Toward an Ecological Systems Understanding of Motivational Dynamics Among Japanese Learners of English

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Abstract

Applying dynamic systems theories (DST) of empirical research to second language (L2) motivation is the center of attention of recent L2 motivation research. Among DST, this study used an ecological systems approach to understand situational and contextual factors of ambivalence about communicating in English among Japanese youth. Data were collected from 127 university students using open-ended questions about reflective writings and numerical items for examining the vividness of students’ learning experiences. The data were qualitatively analyzed using a grounded theory (GT) procedure and interpreted using DST and Bronfenbrenner’s (1979, 1993) ecological model. The GT analyses showed situations in which students were most willing to communicate and situations in which they were least willing to communicate. These situations were interrelated with situations in which students’ possible L2 selves were generated by the interactions with teachers, friends, classmates, and family. The links between the vividness of their learning experiences and trait-like willingness to communicate (WTC) were identified. The results suggested students with more vivid learning experiences have higher trait-like WTC, although situational waves from WTC to UnWTC occur with subtle contextual changes. Pedagogical implications for treating students’ inhibitory behavior in English use are also discussed.

1. Introduction

Using a second language (L2) for authentic communication increases the chances of improving communicative competence, but also involves a complex process that features interplay between the L2 learning context and the psychology of the learner (Dörnyei, 2009; MacIntyre, Burns, & Jessome, 2011). Contemporary English as a foreign language (EFL) education in Japan is particularly interested in creating settings for English use, because in those settings, motivating students to use the language has the potential to exert powerful effects on their self-image as a future English user (Dörnyei, 2009, Sugawara, 2012). The need to cultivate the image of an English-using self comes from much research into demotivation to learn English conducted in Japan (Dörnyei & Ushioda, 2011) and social issues on the inward-oriented tendency that appears in Japanese youth, seemingly leading to a lack of willingness to communicate (WTC) in English (Sugawara, 2015a).
However, considering their international attitudes (Sugawara et al., 2013) and their belief in the importance of learning English (Sugawara, 2012), are they really trait-like inhibitory learners? It seems Japanese youth who are exposed to increasing opportunities to use English have ambivalent states of mind in which they are both willing and unwilling to communicate in the L2. This approach/avoidance tendency that lies at the core of motivation is the focus of recent L2 motivation research from the perspective of complex dynamic systems theories (DST) aiming to understand changes in the L2 motivation (Dörnyei, MacIntyre, & Henry, 2015).

Among DST, this study used an ecological systems approach to understand situational and contextual factors for which Japanese youth are both willing and unwilling to communicate in English. The ecological systems framework is composed of DST perspectives and ecological theories (Ushioda, 2015). Of the ecological theories, this study adapted Bronfenbrenner’s (1979) ecological model that conceptualizes environment into system terms to describe a person’s psychological development occurring both within the immediate situation and beyond that situation. Integrating the ecological model with DST is useful in that it highlights situational changes affecting the psychological state of the L2 learner and the effect on development induced by the ecological environment. In the literature review, I describe the ecological model and DST adapted in this study.

2. Literature Review

2.1 Ecology of Human Development

Bronfenbrenner’s (1979, 1993) perspectives for research on human development are useful in detecting the basic parameters of motivational dynamics pertaining to interaction between the learner and the language learning environment (Peng, 2012; Ushioda, 2015). Drawing on Lewin’s (1935) phenomenological conception of the environment, Bronfenbrenner (1979) presented a theoretical model of the ecological environment conceived topologically as nested concentric structures referred to as micro-, meso-, exo-, and macrosystems.

According to Bronfenbrenner (1979, p. 22), a microsystem is “a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting” (e.g., the classroom). A pattern of activities is characterized by reciprocal relations. This reciprocity occurs when two persons (e.g., the student and the teacher) begin to pay attention to one another’s activities and participate in joint activities. These joint activities constitute a critical context for development if the two persons engage in more complex patterns of interaction that are facilitated by a gradual transfer of power in favor of the developing person and positive feelings toward one another. Moreover, the patterns of interaction between these two people are indirectly influenced by third parties (e.g., the student’s parents). The impact of third parties on the developing person depends on the extent to which the third parties are willing to take on a supportive role in encouraging the interaction of the dyad. A system of psychological development involving more than two persons is called an $N+2$ system (Bronfenbrenner, 1979, 1993).
The availability of settings comprising an $N + 2$ system is not limited within one setting, but rather extends across set boundaries. The next level of ecological structure is a system of microsystems called mesosystems, comprising “interrelations among two or more settings in which the developing person actively participates” (Bronfenbrenner, 1979, p. 25). According to Bronfenbrenner (1979, 1993), participation in more than one setting has developmental consequences if the person who engages in joint activities takes an active role in building supportive links to encourage the growth of mutual trust, positive affective relations, and goal consensus between the settings (such as between the class and an extracurricular activity).

The scope of the ecological environment captured by Bronfenbrenner’s (1979, 1993) model is not limited within a mesosystem. It encompasses a broader social network that indirectly influences the developing person. The succeeding level after the mesosystem is the exosystem, which refers to “one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person” (Bronfenbrenner, 1979, p. 25). According to Bronfenbrenner (1979, 1993), an exosystem influences a person’s pattern of thinking if his or her significant others (e.g., teacher, parents, or friends) in the microsystem build supportive links between the microsystem and the external settings where significant others construct their own values.

Finally, the macrosystem refers to “consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems” (Bronfenbrenner, 1979, p. 26). The influence of the macrosystem on psychological development was described by Bronfenbrenner (1979, 1993) based on extensive review of research on long-term experiences in various settings that affect patterns of thinking among youth. According to the literature, if youth are not given adequate opportunities to participate in joint activities for constructing an $N + 2$ system, they tend to become vulnerable to evaluation by others, easily falling to inhibitory actions. This tendency is apparent after students move from the protected environment of high school to college, where they are required to take initiative to find sources of stimulation and support for sustaining goal-directed behaviors by themselves.

For my study of L2 motivation, I adapted Bronfenbrenner’s (1979, 1993) analysis of the ecological environment and combined it with DST perspectives. In my adaptation, microsystem refers to a pattern of activities, roles, and interpersonal relations experienced by the L2 learner that generates the motivation to learn the L2 in a given setting. Mesosystem refers to interrelations among two or more settings in which the L2 learner actively participates and finds sources of motivation to learn the L2. Exosystem refers to one or more settings that do not involve the L2 learner as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the L2 learner. Macrosystem refers to consistencies in micro-, meso-, and exosystems that exist at the level of belief or trait-like tendencies that appear in Japanese EFL learners. Exploring learning experiences in the ecological environment may transcend the
bounds of ongoing actions, evoking interpretations of past events linked with the future self-concept. These multi-time perspectives are an important lesson of DST that has been used to understand L2 motivation as a dynamically changing phenomenon (Larsen-Freeman, 2015).

2.2 Complex DST and Ecological System Perspectives

In Bronfenbrenner’s (1979, 1993) ecological model, DST are used to understand changes and development of human beings (Larsen-Freeman & Cameron, 2008). In DST, the processes of change and development are perceived non-linearly, resulting from interactions within and between the systems defined under investigation (Dörnyei et al., 2015). As explained in Larsen-Freeman and Cameron (2008), the system’s changes are metaphorically represented as its roaming from one well to others within a topological landscape called the ‘state space,’ and the wells to which the system gravitates are called ‘attractors.’ When the system is in a strong ‘attractor state,’ which is represented as resting at a deep well, it exhibits a relatively stable mode of behavior. The system is, however, in a weak attractor state when resting at a shallow well, and is likely to move around easily within the state space following the specific principles that govern the interactions of system components called ‘control parameters’ (Hiver, 2015). In L2 acquisition phenomena, control parameters that guide how a complex system moves from one attractor state to the next (e.g., from WTC to UnWTC in a L2) might be components of the L2 self system (Dörnyei, 2009), situational context (MacIntyre et al., 2011), and ecological environment (Larsen-Freeman, 2015; Peng, 2012; Ushioda, 2015).

In addition to the depth representing the strength of attractor states, their width representing the range of attractor states is relevant to the stability of a dynamic system (Hiver, 2015; Larsen-Freeman & Cameron, 2008). As Hiver (2015) explains, “a wider basin of attractions means that a more varied range of initial conditions… events or ideas can easily propel a complex system into the attractor states” (p. 24). The term ‘initial conditions’ in DST refers to the start time for measuring the state of the complex system (Verpoor, 2015). A common example of wide attractor states in SLA is L2 learners’ frequently occurring inhibitory behavior, easily falling back into a state of UnWTC in the L2. If such inhibitory behavior, together with a habitual, trait-like demotivation in using and learning the L2 appears in the L2 learners, they are in a wide and deep attractor state at the initial condition, which is necessary to create a continuous and strong force to transition the system out of this attractor state (Hiver, 2015; Larsen-Freeman & Cameron, 2008).

The above attractor states representing a system moving into a stable and preferred state are classified as ‘fixed-point attractor states.’ Another type of attractor state is ‘strange attractor states,’ which represent “values that a system tends to approach over time but never quite reaches” (Hiver, 2015, p. 26). In strange attractor states, the system’s behavior is unstable and small changes can have a large impact on the system’s trajectory, moving chaotically and unpredictably from one state to another (Larsen-Freeman & Cameron, 2008). In recent L2 motivation research, the L2 motivational self system (L2 MSS) is conceptualized as a dynamic system with both fixed-point attractor states and strange attractor states (Dörnyei et al., 2015). A component of the L2 MSS, the
vision of the ideal L2 self, which is conceptualized as a fixed-point attractor state, triggers unpredictable changes caused by the interactions of various parameters, including the attributes of the L2 learning experience (Dörnyei, 2009; Henry, 2015), the learner-context relations, and the ecological environment (Larsen-Freeman, 2015; Ushioda, 2015). The research challenge in describing this changing nature in L2 motivation due to the contextual and environmental parameters is referred to as the ecological systems approach (Ushioda, 2015).

From ecological systems perspectives, I reviewed my own research into how the interactions of components of the L2 MSS influence WTC in English (Sugawara, 2015b). Since previous studies used statistical analyses to support causal inference (e.g., structural equation modeling), they are not adequate, but serve as blueprints for exploring the dynamics of L2 motivation. For instance, Sugawara et al. (2013) found that university students’ possible L2 selves, representing the perceived likelihood of becoming a person with desired English skills, influence WTC in English outside the EFL classroom. Following that study, Sugawara (2015a) found that the greater the magnitude of students’ self-discrepancies between their current English skills and their perceived expectations from parents, teachers, classmates, and society, the more they would experience anxiety and be less motivated to communicate in English both inside and outside the classroom. From those findings, it seems that Japanese youth feel both willing and unwilling to communicate in English. Such ambivalent states of mind might occur due to situational and contextual parameters of WTC and UnWTC. Considering the link of WTC with possible L2 selves, there may be similarities between situations in which WTC (or UnWTC) is generated and those in which possible L2 selves are generated. Therefore, the first step in understanding the dynamics of L2 motivation using an ecological systems approach is to determine the situational and contextual parameters that generate WTC, UnWTC, and possible L2 selves, as well as the vividness of the learning experiences that affect trait-like approach/avoidance tendencies toward L2 communication.

3. Research Questions

On the basis of the literature review presented above, I proposed to investigate the following research questions:
(1). How do learners explain situational experiences that generate WTC and UnWTC in English both inside and outside the EFL classroom?
(2). How do they explain situational experiences that generate possible L2 selves and the vividness of those learning experiences?
(3). How can those English use and learning experiences be understood from the perspective of DST and Bronfenbrenner’s (1979, 1993) ecological model?

4. Method
4.1 Research Design

In order to answer the research questions, I adapted the methods of MacIntyre et al. (2011) to investigate the dynamic processes underlying WTC. In their research, first, qualitative data collected from 100 students were categorized into major themes to illustrate the types of situations that produce high WTC and low WTC. From those categories, considerable similarities between situations that increase and decrease WTC were found and taken as evidence for ambivalence about communicating in the L2 among the students. Then, these situations were interpreted within the framework of the L2 MSS to capture subtle differences between contexts that increase and decrease WTC. Similarly, in my research, I collected qualitative data from Japanese university students to find the types of situations that generate WTC, UnWTC, and possible L2 selves using open-ended questions. Although an open-ended questionnaire is not adequate to clarify individual experiences deeper than the level of reflective awareness, it is a useful instrument in the early stage of research to elicit the range of possible answers since it contains appropriate guidance (Dörnyei, 2010). Then, raw data were coded to develop categories using grounded theory (GT) procedures (Strauss & Corbin, 1998), which enable us to group similar events, interactions, and objects to reduce large amounts of data to a more manageable size. Next, the vividness of the learning experiences categorized by GT procedures was calculated using numerical items and its links with the trait WTC scale were investigated. Finally, the categories and their links that emerged from the data were interpreted within the ecological systems framework to identify situational and contextual parameters of approach-avoidance tendencies that lie at L2 motivation.

4.2 Participants

One hundred and twenty-seven university students (male, n = 52; female, n = 73, unknown; n = 2) from a national university in Hokkaido, Japan participated in this research. At the time of the study, the students ranged from ages 18-25 with an average age of 19.5. One hundred and twenty-five were non-English major undergraduate students from regional and international fields of study. Two students were graduate students studying to become English teachers. Only five students (3.9%) had previously spent more than 3 months in an English-speaking country. All students reported that their mother tongue was Japanese.

4.3 Materials

To obtain concrete information, students were asked to describe situations in which they are most willing to communicate in English and situations in which they are least willing to communicate in English by using specific open questions (e.g., “In which setting do you feel you are least willing to communicate in English?”), followed by clarification questions (e.g., “Please explain why you feel so in that setting.”). In addition to situational WTC, trait-like WTC was assessed using a questionnaire scale (α = .93) consisting of 12 items adapted from McCroskey and Richmond’s (1987) scale (employed in Sugawara et al., 2013; Sugawara, 2015a). Those items
consisting of crossing contexts with different types of receivers (e.g., “Talk with a friends” and “Present a talk to a group of strangers”) were rated on a 6-point Likert scale, ranging from almost never willing (1) to almost always willing (6).

Students were also asked to reflect on situations in which possible L2 selves were generated using sentence completion items (e.g., “In my English learning experiences, I think those who make me feel that I could become a competent English speaker are …”), followed by clarification questions (e.g., “When and how do they encourage you to learn English to be a competent English speaker?” “Are there people who support the interactions between you and those who encourage you to learn English?” and “If so, when and how?). The vividness of learning experiences was assessed by multiple-choice items according to the following statements: “I think that the learning experiences with those persons (3) are still significant, (2) were previously significant but are not now, (1) are not significant or not sure because I have never met such a person.

4.4 Data Collection

After obtaining written informed consent to participate in the study from all participants, I collected data between January 2015 and June 2016 during class or outside class time, following the procedure of theoretical sampling employed in the GT method (Strauss & Corbin, 1998). The purpose of theoretical sampling is to explore the range or variation of conditions pertaining to a category that represents a particular phenomenon so that the sampling continues according to the category’s development. Using that procedure, I first collected data from 88 students (58 freshmen, 23 sophomores, 3 juniors, and 4 seniors). Then, since it is necessary to look deeper into students’ learning experiences, particularly those occurring in university life, new data were collected from 39 students, not including freshmen. Moreover, based on a review of all data collected, follow-up data collection from 19 of those students was conducted to obtain additional information.

4.5 Data Analyses

Qualitative data obtained from open-ended questions were analyzed using GT procedures of open coding, axial coding and selective coding (Strauss & Corbin, 1998) with the aid of NVivo 10 software. Open-coding is the analytic process of naming phenomena with concepts by analyzing raw data line-by-line, followed by grouping certain concepts under more abstract order concepts, thereby leading to the development of a category. This process of conceptualization and categorization is conducted by exploring the properties (characteristics of a category) and dimensions (the range along which properties of a category vary) to see the variability of a category representing a phenomenon. Axial coding is the process of relating categories to their subcategories in terms of linking conditional contexts to actions/interactions, leading to the identification of patterns of change from one categorical state to another. Selective coding is the process of integrating categories to discover a central category representing the main theme of the research. In all coding phases, a balance between objectivity and sensitivity, which is required for accurate
interpretation of the data, is maintained by asking theoretical questions, thinking comparatively according to the properties and dimensions of categories, and using a suitable framework for explaining the phenomenon studied.

Quantitative data obtained from multiple-choice items were inserted into SPSS Statistics 22.0. First, descriptive statistics were calculated. Then, Pearson’s product-moment correlation analyses were conducted to examine the pattern of relationship between trait WTC scores and the vividness of L2 learning experiences that emerged from the qualitative analyses.

5. Results and Discussion

Based on the data analyses, I clarified various conditional situations in which Japanese students reported being most willing to communicate and least willing to communicate in English. Through the GT coding process, these situations were conceptualized as building blocks of WTC and UnWTC categories that stand for phenomena in the data. In total, WTC situations from 204 entries and UnWTC situations from 143 entries were categorized in this study. Table 1 and Table 2 show the final versions of the categories. As in MacIntyre et al. (2011), a comparison of the entries in Table 1 and Table 2 reveals similarities between situations that increase and situations that decrease WTC. Students in this study were also both willing and unwilling to speak with teachers, classmates, friends, international students, family, family friends, and foreigners such as tourists or customers at a part-time job. Students reported that they are both willing and unwilling to speak with Japanese classmates during class activities. They are both willing and unwilling to speak with international students at events or extracurricular activities. These findings are evidence of ambivalence about communicating in the L2 among the students as a group (MacIntyre et al., 2011). From this evidence, I interrelated WTC and UnWTC categories to highlight the differences between contexts that increase WTC and ones that decrease WTC, and interpreted the findings within an ecological systems framework.

5.1 Ambivalence About Communicating in English

Based on findings from DST perspectives, ambivalent states of mind are strange attractor states roaming between one fixed-point attractor state of WTC and another fixed-point attractor state of UnWTC in state space. Control parameters that guide how a self-system moves from one attractor state to another attractor state are contextual elements composing the WTC categories (Table 1) and the UnWTC categories (Table 2). The number of entries indicates a generalizability of context propelling the self-system into one of the attractor states. The most prominent context reported by students in the present study was communicating with a teacher, as indicated by 62 WTC entries and 26 UnWTC entries. Students could be propelled by either WTC or UnWTC based on the teacher’s attitudinal change toward them (such as critical or noncritical, supportive or intimidating) no matter where they meet.
according to the properties and dimensions of categories, and using a suitable framework for interpretation of the data, is maintained by asking theoretical questions, thinking comparatively classmates, friends, international students, family, family friends, and foreigners such as tourists or decrease WTC. Students in this study were also both willing and unwilling to speak with teachers, in Table 1 and Table 2 reveals similarities between situations that increase and situations that decrease WTC. Students reported being most willing to communicate and least willing to communicate in English.2

Table 1

Categories of Situations in which WTC in English is Generated

<table>
<thead>
<tr>
<th>Type of receiver</th>
<th>Context including receiver’s attitudes toward communication</th>
<th>No. of Entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teacher, including ALT*</td>
<td>Noncritical, supportive of talking in English in class</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Noncritical, supportive in teacher’s office, or in extracurricular activities</td>
<td>22</td>
</tr>
<tr>
<td>2. International students*</td>
<td>Intend to build friendships at events or extracurricular activities</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Helpful in enhancing the ability to speak English</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Invited to work together for class activities in English</td>
<td>6</td>
</tr>
<tr>
<td>3. Japanese classmates</td>
<td>Cooperative in pair or small group work in class</td>
<td>20</td>
</tr>
<tr>
<td>4. Friends or family friends*</td>
<td>Meet in overseas training programs or while studying abroad</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Talking with host-sister/brother coming to staying at parent’s home</td>
<td>3</td>
</tr>
<tr>
<td>5. Japanese friends</td>
<td>Respectable hard workers, able to work together to enhance English ability</td>
<td>12</td>
</tr>
<tr>
<td>6. Foreigners (e.g., tourists)*</td>
<td>Polite, gentle, and kindly asking for directions in English in public</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Meet during overseas travel and talk in public places or at a hotel</td>
<td>4</td>
</tr>
<tr>
<td>7. Customers</td>
<td>Meet at a part-time job, agreeable and cooperative while talking in English</td>
<td>10</td>
</tr>
<tr>
<td>8. Family</td>
<td>Able to speak English together with sibling or imagined spouse/partner</td>
<td>4</td>
</tr>
<tr>
<td>Total Willingness Entries</td>
<td></td>
<td>204</td>
</tr>
</tbody>
</table>

Note. *Total number of entries of WTC contexts are as follows: 62 teacher entries; 63 international students entries; 18 friends/family friends entries; and 15 foreigners entries.

Table 2

Categories of Situations in which UnWTC in English is Generated

<table>
<thead>
<tr>
<th>Type of receiver</th>
<th>Context including receiver’s attitudes toward communication</th>
<th>No. of Entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Japanese friends</td>
<td>When told they must use English for pair or group work, or when feeling embarrassed</td>
<td>29</td>
</tr>
<tr>
<td>2. Teacher, including ALT</td>
<td>Critical, intimidating, and urge students to speak in class, or in hallway</td>
<td>26</td>
</tr>
<tr>
<td>3. Japanese classmates*</td>
<td>When doing pair work, or evaluated when reading aloud/giving presentations</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>In overseas training programs, coming from the same university</td>
<td>1</td>
</tr>
<tr>
<td>4. International students*</td>
<td>Native or more advanced speakers at events or extracurricular activities</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Eager to speak Japanese to learn the language</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>When told they must use English for class activities</td>
<td>3</td>
</tr>
<tr>
<td>5. Foreigners (e.g., tourists)*</td>
<td>Intimidating, high-handed, and want to talk only in English in public</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Not willing to follow manners and norms of Japanese society</td>
<td>3</td>
</tr>
<tr>
<td>6. Family</td>
<td>Embarrassed to be seen as lacking competence (e.g., poor pronunciation)</td>
<td>12</td>
</tr>
<tr>
<td>7. Customers</td>
<td>At a part-time job, not having consideration for non-native speakers</td>
<td>9</td>
</tr>
<tr>
<td>8. Family friends or roommates</td>
<td>Not interested in talking during homestay or at dorm</td>
<td>7</td>
</tr>
<tr>
<td>9. Clerks or strangers</td>
<td>In public, during overseas travel, or studying abroad</td>
<td>3</td>
</tr>
<tr>
<td>Total Unwillingness Entries</td>
<td></td>
<td>143</td>
</tr>
</tbody>
</table>

Note. *Total number of entries of UnWTC contexts are as follows: 25 classmates entries; 16 international students entries; and 16 foreigners entries.
Another prominent context was communicating with international students at events or extracurricular activities, or in class (see 63 WTC entries in Table 1 and 16 UnWTC entries in Table 2). Comparison of the number of WTC entries with the number of UnWTC entries indicates that the contexts in which the self-system is propelled into a WTC state are more generalized across a wider range of situations than contexts in which the self-system is propelled into an UnWTC state. The former context of moving into WTC emerges from various situations in which students perceive the intention of building a good friendship with international students who are helpful in enhancing their ability to speak English. However, such a self-system relatively fixed in a WTC state is likely to shift into an UnWTC state by the latter context; these are situations in which students feel the urge to speak English from native or more advanced speakers, or in which they feel their conversation partner wants to use Japanese to learn the language.

Ambivalent states of mind occur in communications between Japanese classmates (20 WTC entries and 25 UnWTC entries) and Japanese friends (12 WTC entries and 29 UnWTC entries). The results suggest that students’ self-system moves in either the direction of WTC or UnWTC depending on their perception of their classmates’ attitudinal change between cooperation and non-cooperation in combination with different types of activities such as pair work, reading aloud and presentations evaluated by others. Furthermore, in changing work partners from classmates to friends, their self-system is likely to shift again either to WTC or UnWTC based on their judgments of whether those friends are respectable hard workers whom they can work with to enhance their ability to speak, or they are just doing the activity because they have to and because the teacher told them they must use English.

Beyond the school context, ambivalence also occurs in public situations when students have an opportunity to speak with foreigners (15 WTC entries and 16 UnWTC entries). The results suggest that students’ self-system is propelled into either WTC or UnWTC based on their perception of whether those foreigners are polite and gentle, or intimidating, high-handed, and that they must do all the talking such as in situations where the foreigner is asking for directions. Another public context in which students’ self-system is likely to move in either the direction of WTC or the direction of UnWTC is communicating with customers at a part-time job (10 WTC entries and 9 UnWTC entries). Students’ ambivalent states of mind emerge from their judgment of whether their customers are agreeable and cooperative, or they do not have consideration for non-native English speakers.

Similar to previous research (MacIntyre, et al., 2011; Sugawara, 2015a), ambivalence in family contexts was also categorized by reports from students in the present research (4 WTC entries and 12 UnWTC entries). The number of entries indicated that students’ self-system rarely moves from UnWTC to WTC, as long as they do not have a sibling or imagined spouse/partner with whom they can enjoy thinking about communicating in English. Their self-system is seemingly fixed in the UnWTC mode since speaking in English with family members who normally speak in Japanese interferes with the authenticity of communication and is sometimes embarrassing if they feel a lack
of competence, which was witnessed in reports on speaking with Japanese friends. However, the present study found that if a native English speaker who is a family friend joins the parental home, students’ self-system may shift into WTC (3 WTC entries). Furthermore, the results suggest that students’ self-system is propelled into WTC when spending time with family friends or roommates they meet in overseas training programs (shown in 15 WTC entries). However, the self-system relatively fixed in WTC may shift into UnWTC based on the perception that a family friend or roommate is not interested in talking to them (7 UnWTC entries).

As described above, various situations that generate ambivalence about communicating in English were revealed in the present study. Similar situations were found in data concerning situations that induce possible L2 selves. Based on GT analyses, links between WTC and possible L2 selves shown in previous studies (Sugawara et al., 2013; Sugawara, 2015a) will be further highlighted in terms of ambivalence and the development of possible L2 selves.

5.2 Links Between Ambivalence and Possible L2 Selves in Ecological Systems

Data in the present study showed various situations in which possible L2 selves are generated. Through the GT coding process, those situations were conceptualized as building blocks of categories that stand for phenomena in the data. In total, 183 entries were categorized, with Table 3 and Table 4 showing the final versions of the categories. Table 3 shows contexts in which students’ possible L2 selves are generated through interactions with their inducers. The most prominent contexts were interactions with teachers, which accounted for 82 out of 113 entries. The results indicated that students encountered teachers inducing their possible L2 selves in long-term learning experiences ranging from kindergarten to the university EFL classroom. Table 4 shows contexts in which students’ interactions with inducers of possible L2 selves (in Table 3) are supported by the influence of third parties. The most prominent contexts were those involving family, found in 18 out of 70 entries. The categories in both Table 3 and Table 4 contain learning experiences with teachers, friends, classmates, and family, suggesting that these people play important roles in simulating and supporting students’ possible L2 selves. Such student experiences over the long-term in various settings support the significance of using Bronfenbrenner’s (1979, 1993) ecological model for explaining the phenomena studied.

5.2.1 Process of Developing Possible L2 Selves in the Microsystem

By interpreting the findings from the microsystem in the ecological model, we find that the motivational capacity of possible L2 selves is developed by reciprocal relations between students and inducers in the contexts shown in Table 3. In the school context, this reciprocity occurs when students feel that they are encouraged by teachers in joint activities suited to their developmental process. This reciprocity is further cultivated when students engage in joint learning with their friends to be good English users (shown in 17 entries), as well as with their classmates, leading to positive relations in which they praise each other for completing tasks (shown in 6 entries). Beyond
school contexts, reciprocity also occurs in family contexts. Students reported that reciprocity emerges from encouragement from family friends during homestays, as well as from engaging in joint learning with the family in the parental home. Such joint learning is enhanced by parents
playing a supportive role in expanding the student’s learning opportunities, as shown in Table 4. Another prominent context (from 18 entries) is the supportive role of teachers in providing academic and career guidance, opportunities for intercultural activities, and support for personal training with an ALT for a speech contest. This supportive role, which enhances reciprocity between the student and inducer, supports the significance of the N + 2 system for the development of possible L2 selves.

5.2.2 The Mesosystem for Possible L2 Selves and WTC/UnWTC
The availability of microsystems for the development of possible L2 selves is not limited to the classroom, but rather extends across various settings such as cram schools, extracurricular activities, the homes of family friends, and the parental home, as shown in Table 3 and Table 4. The results indicate the existence of a mesosystem for the generation of possible L2 selves, which has considerable similarity to contexts in WTC (Table 1) and UnWTC (Table 2). The results support the existence of interrelations between contexts for the generation of possible L2 selves and contexts in which ambivalent states of mind occur. However, contexts consisting of speaking with international students and foreigners (such as tourists and customers), shown in entries of WTC and UnWTC, were not found in entries concerning the generation of possible L2 selves. Moreover, regarding possible L2 self generation, the number of entries for university class contexts (6 entries) was much smaller than the number of entries for high school and junior high school class contexts (51 entries). These findings suggest that students have not often experienced the generation of possible L2 selves in university classes, at events or extracurricular activities with international students, or in real L2 use settings outside the school setting.

5.2.3 The Exosystem for Possible L2 Selves and WTC/UnWTC
The generation of students’ possible L2 selves not only encompasses the mesosystem, but also includes the exosystem derived from supportive links with friends or classmates who built L2 use networks during overseas training programs (shown in 13 entries in Table 4). By hearing about such networks, students are inspired to maintain possible L2 selves, leading to WTC if they perceive those friends as partners for joint learning in becoming a good English user (see Table 1 and Table 3). In addition, students’ possible L2 selves are supported by messages from attractive L2-speaking others such as singers, movie stars, public entrepreneurs, actors in TV dramas, reporters, or diplomats (shown in 21 entries in Table 4). These findings indicate that a pattern of thoughts and behavior regarding such attractive others creates students’ exosystem if they are regularly activated as their desired future image of English-using self (Dörnyei, 2009; Dörnyei & Ushioda, 2011).

5.2.4 The Macrosystem for WTC Constructed through L2 Learning Experiences
The belief-trait level of connections between possible L2 selves and WTC (found in Sugawara et al., 2013; Sugawara 2015a) is supported and extended by exploring links between the vividness of L2 learning experiences with 6 types of significant others shown in Table 3 and Table
4 and the strength of trait WTC. Table 5 presents the descriptive statistics of scores for the vividness of L2 learning experiences and trait WTC; significant correlations were found between these two variables \((r = .36, p < .01)\). The results suggest that students with richer and more vivid L2 learning experiences with significant others are more willing to communicate in the L2 in ecological environments where ambivalence about communicating in the L2 occurs.

Table 5
Descriptive Statistics of Scores for the Vividness of L2 Learning Experiences and Trait WTC

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Max</th>
<th>Mini</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vividness of L2 learning experiences</td>
<td>127</td>
<td>11</td>
<td>2</td>
<td>4.61 (2.14)</td>
</tr>
<tr>
<td>Trait WTC</td>
<td>127</td>
<td>72</td>
<td>15</td>
<td>43.45 (11.37)</td>
</tr>
</tbody>
</table>

6. General Discussion

The present research supports the significance of using an ecological systems framework to understand the dynamics of motivation experienced by Japanese EFL students. Using this framework reveals similarities between situations in which students are most willing to communicate and those in which they are least willing to communicate. Subtle contextual differences brought by interlocutors move the students’ self-system toward a state of either WTC or UnWTC. This study also showed that situations in which students experience ambivalent states are not considerably different from those in which their possible L2 selves are generated. The key implication drawn from the findings is that teachers should approach students based on the premise that students are in a state of ambivalence about using English. Following that premise, if inhibitory behavior appears in a student’s learning, then teachers and significant others should examine subtle contextual differences affecting the student’s psychological state and change the situation to guide the student’s self-system from UnWTC to WTC. These situations must also contain the elements of micro-, meso-, exo-, and macrosystems needed for generation of possible L2 selves. Maintaining students’ possible L2 selves by activating the \(N + 2\) system both inside and outside classroom might form a deep and wide WTC attractor basin in state space, which does not allow the self-system to easily fall back into L2 demotivation, although transient waves from WTC to UnWTC unavoidably occur with contextual changes.

One limitation of the present study is that it only focused on links between situations in which possible L2 selves are generated and those in which WTC and UnWTC are generated. I should have also focused on situations in which possible L2 selves vanish and included such situations in the research design to investigate their link with WTC and UnWTC categories. Another limitation relates to the method of data collection in the sample. In addition to data collected through a questionnaire, data from interviews and diaries would help extract individual experiences below the level of reflective awareness. By focusing on the dynamics of possible L2 selves and using data from interviews and diaries, it would be possible to clarify situations in which possible L2 selves...
increase but WTC decreases, or situations in which possible L2 selves decrease but WTC increases.

Nevertheless, the present research provides new avenue for L2 motivation research by using an ecological systems approach and the concept of ambivalence. The main theme that emerged in the present research is motivational dynamics, particularly fluctuating approach/avoidance motivation that lies at the development of possible L2 selves in the L2 MSS. Thus, the ultimate goal of future research is to understand how the L2 MSS develops in the ecological environment of Japanese youth, experiencing ambivalence about communicating in English. Such knowledge may contribute to cultivating the motivational capacity to generate and maintain a future self-image as an English user.

Notes

1. Information from the early phase of data collection and analysis was presented at the 13th Asia TEFL International Conference, Nanjing, in November 2015.
2. Raw data, which were omitted due to space limitations, are available upon request.

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