposed the idea of International Posture (e.g., Yashima, 2002; Yashima & Zenuk-Nishide, 2008; Yashima, Zenuk-Nishide, & Shimizu, 2004). From this point of view, the L2 motivation of foreign language learners generally relates to "something vaguer and larger" than the target language community (Yashima, 2002, p. 57). Following Norton's (2000) notion of imagined communities, a concept envisioned by many L2 learners, Yashima pointed out that Japanese EFL university students' integrative and instrumental orientations are primarily driven by their desire to participate in an "imagined international community" (Yashima & Zenuk-Nishide, 2008, p. 569), which is shared by native and non-native speakers across the globe who interact with each other via English as a lingua franca. As such, Japanese EFL students tend to have the long-term and idealized goal of using English for international communication with future interlocutors all over the world, and of attaining high scores on examinations and general proficiency tests (which are prerequisite for participating in the international community) as a short-term goal. In pursuing both goals, these students are concerned with their future engagement with an imaginary international community rather than actual and direct contact with the members of the target language community.

More recently, Dörnyei (e.g., Dörnyei, Csizer, & Nemeth, 2006) has proposed an influential model of L2 motivation—the L2 Motivational Self System—based on motivation theories in cognitive psychology, such as possible selves (Markus & Nurius, 1986) and self discrepancy theory (Higgins, 1987). In this theoretical model, Gardner's concept of integrativeness is reconceptualized as learners' motivation to fill the gap between the actual self and the ideal self while at the same time being driven by high instrumentality and positive attitudes towards L2 speakers and culture (i.e., Ideal L2 Self). In theory, EFL students with a strong Ideal L2 Self aspire to study the target language with a clear vision of their current target language competence and an ideal proficiency level that they wish to achieve in the future. According to this model, other L2 learners could also be considered as motivated when they are learning the L2 in order to possess certain attributes and avoid possible negative outcomes; these latter learners are likely to show high instrumentality scores but not necessarily display positive attitudes towards L2 speakers and learning foreign languages in general (i.e., Ought-to L2 Self). In this case, L2 learners aspire to study the target language in order to align themselves with others' expectations. Finally, the L2 Motivational Self System emphasizes the importance of immediate learning contexts, including the influence of teachers, peers, and curriculum—the L2 Learning Experience. In Dörnyei's theory, therefore, motivation is conceptualized as the dynamic interaction between L2 learners' *future* orientations towards goals set by themselves (Ideal L2 Self) and others (Ought-to L2 Self), and their perception of their *current* learning contexts (L2 Learning Experience).<sup>3</sup>

Despite the development and application of theoretical models of L2 motivation to various learner contexts, the role of motivation in acquisition remains understudied in EFL settings. Though few in number, some scholars have reported mixed findings re: the correlations between L2 learners' motivation and proficiency levels. In the context of college-level EFL students in Japan, Yashima (2002) found that more motivated L2 learners likely have higher

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<sup>3</sup> For a more detailed account of the theory, see Dörnyei et al. (2006); and Dörnyei & Ushioda (2011).

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reading and listening skills. Conversely, Moskovsky, Racheva, Assulaimani, & Harkins (2016) showed that the degree of Saudi EFL learners' motivation was unrelated to their ultimate achievement (measured based on IELTS reading and writing tests). Due to the cross-sectional nature of the data, however, these findings need to be considered as tentative. Even if motivated learners show successful L2 performance, this success may be attributable to (and confounded with) other affecting factors, such as the onset, length, and quality of EFL experience (e.g., Muñoz, 2008). We thus argue that more work is needed to further examine the motivation-acquisition link in EFL classrooms, especially from a longitudinal perspective.

### **Motivation Profiles of Japanese EFL University Students**

The primary objective of the current project was to explore the extent to which Japanese EFL university students with varied degrees of motivation could improve their oral proficiency over one academic semester. To this end, it is important to provide a focused review of relevant studies surveying the motivation profiles of this particular population. Our intention here concurs with the fundamental idea of the L2 motivation research paradigm, which views motivation as context-specific in nature, given that each EFL classroom involves different students with different grades, pedagogical orientations and social trends (Dörnyei et al., 2006). In her review specific to the L2 motivation profiles of Japanese learners of English, Ushioda (2013) similarly emphasized the importance of “exploring, understanding and promoting the motivation and agency of individual learners in particular classroom contexts” (p. 11).

To reflect our EFL students' motivational orientations and attitudes towards learning English as an L2, therefore, we identified and synthesized four quantitative studies (summarized in Table 1) directly related to the focus of the study: Japanese EFL university students' motivational orientations and attitudes towards L2 learning.

Table 1. *Motivation Profiles of Japanese EFL Students*

	No. of participants	Findings
Kimura et al. (2001)	$n = 1,027$	The participants were intrinsically (rather than extrinsically) motivated to study English for various instrumental (e.g., studying and working abroad) and integrative (e.g., making friends, expanding cultural horizons) reasons.
Yashima (2002)	$n = 128$	The participants' potential interlocutors/contexts were not only limited to native speakers of English in the US and UK, but also relevant to a wide range of non-native speakers in the international community.
Mori & Gobel (2006)	$n = 453$	Similar to Kimura et al. (2001) and Yashima (2002), the participants' integrative orientation comprised their interest in studying and working overseas in the future rather than their desire to connect with the target language community.
Tokumoto & Shibata (2011)	$n = 389$	The participants exhibited strong interest in attaining nativelike linguistic proficiency and avoiding speaking L2 English with Japanese accents.

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The focused literature review led to the identification of three motivational characteristics of Japanese EFL university students in general. First, they tend to be intrinsically (rather than extrinsically) motivated to study English for various instrumental (e.g., studying and working abroad) and integrative (e.g., making friends, expanding cultural horizons) reasons (Kimura, Nakata, & Okumura, 2001; Mori & Gobel, 2006). Second, their potential interlocutors/contexts are not only limited to native speakers of English in the US/UK, but also include a wide range of non-native speakers in the international community (Yashima, 2002; Tokumoto & Shibata, 2011). Even though many have not yet had the chance to interact with an international audience, they vaguely envision themselves as potential international interlocutors in the near future. Third, they typically wish to speak English with as little Japanese accent as possible, arguably because many perceive General American and Received Pronunciation as an ideal target of L2 learning (Tokumoto & Shibata, 2011).

It is notable that the Japanese university students' integrative, instrumental and metacognitive orientations for learning L2 English seem to be tied to their imaginary desire to become interlocutors in a globalized society—the notion of international posture proposed by Yashima (2002). In the current study, therefore, we used three dimensions (i.e., integrativeness, instrumentality, metacognition) considering current and future interlocutors in various contexts (i.e., domestic, international and English-speaking ones) to develop a tailored questionnaire assessing the motivational orientations of Japanese EFL university students (for details, see the Method section).

It is important to acknowledge here that these dimensions do *not* reflect the recent L2 motivation research that has bloomed as a result of Dörnyei and his colleagues' seminal work after 2005 (for a review, see Boo, Dörnyei, & Ryan, 2015). Some studies have applied Dörnyei's theory to survey Japanese learners of English in a broad sense (including both secondary and post-secondary students; e.g., Taguchi, Magid, & Papi, 2009), and recent years have seen a growing interest in exploring the framework within university settings (Apple, Da Silva, & Fellner, 2013). Given that the purpose of the study was not the development/validation of new questionnaires in line with Dörnyei's theoretical model, we intentionally eliminated post-2005 motivation research from the current investigation. In light of the context-specific nature of motivation, we restricted our discussion to Gardner-inspired L2 motivation research (see Table 1) and Yashima's theory (international posture) which is specifically concerned with the target population of the study—Japanese EFL university students. However, for suggestions for future studies, see the Discussion section.

### **L2 Comprehensibility and Accentedness**

In the current study, the participants' oral proficiency was analyzed via one of the most widely used methods and dimensions—native raters' holistic assessments of comprehensibility and accentedness (e.g., Derwing & Munro, 1997, 2009, 2013; Isaacs & Thomson 2013; Trofimovich & Isaacs, 2012). Whereas comprehensibility refers to “the listener's perception of how easy or difficult it is to understand a given speech sample,” accentedness is defined as “how different a pattern of speech sounds compared to the local variety” (Derwing & Munro, 2009, p. 478). In Derwing and Munro's seminal work, native speakers were asked to rate spontaneous speech samples on a 9-point scale for comprehensibility (*1 = easy to understand; 9 = difficult to understand*) and accentedness (*1 = little accented, 9 = heavily accented*). The results showed that certain accented speech samples can be highly comprehensible, suggesting that comprehensibility and accentedness are partially overlapping but essentially independent constructs. Follow-up studies have corroborated how these two rating constructs can be

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differentially related to other domains of L2 oral proficiency, including pronunciation, fluency, vocabulary and grammar. During L2 comprehensibility judgements, native speakers tend to pay equal attention to segmentals (Munro & Derwing, 2006), prosody (Field, 2005), lexicogrammar (Saito, Webb, Trofimovich, & Isaacs, 2016), and fluency (Derwing, Rossiter, Munro, & Thomson, 2004). With respect to L2 accentedness judgements, native speakers' attention is exclusively directed towards segmental accuracy without processing lexical and semantic meaning (Munro, Derwing, & Burgess, 2010; Trofimovich & Isaacs, 2012).

From a pedagogical perspective, the distinction between comprehensibility and accentedness is crucial. Whereas accent reduction could be considered as an *idealized* goal for many EFL learners who see native speakers as the ideal role model (Tokumoto & Shibata, 2011), previous SLA research has convincingly shown that few late L2 learners can actually attain nativelike linguistic abilities, even if they start learning the L2 at an early age, and that accent is a normal characteristic of L2 speech production (e.g., Abrahamsson & Hyltenstam, 2009). Many scholars have rather emphasized the importance of enhanced comprehensibility (in spite of accentedness) as a *realistic* goal for non-native speakers to achieve successful communication in an optimal fashion. Furthermore, defining L2 oral ability in terms of comprehensibility vs. accentedness entails much relevance for L2 speech learning theories. Derwing and Munro's (2013) longitudinal investigation of the oral proficiency development of late immigrants seven years after their arrival in Canada found that the participants continued to improve the overall comprehensibility of their L2 speech throughout the project, although their accentedness remained unchanged after the first two years of immersion. This in turn suggests that late L2 speech learning likely occurs as learners selectively work on linguistic features directly related to comprehensibility (instead of linguistic nativelikeness) in order to be more easily, smoothly and efficiently understood by their interlocutors (see also Saito, 2015).

### **Method**

In the current study, we examined the role of learner motivation in the development of L2 oral proficiency in EFL classrooms over one academic semester (15 weeks). As pointed out by Derwing and Munro (2009), many late L2 learners (including Japanese university students) have been reported to have a strong desire to reduce their foreign accent, despite the notion that attaining comprehensibility (rather than accent reduction) is a more realistic goal. In the current study, therefore, we aimed to examine how motivated students (with strong concern for improved comprehensibility and reduced accentedness) could actually improve the comprehensibility and accentedness of their L2 speech. Based on the focused literature review on Japanese university students' motivation profiles, we created a tailored questionnaire corresponding to the following three dimensions—integrativeness, instrumentality and metacognition. Keeping the exploratory nature of the study in mind, the following research questions were formulated:

1. What factors characterize Japanese university students' integrative, instrumental and metacognitive orientation towards improving L2 speech learning in EFL classroom settings?
2. To what degree can such motivation factors predict Japanese EFL students' actual improvement in comprehensibility and accentedness over one academic semester?

A total of 40 first-year Japanese university students took a speaking test at the onset (T1) and end (T2) of one academic semester. Approximately a month after the second test session, the

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EFL students revisited the researcher's office, filled in a language background survey, and completed the tailored motivation questionnaire. The timeline of the study is summarized in Figure 1.

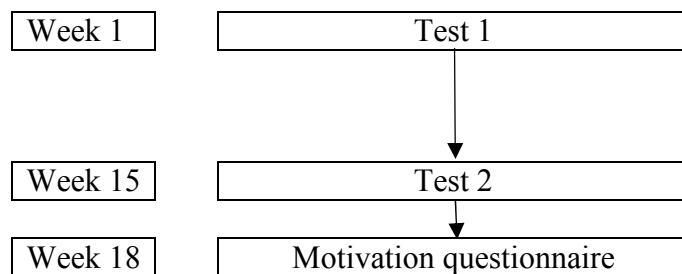


Figure 1. Summary of Research Time Framework

### Participants

**Japanese EFL students.** The participating students were carefully recruited as participants for the study. All of them were first-year students (range = 18-19 years) at a prestigious university in Tokyo, and enrolled in various arts and social sciences programs taught by different instructors (e.g., business, marketing, psychology, international relations). They had studied English for six years in EFL classrooms (typically through grammar translation methods) since Grade 7 before entering the university. At the time of the project, they reported never having traveled to an English-speaking country for a period of more than one month. The data collection took place during the second semester (Fall 2013) of the academic year in Japan. Despite their relatively homogeneous EFL experience, their general English proficiency (measured via TOEIC) varied widely ( $M = 623$ , range = 400-910), suggesting Independent (B1/B2) to Proficient abilities (C1) according to CEFR bands.

Importantly, late SLA in EFL classrooms is susceptible to the influence of a range of factors besides learner motivation. In this project, to isolate confounding effects on the motivation-acquisition link, we checked three learner variables which have been reported to affect late L2 speech learning in EFL classrooms —(a) initial proficiency (Aguilar & Muñoz, 2014), (b) length of EFL instruction (Muñoz, 2006), and (c) extra-curricular L2 use outside of the classroom (Muñoz, 2014). As detailed in the Results section, the participants were registered in a different number of EFL classes (language-focused lessons where students engaged in reading, listening, writing and speaking activities), and spent a limited amount of time (approximately 10 minutes) practicing L2 English outside of classrooms—a typical L2 learning environment in many EFL classrooms across the globe (see Muñoz, 2008).

**Native speaking raters.** To judge the overall quality (comprehensibility, accentedness) of the learners' L2 speech, five native speaking raters (2 males, 3 females) were recruited ( $M_{age} = 21.6$  years). Given that raters' backgrounds with particular foreign accented speech can play a significant role in L2 speech assessment (Isaacs & Thomson, 2013), we carefully chose certain native raters who had *little* conversational experience with Japanese learners of English. The five raters reported no prior teaching experience at the time of the project and low familiarity with Japanese accented English ( $M = 1.8$  from 1 = *Not at all* to 6 = *Very much*). They had no experience in linguistics and no English teaching background. None of the raters reported any hearing problems.



### Outcome Measures

**Speaking materials.** To elicit the participants' spontaneous speech, we adopted a timed picture description task. Extending a similar picture narrative task where participants described one single picture (e.g., Munro & Mann, 2005) and a series of visuals (e.g., Derwing & Munro, 1997), we used a previously designed task which allows L2 learners of various proficiency levels (including even low beginners) to produce certain lengths of spontaneous speech without much dysfluency (filled and unfilled pauses, repetitions; e.g., Saito & Hanzawa, 2016). In this task, the participants were asked to describe seven individual pictures with 5 seconds of planning time per photo. The task corresponds to the concept of spontaneous and free speech tasks in the field of SLA, wherein L2 learners are induced to focus on meaning rather than form under time pressure for the purpose of successful task completion (Spada & Tomita, 2010). Each picture also had three key words that the learners had to use in their descriptions. To reduce the effect of task familiarity on their performance (e.g., some participants could speak slowly with frequent pauses regardless of their actual linguistic competence, simply because they were not used to the task modality), the first four pictures were used for practice, and the remaining three pictures were used for the final analyses.

The content of the pictures was: (a) a table left in a driveway in the heavy rain (key words: *rain, table, driveway*); (b) three men playing rock music with one of them singing a song and the other two playing guitars (key words: *three guys, guitar, rock music*); and (c) a long stretch of road under a blue sky with a lot of clouds (key words: *blue sky, road, cloud*). The key words in each picture were carefully chosen, as they were assumed to be highly difficult for Japanese learners of English to pronounce (for review, see Saito, 2014). First, given that all of the key words are loan words and integrated into Japanese, Japanese learners can easily rely on their L1 phonetic system to pronounce these L2 English words. For example, Japanese learners tend to neutralize the English /r/-/l/ contrast ("rain, rock, brew, crowd" vs. "lane, lock, blue, cloud") and use Japanese borrowed words by inserting epenthetic vowels between consecutive consonants ([θəri] for "three," [səkaɪ] for "sky") with inappropriate word stress assignment ("guiTAR" mispronounced as "GUItar," "MUSIC" mispronounced as "muSIC").

In keeping with previous L2 speech studies (e.g., Derwing & Munro, 1997 - 10 seconds; Trofimovich & Isaacs, 2012 - 30 seconds), for each talker we took the first 10 seconds of the three picture descriptions and compiled them into a single WAV file (i.e., each talker thus contributed 30 seconds overall). For L2 comprehensibility and accentedness research of this kind, using such a length of speech samples (30 sec) is crucial in order to minimize listener fatigue, which has been found to have a strong impact on the quality of subjective judgements, especially when raters listen to a large number of speech samples (e.g., Flege & Fletcher, 1992). The paradigm of L2 comprehensibility and accentedness research is essentially different from the L2 fluency research framework, where longer speech samples (1-3 min) are typically elicited via dyadic oral interview tasks (rather than a monologic picture description task), and analyzed based on a range of objective measures (e.g., the number of filled/unfilled pauses, speech/articulation rate; e.g., Segalowitz & Freed, 2004).

**Procedure.** All rating sessions took place individually in a quiet room at an English-speaking university in Montreal. First, the raters received a brief explanation of the constructs of comprehensibility (i.e., how much effort it takes to understand what someone is saying) and accentedness (i.e., how closely the linguistic profiles of an utterance approach those of a native speaker).<sup>4</sup> During the sessions, the raters listened to speech samples in a randomized order

<sup>4</sup> For training materials, see Supporting Documents.

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presented via customized software, Z-Lab (Yao, Saito, Trofimovich, & Isaacs, 2013). Upon hearing each speech sample only once, the raters used a moving slider to make scalar judgements of comprehensibility ( $0 = \textit{“hard to understand”}$ ,  $1000 = \textit{“easy to understand”}$ ) and accentedness ( $0 = \textit{heavily accented}$ ,  $1000 = \textit{little accent}$ )—an oft-used approach used in previous L2 speech research (e.g., Flege, Munro, & MacKay, 1995; Saito, Trofimovich, & Isaacs, 2016).

The raters first familiarized themselves with the rating procedure with three practice samples. They then proceeded to rate the main dataset ( $N = 80$  speech samples). The entire session took 1.5 hours per rater with a 5-minute break halfway through.

**Interrater reliability.** According to the Cronbach’s alpha analyses, the five raters demonstrated relatively high interrater agreement ( $\alpha = .92$  for comprehensibility;  $\alpha = .93$  for accentedness). Therefore, their ratings were averaged across all samples in order to derive individual comprehensibility and accentedness scores for each talker.

### **Motivation Questionnaire Development**

Considering previous studies on the context-specific nature of motivation among Japanese EFL university students (reviewed earlier), three motivation dimensions were identified: (a) instrumentality (Items 1-5), (b) integrativeness (Items 6-8), and (c) L2 learning metacognition (Items 9-13). The final questionnaire contained 13 items which the participating EFL students rated on two different 6-point scale rubrics: instrumentality and integrativeness (Items 1-8) ( $1 = \textit{strongly disagree}$ ,  $6 = \textit{strongly agree}$ ); and L2 learning orientation (Items 9-13) ( $1 = \textit{not important}$ ,  $6 = \textit{very important}$ ), respectively. In line with previous L2 motivation research (e.g., Nakata et al., 2001), the statements were presented in a thematically consistent manner without any randomization (instrumentality  $\rightarrow$  integrativeness  $\rightarrow$  metacognition). To avoid any confusion surrounding the varied L2 proficiency of the participants, the purpose and procedure of the questionnaire was explained in Japanese by trained research assistants. All statements were carefully translated into Japanese by the first author and verified by the third author.

**Instrumentality.** The participants’ L2 learning was mainly driven by two practical and utilitarian goals at the university, which is known for its study-abroad program and its graduates’ excellent employment records at top corporations in Japan. Whereas certain students are motivated to study English via study abroad as an immediate and urgent goal, others may be driven to improve their English proficiency for the purpose of their future career development as a long-term goal (Items 1 and 2). Two statements were adapted from Kimura et al. (2003) and Mori and Gobel (2006):

- (1) I want to study English because I want to study abroad in the future.
- (2) I want to study English because better English proficiency is crucial for my future job.

The type of the latter job-related motivation may vary because certain EFL students may have a clear vision of where they would like to use English (abroad vs. at home). To further specify the nature of context, we included three additional statements (Items 3, 4, 5) based on the original statements regarding international vocation (Yashima, 2002).

- (3) I want to work abroad (especially in the international market including non-English-speaking countries).
- (4) I want to work abroad in English-speaking countries (e.g., UK, USA)

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(5) I want to work in an English-speaking environment in Japan.

**Integrativeness.** Japanese EFL students are also motivated to study English in order to expand their horizons by making English-speaking friends and learning more about English-speaking cultures (Item 6).

(6) I want to study English, because I want to expand my cultural horizons by making English-speaking friends and learning their cultures.

To further identify the participants' specific interests in terms of type of interlocutors, we added two additional statements (Items 7 and 8) adapted from Kimura et al. (2003) and Mori and Gobel (2006).

(7) I want to make British and American friends.

(8) I want to make non-native speaking friends.

**Metacognition.** Another crucial issue about learner motivation and orientation concerns learners' beliefs, defined as metacognitive knowledge about learning (Wenden, 1999). Specifically, scholars have extensively worked on how L2 learners' beliefs about the relative weight of grammar and vocabulary learning in successful language learning outcomes differ in various EFL classroom contexts (Horwitz, 1999) and the extent to which such learner metacognition can relate to L2 proficiency. Building on Tokumoto and Shibata's (2011) questionnaire, two statements were included to gauge the EFL students' priority in speaking English (nativeness vs. comprehensibility; Items 9 and 10).

(9) Speaking English without any accent like a native speaker.

(10) Speaking comprehensible English regardless of accentedness.

Extending Horwitz's (1999) Beliefs About Language Learning Inventory questionnaire, the participating students were also asked to rate the importance of three individual areas of L2 speech development in achieving their overall speech learning goals (nativeness, comprehensibility; Items 11-13):

(11) Accurate and clear pronunciation

(12) Appropriate and rich vocabulary

(13) Accurate and complex grammar

## Results

### L2 Speech Development

The descriptive results of the participants' speaking performance are summarized in Table 2. To illustrate how the Japanese learners' performance changed over time (T1 → T2) as measured in terms of comprehensibility and accentedness, their rated scores were submitted to a two-way ANOVA with two repeated factors (Time, Domain). The results showed a significant main effect for Domain,  $F(1, 39) = 255.08, p < .01, \eta_p^2 = 1.00$ ; but no main effect emerged for Time,  $F(1, 39) = 0.091, p = .764, \eta_p^2 = .06$ . There was no interaction effect for Time × Domain,  $F(1, 39) = .194, p = .662, \eta_p^2 = .071$ . In sum, although the 40 EFL students' comprehensibility

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scores were significantly higher than their accentedness scores at T1 and T2, their improvement over the semester (T1 → T2) did not reach statistical significance at a  $p < .05$  level.

Table 2. *Descriptive Results of 40 EFL Students' Oral Performance*

	T1		T2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comprehensibility	457	138	466	138
Accentedness	280	115	281	105

### Motivation Questionnaire

**Internal validity and reliability.** To examine the larger categories which underlay participants' answers to the 13 motivation questionnaire items, a principle component analysis was performed by way of Varimax rotation with Kaiser normalization. The factorability of the entire dataset was examined and validated via two tests: Bartlett's test of sphericity ( $\chi^2 = 215.408, p < 0.001$ ) and the Kaiser-Meyer-Olkin measure of sampling adequacy (0.588). Five factors were specified with eigenvalues above 1 (see Table 2). This model accounted for 75.92% of the total variance in the rating scores (F1 for 32.5%, F2 for 13.9%, F3 for 12.1%, F4 for 8.8%, F5 for 8.4%). To check the internal consistency, the students' questionnaire scores were analyzed via Cronbach's alpha analyses according to each motivational factor. The results found relatively high reliability coefficients for Factor 1 ( $\alpha = .779$ ), Factor 2 ( $\alpha = .884$ ), Factor 3 ( $\alpha = .715$ ), Factor 4 ( $\alpha = .723$ ) and Factor 5 ( $\alpha = .719$ ). For descriptive statistics (mean and standard deviation scores for individual questionnaire items and overall factors), see Table 3.

Results showed that the five factors generally corresponded to the predetermined constructs of L2 motivation. Given that Factor 1 consisted of four items related to learners' intention to seek actual contact with native and non-native speakers in the *immediate* future, this group was labeled as "integrativeness". Factor 2 covered three items regarding motivation to use English in various work contexts in the *near* future. Thus, this group was labeled as "instrumentality." Factor 3, including the students' priority for accent reduction and increased pronunciation accuracy, corresponded to "nativelikeness orientation". Factor 4 featured the students' perceived importance of lexicogrammar in L2 speech, and was labeled as "lexicogrammatical orientation".

Factor 5 comprised two different predetermined constructs of L2 motivation: students' general motivation to study English for their future career development and their perception of comprehensibility. Unlike the other clear and specific job-related motivation items (Items 3, 4, 5) grouped in the instrumentality factor (Factor 1), the instrumental motivation factor (Item 2) in Factor 5 attempted to capture the students' broad perceptions of the necessity of learning English for their future career development. That is, this factor could be considered as a composite index measuring the extent to which EFL students are motivated to improve L2 comprehensibility (without particular enthusiasm for nativelikeness) as a minimum requirement for attaining their general career-related goals in the distant future. Given that this category did not indicate any clear vision of interlocutors (non-natives, natives) nor contexts (English-speaking countries, international markets, Japan), it corresponds to what Yashima et al. (2004, p. 121) called "a somewhat vague long-term objective." To this end, Factor 5 was labelled as "comprehensibility for vague and long-term future."

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Table 3. *Descriptive Statistics of 13 Motivation Questions and Five Motivational Factors*

	<i>Individual features</i>			<i>Factors</i>	
	<i>Mean</i>	<i>SD</i>	<i>Loading</i>	<i>Mean</i>	<i>SD</i>
<u>Factor 1: Integrativeness</u>					
(8) I want to make non-native speaking friends	5.00	0.98	.82	5.21	.069
(7) I want to make British and American friends.	5.28	0.78	.81		
(1) I want to study English because I want to study abroad in the future.	5.43	0.67	.76		
(6) I want to study English, because I want to expand my cultural horizons by making English speaking friends and learning their cultures.	5.58	0.58	.62		
<u>Factor 2: Instrumentality</u>					
(3) I want to work abroad (especially in the international market including non-English-speaking countries)	4.28	1.33	.86	4.09	1.08
(4) I want to work abroad in English-speaking countries (e.g., UK, USA)	3.89	1.29	.83		
(5) I want to work in an English-speaking environment in Japan.	4.10	1.08	.78		
<u>Factor 3: Nativelikeness orientation</u>					
(11) Accurate and clear pronunciation	4.46	0.87	.86	4.03	0.66
(9) Speaking English without any accent like a native speaker	3.56	0.95	.79		
<u>Factor 4: Lexicogrammatical orientation</u>					
(13) Accurate and complex grammar	4.00	1.21	.91	4.35	0.76
(12) Appropriate and rich vocabulary	5.02	1.02	.72		
<u>Factor 5: Comprehensibility for vague and long-term future</u>					
(10) Speaking comprehensible English regardless of accentedness	4.86	0.82	.85	4.97	0.52
(2) I want to study English because better English proficiency is crucial for my future job.	5.43	0.67	.64		

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**Differential strength of motivation.** To analyze the relationship between the Japanese students' orientation in terms of integrativeness, instrumentality, nativelikeness/lexicogrammatical orientation and comprehensibility for use in the vague and long-term future, their mean motivation scores were calculated according to the five factors, and compared via a one-way repeated ANOVA.

The results showed a significant main effect for Factor,  $F(4, 156) = 33.293, p < .001, \eta_p^2 = 1.00$ . The analyses of Bonferroni multiple comparisons revealed that their motivation scores for Factors 1 (integrativeness:  $M = 5.21$ ) and 5 (comprehensibility for vague and long-term future:  $M = 4.97$ ) were significantly higher than those for Factor 2 (instrumentality:  $M = 4.09$ ), Factor 3 (nativelikeness orientation:  $M = 4.04$ ) and Factor 4 (lexicogrammar orientation:  $M = 4.35$ ) at a  $p < .05$  level.

Taken together, the results revealed that the students' EFL experience was most related to their short-term motivation to interact with English-speaking friends (Factor 1) and their long-term outlook towards their future career development (Factor 5). Their EFL experience was less driven by their specific vision of a future workplace (Factor 2) or their enthusiasm for nativelike pronunciation (Factor 3), vocabulary and grammar (Factor 4).

### L2 Motivation-Acquisition Link

In this subsection, we explore the extent to which the students' mean motivation factor scores could be predictive of their L2 oral proficiency development over one academic semester (T1 → T2). Their gain scores in comprehensibility and accentedness between the onset (T1) and endpoint (T2) of the semester were used to represent the longitudinal development of L2 oral proficiency during the project. For example, if a student's comprehensibility was 234 at T1 and 356 at T2, their gain score was 122.

First, we conducted a set of Pearson correlations to examine how the students' motivation profiles were individually related to their longitudinal development scores. According to the results (summarized in Table 4), the gain scores in comprehensibility were significantly correlated with Factor 5 (comprehensibility for vague and long-term future;  $p = .037$ ) and marginally linked to Factor 4 (Lexicogrammatical orientation;  $p = .059$ ). In contrast, the other correlation contrasts did not reach statistical significance at the  $p < .05$  level.

Table 4. *Correlations between Motivation Factors and L2 Speech Acquisition*

	Comprehensibility		Accentedness	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Motivation Factor 1	-.017	.917	-.163	.314
Motivation Factor 2	.077	.638	-.045	.783
Motivation Factor 3	.155	.340	-.074	.648
Motivation Factor 4	.301	.059	.137	.400
Motivation Factor 5	.331	.037*	.159	.328

\* indicates statistical significance at a  $p < .05$  level.

Next, to further examine the relative contribution of the motivation factors to the longitudinal development scores, a set of stepwise multiple regression analyses was conducted with the gain scores (comprehensibility, accentedness) as the dependent variables, and the five motivation factor scores as predictors. With respect to comprehensibility, the regression model identified Factor 5 (comprehensibility for vague and long-term future) as a significant predictor of the participants' gain scores,  $F(1, 38) = 4.918, p = .033$ , with no evidence of strong

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collinearity in the model ( $VIF < 1.62$ ). This factor accounted for 11.5% of the variance in L2 comprehensibility development. The model did not reach statistical significance ( $p > .05$ ) for accentedness.

### Other Factors

Even though the results of the correlation analyses suggest that motivation has significant predictive power, there is a possibility that these gains could be confounded with other variables, such as the participants' initial proficiency at the time of pre-tests, the number of EFL classes previously taken, and the amount of extra L2 use outside of classrooms. In this section, we first descriptively analyze the participants' individual difference profiles, and then examine the presence/absence of significant correlations between these variables and L2 acquisition.

**Initial proficiency.** As shown above, our participants exhibited much individual variation in their initial proficiency scores for comprehensibility ( $M = 457$ ,  $SD = 138$ , range = 199-699), accentedness (range = 50-524) and number of classes ( $M = 280$ ,  $SD = 115$ , range = 33-178.5 hours) at the onset of the project.

**Length of EFL instruction.** At the end of the semester, the students' EFL experience during the project was surveyed in a retrospective manner via a language learning questionnaire. The results showed that they differed considerably in the number of English and arts classes they had taken throughout the semester ( $M = 5.28$  hours per week,  $SD = 2.89$ , range = 2.20-11.90).

**Extra-curricular L2 use.** According to the language background questionnaire, whereas none of the students reported any formal English school experience outside of the university (e.g., language schools), they had considerably different amounts of extra-curricular L2 use (i.e., L2 conversation with native and non-native speakers on campus) outside of the classroom ( $M = 7.20$  minutes per week,  $SD = 14.86$ , range = 0-48).

**Results of correlation analyses.** A set of correlation analyses was conducted to examine how three individual difference factors (initial proficiency, length of instruction and extra L2 use as predictors) related to L2 speech acquisition (comprehensibility, accentedness as the dependent variables). As summarized in Table 5, the results of the nonparametric Spearman's rank correlation analyses did not find any significant links ( $p > .05$ ), at least within the time framework of the project (one semester).

Table 5. *Correlations between Individual Difference Variables and L2 Speech Acquisition*

	Comprehensibility		Accentedness	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Initial proficiency	-.227	.159	-.189	.242
No. of English classes	-.035	.828	-.130	.425
Frequency of L2 conversation outside of classrooms	-.110	.499	-.125	.443

### Discussion

The current study took an exploratory approach towards examining how first-year Japanese EFL university students with various motivation profiles (integrativeness, instrumentality and metacognition) could differentially improve their oral proficiency

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(comprehensibility and accentedness) over one academic semester. To answer the first research question (Japanese university students' motivational orientations towards improving their L2 oral proficiency in EFL classrooms), the results of our tailored questionnaire identified five broad motivational orientations of Japanese EFL university students: integrativeness, instrumentality, nativelikeness/lexicogrammatical orientation and comprehensibility for a vague and long-term future. Among these orientations, the participating students demonstrated relatively strong motivation for improving their comprehensibility (rather than nativelikeness) in order to (a) make friends with other native and non-native speakers (especially via study-abroad) as an immediate and short-term goal; and (b) to prepare for using English in their future careers as a vague and long-term goal. Their motivation was slightly lower in terms of precisely where they would like to work in the future (overseas vs. domestic markets). These results are in line with previous L2 motivation studies specific to Japanese university students, whose motivational nature is multifaceted and influenced by a variety of integrative, instrumental and intrinsic factors (Kimura et al., 2001; Mori & Gobel, 2006). In addition, the results evidenced the dual orientation of Japanese EFL learners' motivation for learning L2 English (e.g., study abroad as an immediate and short-term goal vs. future career as a vague and long-term goal), as pointed out by Yashima et al. (2004).

To answer our second research question (regarding the impact of motivation profiles on L2 speech acquisition), the results of the global speech analyses showed that, although the Japanese EFL students as a whole failed to show significant improvement in their oral skills over the academic semester, certain students with particular motivation profiles appeared to successfully increase the comprehensibility (but not accentedness) of their L2 speech. The results here concur with previous L2 education studies which have shown that late L2 speech learning can be highly limited in EFL classroom settings (e.g., Baker-Smemoe & Haslam, 2013), and thus needs to be enhanced via more extensive and contextualized L2 input inside (e.g., Content and Language Integrated Instruction) and outside (e.g., study abroad) of classrooms (Mora & Valls-Ferrar, 2012). Furthermore, our findings indicate that certain (but not all) kinds of motivation may be needed for late L2 learners to increase the pedagogical efficacy of their EFL experiences within a short period of foreign language education (one academic semester).

According to the statistical analyses, the amount of L2 comprehensibility development was significantly related to Factor 5 (comprehensibility for vague and long-term future) and marginally so to Factor 4 (lexicogrammatical orientation). The findings here suggest that some students with certain motivational profiles may significantly improve their comprehensibility (but not accentedness) over time. In the specific context of Japanese EFL university students, such learners can be likely motivated to study English as preparation for long-term future career development without having a clear integrative (e.g., with whom they would like to interact: natives vs. non-natives) or instrumental (e.g., where they would like to work: abroad vs. domestic) orientation. These findings lend empirical support to the acquisitional value of the context-specific L2 motivation orientation among the university students in this study—studying English as long-term preparation for their uncertain future careers in an imaginary international community (Yashima, 2002; Yashima et al., 2004).

The results here shed some light on the complex relationship between learner motivation, input and L2 speech learning in different contexts. Whereas much learning is likely and linearly triggered in relation to an increasing amount of input in naturalistic settings (Flege, 2009), L2 learners do not have access to copious amounts of input in foreign language classrooms (several hours of input per week). Under these limited-input conditions, L2 learners may need extra



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motivation—especially context-specific motivation (i.e., comprehensibility and lexicogrammar improvement for use in a long-term future)—in order to notice, analyze and turn L2 input into intake more efficiently and effectively, which is claimed to be a crucial component of the early phase of SLA (Skehan, 2012). As shown in the study, what is instrumental to successful L2 speech learning in foreign language classrooms could be more closely tied to L2 learners' optimized processing of input (attending to input with high-level awareness) than to the mere quantity of input (using the target language more often inside/outside classrooms). For a more theoretical discussion of the quality, quantity and intensity of input in SLA, see Ellis (2006).

Language learning (metacognitive) orientation was uniquely related to successful L2 speech learning in that it helped L2 learners selectively work on enhancing the comprehensibility of their spontaneous production. Conversely, accentedness appeared to be resistant to change regardless of students' motivational profile. The results here provide additional support for the fundamental idea that L2 comprehensibility and accentedness are distinct constructs (Derwing & Munro, 1997; Isaacs & Thomson, 2013; Trofimovich & Isaacs, 2012; Saito, 2015). The study's findings also led to a working hypothesis on the role of learners' metacognitive orientation in L2 learning (Horwitz, 1999; Wenden, 1999) from two different perspectives of L2 speech research—enhancing comprehensibility and reducing accentedness. That is, successful L2 learning tends to occur when EFL learners orient themselves towards relatively learnable and communicatively important linguistic domains, such as enhanced comprehensibility (Derwing & Munro, 2009; Saito, 2015). In contrast, learners' metacognitive orientations do not always result in successful classroom SLA, especially when learners are particularly concerned with linguistic structures entailing much learning difficulty, such as accent reduction via refined pronunciation accuracy (Trofimovich & Isaacs, 2012).

At the same time, it is crucial to remember here that the students' integrative and instrumental motivation was related to immediate and short-term goals (making native and non-native friends via study-abroad), and did not predict any aspect of their L2 speech development over one academic semester. As shown in Moskovsky et al. (2016), the results indicate that the relationship between the more general, context-independent motivation (integrativeness, instrumentality) and L2 development may be weak at best. Alternatively, the findings here may actually suggest that the instrumental-integrative distinction is a false dichotomy, as argued by many L2 motivation researchers (e.g., Dörnyei et al., 2006). Although the participants demonstrated statistically different responses concerning the integrativeness and instrumentality categories on the motivation questionnaire (see the results of the factor analyses), the extent to which these categories are conceptually distinguishable still remains unclear (e.g., a great portion of the study abroad motivation could be related to making native and non-native friends). Given the exploratory nature of the project, however, we need to emphasize that these claims should be considered as tentative, and thus should be replicated and expanded by future L2 motivation-speech interface research.

Notably, the tailored questionnaire in the current project was developed according to a focused-review of previous studies of the context-specific motivation profiles of Japanese EFL students (including and justifying only 13 statements). In our exploratory study, we were not trying to (dis)prove any theory or model, and therefore decided not to include complete versions of existing questionnaires. In this regard, our bottom-up approach to measuring motivation could be considered as appropriate for measuring the motivation of specific groups of learners, and providing an exploratory picture of the motivation-acquisition link.

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To further advance our knowledge of the motivation-acquisition relationship, we now make a strong call for future studies which develop, validate and refine questionnaires specifically designed to measure the context-specific *and* context-independent motivation profiles of EFL university students based on more recent theories. Such studies will allow us to further discuss the acquisition-crucial types of motivation according to various theoretical constructs, such as integrativeness/instrumentality (Gardner, 2000), dual orientations (short- vs. long-term goals; Yashima, 2002) and different domains (Ideal vs. Ought-to Self) and standard points (Self vs. Others) of the self (Dörnyei et al., 2006). On a related note, L2 motivation profiles also need to be conceptualized in relation to immediate situational factors in the classroom, such as the teacher, the course, other people in the class, and the room itself (Dörnyei et al., 2006).

Another crucial issue which future studies should take into account is the dynamic nature of the construct of L2 motivation: motivation is an individually, dynamically and adaptively defined phenomenon which varies across time frameworks and contexts. Following previous motivation-proficiency research (e.g., Moskovsky et al. 2016; Yashima, 2002), we surveyed our participants' motivation as a static entity at the end of the semester on the assumption that the values obtained on the questionnaire at that point in time remained consistent across the whole period of study. In light of growing interest in longitudinal approaches towards measuring not only the development of linguistic performance, but also changes in individual difference profiles in the field of SLA, future studies could try to capture the extent to which the interaction between motivation and speech variables vary over different time frames ranging from days to years (cf. Jiang & Dewaele, 2015; Henry, Dörnyei, & Davydenko, 2015).

### **Conclusion**

In the context of the longitudinal development of 40 Japanese EFL university students' oral proficiency, the current study found that certain students who exhibited specific motivation profiles significantly enhanced their comprehensibility (but not accentedness) over one academic semester. Such learners were motivated to study English as preparation for their long-term future career development without having any specific integrative (e.g., with whom they would like to interact: natives vs. non-natives) or instrumental (e.g., where they would like to work: abroad vs. domestic) orientations. With respect to language learning orientation, these learners tended to prioritize the improvement of comprehensibility and lexicogrammar (rather than nativelike pronunciation). These conclusions in turn advance the current understanding of late L2 speech learning. That is, given that many L2 speech scholars have exclusively examined in depth the role of the quantity/quality of input, interaction and output as crucial factors for successful language learning (for review, Piske et al., 2001), we echo a growing number of researchers who have begun to propose the importance of learner-internal variables (e.g., Darcy, Mora, & Daidone, 2016 for cognitive abilities; Moyer, 2016 for motivation/affect) in order to explain individual variability in late L2 speech development from multiple angles.

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## Appendix

### Training materials and onscreen labels for global judgement

Comprehensibility	This term refers to how much effort it takes to understand what someone is saying. If you can understand with ease, then a speaker is highly comprehensible. However, if you struggle and must listen very carefully, or in fact cannot understand what is being said at all, then a speaker has low comprehensibility.
Accentedness	This refers to how closely the linguistic profiles of an utterance approaches those of a native speaker.

#### 1. Comprehensibility



**Difficult to understand**



**Easy to understand**

#### 2. Accentedness

**Heavily accented**



**Not accented at all**