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3 The Theoretical Interface between Complex Dynamic Systems Theory and Sociocultural Theory in L2 (De)Motivation Research: A Qualitative Investigation

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Like many other Asian countries, South Korea (hereafter Korea) places great emphasis on English education. Since 1997, English has been taught in elementary school and for 10 years from Grades 3 to 12, students are required to learn English (Kwon, 2000). English is one of the four main subjects in the College Scholastic Ability Test (CSAT), which is administered only once in the second week of November every year. The CSAT score is the most crucial determining factor for university admission. As Seth (2002) states, education is of utmost importance in Korea, and many Koreans tend to judge a person’s potential, intelligence and even the probability of his or her future success based on the name of the university that the person graduated from. Therefore, gaining admission to a prestigious university becomes a great source of family pride, and more than $18 billion a year is spent on private education for the purpose of getting a better score in the CSAT (Statistics Korea, 2014). English accounts for the largest portion of the expenses of private education.

Within this educational context, students’ English-learning (de)motivation has been one of the central themes in second language (L2) research in Korea (Kim, 2013). In the previous era, most research on L2 motivation was significantly influenced by the psychometric tradition (e.g. Gardner, 1985) with only scant attention paid to the social and contextual influence. However, since the turn of the century, we have witnessed the introduction of alternative approaches to L2 learning (Atkinson, 2011), and Complex Dynamic Systems (CDS) theory (Dörnyei et al., 2015) and
sociocultural theory (SCT) (e.g. Kim, 2011; Swain et al., 2015) provide insights to help accurately explain the intricate developmental nature of L2 learning and motivation. The present chapter intends to compare and pinpoint the similarities and differences between these two frameworks by analyzing semi-structured interviews on L2 learning motivation, collected from nine students of English as a foreign language (EFL) in Korea.

Background

From an applied linguistics perspective, L2 learning is characterized by unpredictability, non-linearity and instability. Even a highly motivated student in an EFL class may not show the same level of enthusiasm at a different time and in a different place. Previous research paradigms based on modern Newtonian reductionism (Kim, 2010a; Larsen-Freeman, 2015) did not fully capture this developing, contextualized nature of L2 learning motivation. As a result, the uniqueness found within an L2 learner and among L2 learners was relegated to ‘noise’ or insignificant exceptions, which hampers the regularity of the L2 learning process (de Bot & Larsen-Freeman, 2011).

In this chapter, I take the position that CDS and SCT are viable alternative frameworks that can describe the complexity of L2 learning motivation in ways that prior research has not. However, with only a few notable exceptions (e.g. Kimura, 2014; van Geert, 1998), little attention has been paid to the theoretical compatibility between CDS and SCT to date. Larsen-Freeman and Cameron (2008: 157) have noticed a significant theoretical overlap between CDS and SCT by stating that ‘both try to unify the social and the cognitive, although they do so in different ways, and neither is exclusively a theory of SLA’. Therefore, the unique characteristics of these two theories deserve our attention, starting with CDS and then with SCT.

L2 motivation from the perspective of CDS

According to Dörnyei (2010, 2014), we can identify the non-linear and disproportional nature of L2 motivation in L2 classrooms since the same instruction leads to qualitatively different reactions among L2 learners. Some learners will be motivated, whereas others will not and may even be demotivated. The challenge that each L2 teacher faces on a daily basis is that the effect of their instruction on L2 learners’ motivation is difficult to predict. Additionally, lessons taught with identical educational contents often lead to different learning outcomes, arguing against the cause-and-effect relationship between the instruction and learning assumed in previous L2 motivation literature (Larsen-Freeman & Cameron, 2008).

L2 learning clearly is an example of a complex system. An L2 classroom always consists of heterogeneous agents: students, teachers, friends and
parents, and it constantly affects and is equally affected by internal and external factors. In attempting to gain an understanding of the learning process, CDS provides a useful epistemological lens with which to see through the haze. It does this because CDS fully embraces non-linearity and unpredictability thereby putting these phenomena in its foreground. As Larsen-Freeman (2011: 52) stated, ‘one of complexity theory’s innovations is that in acknowledging the complexity of natural systems, it avoids reductionist solutions’.

CDS views language learning as complex and dynamic systems that are non-linear, self-organizing and emergent (Fusella, 2013). de Bot et al. (2007) and MacIntyre and Legatto (2011) defined two different states in CDS: attractor states (i.e. dynamic systems’ self-organization into preferred states) and repeller states (i.e. the states that will not be preferred). This represents a key concept of CDS, as finding strong attractor states is one of the promising future directions of investigating L2 learning motivation (Dörnyei, 2010, 2014; Hiver, 2015). An attractor state is defined as ‘a region of a system’s state space into which the system tends to move’ (Larsen-Freeman & Cameron, 2008, 50). Attractor states lead to a higher order of equilibrium within dynamic systems. Since the focus of CDS is the reciprocation between variability and stability, the crucial research questions in L2 learning motivation viewed from CDS are: What kind of coaction between the attractor states and repeller states is identified in L2 learning motivation? How do these different states lead to fluctuations in L2 learners’ motivation?

Demotivation should also be counted as one of the central themes of CDS in language learning and has been defined by Dörnyei and Ushioda (2011: 139) as a decrease in motivation originating from ‘specific external forces that reduce or diminish the motivational basis of a behavioral intention or an ongoing action’. As illustrated in Kim’s (2012a) study, Korean EFL students exhibit a consistent decrease in every subcomponent of L2 learning motivation until they reach high school. However, the level of motivation found among high school students did not catch up with the previous higher level of elementary school students’ motivation. Given the EFL context in Korea, where virtually all elementary and secondary school students are required to learn English, it is incredibly useful to analyze the motivational dynamics and diagnose the source of their motivational change through the lens of CDS (Kikuchi, 2015).

Larsen-Freeman and Cameron (2008: 51) presented a visual representation of the trajectory of a complex system focusing on attractors in various phases. As shown in Figure 3.1, if we regard the black ball as the L2 learner’s level of motivation, we can think of two states that project students’ motivational changes. The first type is an attractor state falling into the attractor basin, and the other is a repeller state that diminishes L2 learners’ motivation. The attractor basin, or ‘region in which the
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Figure 3.1 The trajectory of an L2 learner’s motivational level in a complex system

attractor exerts a force on the system’ (Larsen-Freeman & Cameron, 2008: 52), functions as the force increasing the learner’s L2 learning motivation. However, due to a variety of internal or external obstacles to L2 learning motivation, such as the lack of willingness to communicate or negative influence from friends, the attractor state may lose its relative equilibrium, and move toward opposing repeller states. This occurs at the crest of the mount in Figure 3.1. Due to the great number of L2 learning experiences, L2 learning motivation can fluctuate between high levels of motivation (the attractor state of relative stability located in the attractor basin at the base of the mount) and low levels of motivation (or demotivation) at the peak of the mount in Figure 3.1.

It is important to note that different learners show different attractor states influenced by different system (control) parameters, defined as ‘the specific principles, constraints or rules which govern the interactions between system components and the patterns of change that take place’ (Hiver, 2015: 24). For example, some students might experience motivational fluctuations when they realize that a considerable gap exists between their L2 proficiency and that of their close friends in the same classroom. Others may experience motivation fluctuations due to their teachers’ specific teaching method. In the former case, the system parameter is the influence from classmates, whereas in the latter, it is the instructional method. In other words, system parameters are conditionally motivating factors, which are activated differently within each L2 learner. Therefore, when examining students’ L2 learning (de)motivation, the system parameters as well as the attractor and repeller states are crucial concepts in capturing students’ motivational change (Kikuchi, 2015).

L2 motivation from the perspective of SCT

Given that social factors influence individual L2 learners’ creation, maintenance and possible termination of L2 learning motivation, Vygotskian SCT shares a conceptual affinity with CDS. Although SCT has been adopted as one of the major alternative theoretical frameworks in applied linguistics (Atkinson, 2011; Swain et al., 2015), very few L2 motivation studies can be found in SCT literature (e.g. Kim, 2009, 2011).

Previous L2 motivation research based on the SCT framework is often associated with activity theory (AT), which was first initiated by Vygotsky
(1978, 1987) and then further developed by his associate Leont’ev (1978). Activity is defined as a system of purposive behavior, and any activity conducted by participants includes ‘goals, means, the process of molding the object [i.e., long term goal], and the result’ (Davydov, 1999: 39). Previous L2 motivation research from an SCT perspective was centered mostly on clarifying the nature of participation and learner goals in creating motivation (Markova, 1990). Initial motives, defined as drives to fulfill psychological or social needs (Swain et al., 2015), do not have much guiding power to trigger the appropriate motivated L2 behavior unless the motives are put into action, with the support of learner goals and participation in communities of L2 practice (Lave & Wenger, 1991). Therefore, when a motive aligns with a goal and participation, it is transformed into motivation (Kim, 2010a).

This conceptualization may seem similar to Gardner’s (1985) integrative orientation or integrative motive, but it is not. In Gardner’s socio-educational model, integrative motives include both the orientation and also the motivation and intensity toward learning the language (Gardner, 1985). However, SCT-based L2 motivation does not make a conceptual distinction between integrative and other motives. This is relevant because currently in East Asian EFL learning contexts, most students are required to learn English for a variety of utilitarian purposes. Therefore, integrative motives, which reflect ‘a goal to learn a second language because of a favourable interest in the other language community’, (emphasis added) are not frequently found (Gardner, 1985: 54). When motivation does occur, an environment gains new meaning potential and becomes an affordance (van Lier, 2000). The environment ‘provides opportunities and resources for action, and information for what is to be perceived so as to guide action’ (Gibson & Pick, 1986). Affordance means ‘a particular property of the environment that is relevant’ to students (van Lier, 2000). In this regard, an affordance, created when an L2 learner is motivated, portrays the unique interaction between the learner and the environment.

From Kim’s (2010a, 2010b) perspective, motivated learners exhibit two distinctive characteristics: a clear sign of participation and concrete, short-term goal(s). Since L2 learners’ participation may not be actual physical engagement in L2 communities due to peripherality (Lave & Wenger, 1991), the concept of participation needs to incorporate Wenger’s (1998: 178) concept of ‘belonging through imagination’. As Wenger emphasized, imagination is not a collection of ‘personal fantasies’ but a mental enactment of yet-to-be-realized, expanded reality. A short-term goal also needs to be identified among the learners. According to Engeström (1999: 381), ‘goals are attached to specific actions. Actions have clear points of beginning and termination and relatively short half-lives’. Therefore, unless we identify the L2 learner’s specific learning behavior and concrete learning goals through either physical or imagined participation, it is difficult to grasp the learner’s level of motivation.
In CDS, a phase shift from a motivated, attractor state to a demotivated, repeller state is implied, whereas from an SCT/AT perspective (Kim, 2010a, 2010b), as shown in Figure 3.2, demotivation is seen as a gradual process of disintegration from motivation to simple motive, whereby learner goals and participation are all dissociated from motive. In this regard, a demotivated learner may have a motive or an extant drive but does not actually have the willingness to put his or her energy into action due to the lack of goals and participation in L2 communities. Although learner goals and participation are not identifiable with the learners’ L2 learning situations in either school or other proximal communities, demotivation can occur due to the learners’ recognition of disparity between their goals, participation and L2 learning situation. After L2 learners become conscious of this, their motivation, which is corroborated from their active participation in L2-related communities, is gradually dissipated; in this case, motives signify an extant desire to learn the L2, which does not gain full momentum (see Figure 3.2).

**The study**

In this chapter, data obtained from nine Korean students from various public schools are examined in order to clarify the theoretical interface between CDS and SCT in L2 learning motivation using Dörnyei’s (2009) L2 Motivational Self System as a framework of inquiry. To this end, three research questions are proposed:

1. How can we describe Korean EFL learners’ motivational variation by using attractor/repeller states and system parameters in CDS?
2. How can we describe Korean EFL learners’ motivational variation from an SCT perspective?
3. What are the similarities and disparities between CDS and SCT in explaining the learner’s motivational change?

**Method**

**Participants**

A total of nine students (three in elementary school; three in junior high school; and three in high school) participated in this study. The various grades were chosen because it enabled the author to examine the motivation of
students in all 10 years of Korea’s English education (see Table 3.1). In order to highlight the participants’ different motivational characteristics, students of different ages having had either high or low English proficiency were recruited. The students’ English proficiency was determined by in-house test scores and interviews with their English teachers. In this sense, the research utilized a maximum variation sampling (Dörnyei, 2007; Patton, 1990) for the data collection method. This method is particularly useful because it is able to identify and describe ‘central themes or principal outcomes that cut across a great deal of participant or program variation’ (Patton, 1990: 172). An average of 20 minutes was used for the interviews, which were conducted at a time and place convenient to the participants. In order to prevent social desirability, the interviews were conducted by a qualified research assistant enrolled in a PhD program in applied linguistics hired by the author.

### Table 3.1 Participant profile

<table>
<thead>
<tr>
<th>Level</th>
<th>Name (school grade)</th>
<th>Proficiency</th>
<th>Type of English learning motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school</td>
<td>Hyun-Ah (4)</td>
<td>High</td>
<td>Ought-to L2 self</td>
</tr>
<tr>
<td></td>
<td>Yoon (6)</td>
<td>High</td>
<td>Ideal L2 self, instrumentality (promotion)</td>
</tr>
<tr>
<td></td>
<td>Jung-Eun (6)</td>
<td>Low</td>
<td>Ought-to L2 self</td>
</tr>
<tr>
<td>Junior high school</td>
<td>Da-Hyon (7)</td>
<td>High</td>
<td>Ought-to L2 self, instrumentality (prevention)</td>
</tr>
<tr>
<td></td>
<td>Min-Seo (8)</td>
<td>Low</td>
<td>Ought-to L2 self, instrumentality (prevention)</td>
</tr>
<tr>
<td></td>
<td>Sun-Min (9)</td>
<td>Low</td>
<td>Ought-to L2 self, instrumentality (prevention)</td>
</tr>
<tr>
<td>High school</td>
<td>Jin-Ah (10)</td>
<td>High</td>
<td>Ideal L2 self, instrumentality (promotion)</td>
</tr>
<tr>
<td></td>
<td>Yong-Ha (10)</td>
<td>Low</td>
<td>Ought-to L2 self, instrumentality (prevention)</td>
</tr>
<tr>
<td></td>
<td>Kyu-Jin (12)</td>
<td>High</td>
<td>Ideal L2 self, ought-to L2 self</td>
</tr>
</tbody>
</table>

Procedure and method of analysis

After completing piloting in September 2010, semi-structured interview items were modified and used in the main study, which was conducted from November 2010 to January 2011. Guided by Dörnyei’s (2009) conceptualization of L2 Motivational Self System, a total of four major areas were discussed during the interviews: (1) the ideal L2 self (i.e. the representation of the attributes that someone would ideally like to possess), (2) the ought-to L2 self (i.e. the attributes that one believes one ought to
possess), (3) the EFL learning experience in Korea and (4) demotivation. For data analysis, after transcribing the interview data, the computerized files went through a series of NVivo analyses, which significantly enhanced the quality of data analysis by providing systematic coding and sorting of the qualitative data (Richards & Richards, 2002). The coding process was guided by Corbin and Strauss’s (2008) three steps: open, axial and selective codings. After adopting Miles and Huberman’s (1994) cyclical reading of the open coding strips, the prominent and recurring themes were identified, and a conceptual hierarchy was made among them (i.e. axial coding), of which only the most salient findings are presented in this chapter (i.e. selective coding).

Results

Korean EFL students’ motivation from a CDS perspective

The first notable theme identified in the interview data is that of heavy parental involvement, particularly the mothers’ active role in their children’s English learning. It appears that the younger a participant is, the more influential the mother’s role is. In some cases, without knowing the reason as to why their parents want them to learn English, the participants expressed a strong desire to learn English.

Excerpt 1: Hyun-Ah (Grade 4, elementary, high L2 proficiency)

**Interviewer (I)**  Why do your parents say that you should learn English?

**Hyun-Ah (H):** Perhaps, my mom thinks my English is not good enough...

**I:** Then, why do they want you to study English then?

**H:** Um...I don’t know.

**I:** Did your parents influence you to become motivated in studying English?

**H:** Yes. [smile]

**I:** How do they do this?

**H:** ...My mom tells me how important it is to see the world as a global village.

Parental involvement seems to function as a powerful influence on the participants and in many cases, extends its influence to junior high school students.
Excerpt 2: Da-Hyon (Grade 7, junior high, high L2 proficiency)

Da-Hyon (D): My mom says that in my generation, we are expected to meet tons of foreigners when we grow up. So my mom says we need to learn English seriously.

Interviewer (I): Oh, did your mom say that you need to learn English because there will be lots of foreigners in Korea?

D: Yes.

I: Oh, I see. What’s your opinion, Da-Hyon? Do you agree with that?

D: Well. I guess so.

As presented in Excerpts 1 and 2, the participants’ mothers place an emphasis on learning English by providing future, imaginary situations of meeting English-speaking foreigners in Korea. Being influenced by their mother’s persuasion, students become motivated. This resulted in both Hyun-Ah’s and Da-Hyon’s high English proficiency. Parental influence on L2 motivation is often found in English learning contexts in East Asia and has been identified in China (Chen et al., 2005; Magid, 2011), Korea (Kim, 2012b) and Japan and Iran (Taguchi et al., 2009). For example, Chen et al. (2005: 623) emphasized a strong family bond among English learners in China by stating that ‘if they excel in the traditional structures of Chinese society such as filial piety, respect for teachers, and excellence in examinations, they can obtain their dreams’ and ‘individual success in the exams reflects positively not on individuals, but on families and clans’ (Chen et al., 2005: 613). Similar findings are also reported in Kim’s (2012b) qualitative study where parental influence was an important predictor of students’ English proficiency.

However, the mother’s persuasion seems to cease to be an effective motivational attractor when participants pass adolescence. This was first noted in a Grade 6 students’ response (Jung-Eun) and is frequently identified among junior and senior high school participants.

Excerpt 3: Jung-Eun (Grade 6, elementary, low L2 proficiency)

Interviewer (I): Who do you study for?

Jung-Eun (J): My mom always tells me that my English learning is only for me. So, thinking of my mother, I guess it is for my own sake.

I: For your sake? Did your mother say it’s for you?

J: Yes.
Excerpt 4: Sun-Min (Grade 9, junior high, low L2 proficiency)

**Interviewer (I):** Did your interest in learning English change a lot?

**Sun-Min (S):** Well, quite a while ago, I enjoyed it, but all I have now is entirely an obligation to study it. It’s nothing related to my own interest or curiosity.

**I:** You mean you have a sense of duty to study English?

**S:** Right.

**I:** What comes to your mind when your parents say you should study English hard?

**S:** Well...If they insist, I must do it. ...But that’s not what I want to do.

In both Jung-Eun’s and Sun-Min’s statements, we can see the separation of the self from the parents. In Excerpt 3, Jung-Eun shows a typical case of an ought-to L2 self, which originates from parental aspiration. She is aware that her mother instills the need of learning English, but this does not seem to be her wish per se. Sun-Min in Excerpt 4 reports the increasing gap between her own desire to learn English and the psychological pressure to learn English coming from her parents.

In summarizing the above excerpts, parental persuasion to learn English appears to have a powerful influence on Korean EFL students motivation or maintaining high levels of motivation at the initial stage of English learning (Grades 3 and 4). The gentle nudge (or the not so gentle nudge at times) from parents seems particularly effective when the participants are relatively young, particularly when they are susceptible to significant others’ opinions (Nicholas et al., 2013). Nonetheless, for the pre-teenage participants, this previously efficacious attractor gradually ceases to be perceived as useful. Excerpts 3 and 4 give evidence that the learners’ motivational state has settled into a demotivated state which is characterized by a feeling of duty toward their parents, but not an intrinsic interest in learning English. In other words, the demotivation observed in these excerpts suggests that the learners’ initial attractor state is transformed into a repeller state once they feel that their parents’ suggestions are no longer efficacious. In this case, the learners’ cognitive maturity in gauging the effectiveness of parental suggestions functions as a system parameter.

In contrast to the maternal influence, it is noteworthy that the fathers’ intervention continues to exert a powerful influence on participants and brings them to motivated attractor states. This is exemplified in Excerpt 5, where Yoon elaborates on his ideal L2 self and English learning motivation in conjunction with his father’s active involvement in English learning.
Excerpt 5: Yoon (Grade 6, elementary school, high L2 proficiency)

Interviewer (I): Well, Yoon, who was the most influential person for your English learning?

Yoon (Y): My dad. He tries to teach me a lot of English. He explains difficult English grammar rules.

I: Oh, I see. Then what do you want to become in the future?

Y: A veterinarian.

I: Veterinarian? How is it related to English learning?

Y: Well, there are 8 major departments of veterinary medicine in South Korea. Above all, English is the common language among the people in this field. So, it would be good to learn English. Also, who knows? I may want to become a greater man than a vet. I don't just want to become a vet in my village in Korea. For this future necessity, I'm learning English.

Note that among all participants, Yoon provided the most detailed ideal L2 self. His pinpointing the exact number of veterinarian schools across Korea and elaborating on the relationship between becoming a vet and learning English indicate that Yoon internalized the need to learn English in order to fulfill his dream job in the future. In the Korean context, wherein the Confucian patriarchal family system still remains (cf. Seth, 2002), in many cases, the father is responsible for family support, and his detailed suggestions reflecting his life experience can uphold a student's English learning motivation. Excerpt 6 illustrates more on the paternal intervention as a powerful attractor.

Excerpt 6: Jin-Ah (Grade 10, high school, high L2 proficiency)

Interviewer (I): Why do you think they [Jin-Ah’s parents] encourage you to study English?

Jin-Ah (J): My dad tells me that it would be really tough if I cannot speak English well. And I also would like to learn it...

I: Why does your father keep telling you that?

J: The English test score will be required when I apply for a job at a company or for a government officer position. So, I think my dad emphasizes studying English.
Another major attractor found in students’ interview data was the social pressure to learn English. This attractor was particularly salient for high school students’ interview data. Often associated with globalization (Kubota & McKay, 2009) or international posture (Yashima, 2009), the necessity to learn English is reiterated in the Korean mass media and pressure is felt by Korean EFL students, as shown in Excerpts 7 and 8.

**Excerpt 7:** Kyu-Jin (Grade 12, high school, high L2 proficiency)

**Interviewer (I):** There are many different views on learning English. Some students think it is important, while others don’t think it is important at all. Do you think that learning English is important, Kyu-Jin?

**Kyu-Jin (J):** Yes. I admit that it is important. Since we are living in the era of globalization, English plays a key role these days and without any question, English is a must.

**I:** You ‘admit’ that it’s important? What do you mean? Does that mean you don’t actually study it? Why do you think we must learn English?

**K:** It’s because everyone does it. Also, in our daily life, English will be used. So, it is important to learn English and we have to learn it.

**Excerpt 8:** Yong-Ha (Grade 10, high school, low L2 proficiency)

**Interviewer (I):** Then why do you think you should study English?

**Yong-Ha (Y):** It’s on TV. You know, we can hear the importance of learning English from TV. To keep up with the global era, we have to learn it.

From the above excerpts, we may draw the conclusion that for Korean EFL students, two major attractors are prominent: parental (particularly paternal) involvement and social pressure. Both of them are closely connected to the practical need to learn English as a global language.

In some cases, however, the participants did not exhibit much motivational effort even though they perceived parental involvement or social pressure. It indited that if the parents’ suggestions are not detailed enough and are perceived only as habitual nit-picking, they quickly become wasted and stop functioning as attractors. In such cases, the students did not show motivated behavior.
Excerpt 9: Min-Seo (Grade 8, junior high school, low L2 proficiency)

**Interviewer (I):** Min-Seo, in your opinion, why do we need to learn English?

**Min-Seo (M):** In the future, I must speak in English to strangers... So, in order to converse with foreigners.

**I:** Have you ever had an experience of talking to foreigners in English?

**M:** No.

**I:** Then who told you about this? I mean talking to foreigners.

**M:** My mom.

**I:** I see. How do you feel when your mom tells you to study English?

**M:** whew...[sigh]

**I:** Not that good? What does your mom say to you for your English study?

**M:** She does not teach me much. She just says, ‘Do your homework first and memorize everything!’

**I:** When you hear what she says, how do you feel?

**M:** I get upset.

**I:** Why?

**M:** Sitting back, she does nothing. She simply says, memorize everything without giving me any advice or tips about memorizing the word.

Min-Seo, in Excerpt 9, clearly conveys that parental involvement *per se* may not be an effective attractor unless this is elaborated on and calibrated to each child’s circumstance. Parental intervention may not be efficacious and may stop functioning as a powerful attractor once it is perceived as habitual by the learners. This may be because the children start to view the negative parental remarks as criticizing their learning behavior or as vague reminders of their parents’ nervousness of their child lagging behind other children in terms of English proficiency. The situation reported in Excerpt 9 may not be limited to English learning but can be equally applied to most situations in school learning and parental involvement in it.

The above findings provide supporting evidence that two major attractors play a key role among Korean EFL learners: parental involvement (Excerpts 1 through 6) and social pressure (Excerpts 7 and 8). These attractors have already been identified as important factors in students’
school achievement and motivation. For example, an authoritative parenting style, when mediated by close parent–child relationships, functions as a key determinant of students’ school performance (Chao, 2001). Also, strong social pressure to learn English is reported to be the main motivational factor for students in Korea (Kim, 2012a), China (Magid, 2011) and Japan (Tsuda & Lafaye, 2005). They function as strong attractors and thereby make noticeable changes in motivated behavior. As shown in Excerpts 1 and 2, the mother’s learning suggestion, be it elaborate or vague, seems to function as an attractor. On the other hand, in Excerpts 3 and 4, as participants enter their adolescent years, they develop sensitivity toward the self and others and start to recognize themselves objectively. In this case, the attractor of maternal influence loses its strength and another attractor having more energy is anticipated ‘to make the system move on to another attractor state’ (de Bot et al., 2007: 8). In this sense, the students’ level of appreciation of their parents’ advice seems to function as a strong system parameter regulating students’ motivational thinking and behavior.

Excerpt 9 demonstrates that parental influence may need to be finely tuned and specific enough to provide educational guidance to the agent in the complexity system. This excerpt provides evidence that a vague and inaccurate suggestion from parents ceases to affect the system and is no longer perceived useful, and from then on, motivation declines. Note that Excerpts 5 and 6 illustrate that paternal, not maternal, influence can function as a powerful attractor. This indicates that suggestions reflecting life experience and sensitivity for the child’s needs enhances motivation and keeps the learner in the attractor basin. Taking the role of a tutor, Yoon’s father in Excerpt 5, for example, attempts to instruct Yoon and gives a detailed grammatical explanation. This is different from Min-Seo’s adversity in Excerpt 9.1

As stated earlier, in a dynamic system, demotivation is the repeller state at the pinnacle of the mount metaphorically (see Figure 3.1). This does not mean, however, that the phenomenon of demotivation is fixed and precludes any possibility of future change. When another attractor having sufficient energy is perceived as being efficacious, remotivation occurs and the system experiences a phase shift and ushers into a new motivational, attractor state. Because such patterns of attractor state cannot be predicted and present irregularity, this is a strange or chaotic attractor state (Hiver, 2015).

Korean EFL students’ motivation from an SCT perspective

From an SCT perspective, particularly from an AT framework (Kim, 2010a; Leont’ev, 1978), the mediational process between the learner and society is the key factor in L2 learner motivation. Reinterpreting Dörnyei’s (2009) L2 Motivational Self System from an SCT perspective, Kim (2010b) has explicated the relationship between the ought-to L2 self and the ideal L2
self. As shown in Figure 3.2, when a learner’s L2 learning motive is integrated with a specific goal and sense of participation, the initial motive or drive is transformed into motivation. As mentioned earlier, motives do not have much regulating power in initiating an enhanced level of learning behavior unless a specific learning goal is associated and participation in either physical or imagined communities of L2 practice is identified. Learners having an ought-to L2 self may express varying degrees of motives, not motivation, where close association with goals and participation is not identified because this type of L2 self is ‘a representation of someone else’s sense of duty, obligation, or responsibility’ (Dörnyei & Ushioda, 2009: 4). Because learners with the ought-to L2 self do not initially set personally meaningful goals (Kim, 2009, 2012b), their learning context remains as an objective environment and not an affordance, which does not gain personal significance. Contrary to this, learners who have a strong ideal L2 self (i.e. ‘a representation of personal hope, aspirations or wishes’, Dörnyei & Ushioda, 2009: 4) have specific learning goals and actively participate in actual or imagined L2 communities of practice (Kim, 2009, 2010b). For them, a community (or environment in general) gains personal meaning and starts to function as an affordance (van Lier, 2000). Regarding this, Kozulin’s (1995) meaning/sense distinction is illuminating:

*Meaning* preserves the core of the object’s already established characteristics. These characteristics, however, may have marginal importance in a particular situation in which the given object becomes involved in individual thinking. In *sense* the object is becoming defined by its contextual meanings, but it does not yet exist as an entity of its own apart from its context. (Kozulin, 1995: 125, italics in original)

From Kozulin’s (1995) viewpoint, Yoon (Excerpt 5) exhibited an internalized ideal L2 self, where he clearly states the number of veterinary schools in Korea with his father’s active intervention playing a key role in creating his future images. This suggests that Yoon’s father assisted him in formulating manageable learning goals and participating in imaginary professional communities of L2 practice (i.e. school of veterinary medicine). With his father’s active participation, Yoon could attach personal meaning (i.e. to become a veterinarian and eventually a great man) to English learning. In this regard, he made ‘sense’, not meaning, of learning English.

Contrary to Yoon, Sun-Min (Excerpt 4) showed only an ought-to L2 self estranged from her aspired future self-image. The interview data show that she was the only daughter of the family, and her parents’ high expectations seemed to provide her with the strong pressure to study English. In Excerpt 4, Sun-Min finds very little personal meaning, or sense in Kozulin’s (1995) view, in her learning, and what she does for her English was to acquiesce to other people around her in order to keep up with their expectations. However, the data does not reveal her acceptance of the necessity of learning
English. This indicates that despite the fact that Sun-Min’s parents put an emphasis on English learning, she expressed neither personalized learning goals nor enthusiasm for participating in L2 communities. In sum, Yoon’s recognition of L2 learning was sense and related to an ideal L2 self, whereas Sun-Min’s was limited mostly to meaning and to an ought-to L2 self.

In Excerpt 9, Min-Seo’s case only indicates a superficial parental involvement. Her mother does not (and possibly cannot) provide short-term goals for her study nor is she actively involved in Min-Seo’s English learning. In this case, Min-Seo may still have a vague motive to learn English; however, this motive is not effectively attached to the learning goals and a sense of participation. As a result, it could not be transformed into motivation (see Figure 3.2). Because Min-Seo’s motive to learn English is not linked to concrete learning goals, she could not make meaningful connections between English learning and her future dream job, an important feature of the ideal L2 self.

**Excerpt 10:** Min-Seo (Grade 8, junior high school, low L2 proficiency)

**Interviewer (I):** What do you want to become when you grow up?

**Min-Seo (M):** Well, just a teacher, something like that. I don’t know yet.

**I:** What kind of subject do you want to teach when you become a teacher?

**M:** I don’t know that either.

**I:** Then how do you see the relationship between your future career and English learning?

**M:** [2 seconds later] Well, there should be some [relationship], well...there must be...I don’t know...

What she expressed is not related to English learning, and her future dream of becoming a teacher is dissociated from the ideal L2 self accordingly. In Excerpt 9, Min-Seo did not indicate specific learning goals or the desire to participate in either physical or imaginary L2 communities; the disparity between her future job and English learning is illustrated in Excerpt 10. This implies that Min-Seo’s English learning is related to an ought-to L2 self, but not to an ideal L2 self. Also, from an SCT perspective, Min-Seo expressed an externally mandated motive not a personally meaningful motivation to learn English.

**The interface between CDS and SCT**

Prominent attractors are identified and patternized into two factors in examining the comments of the learner: parental involvement and social pressure to learn English. In some cases such as Yoon in Excerpt 5, parental
involvement functions as a very strong attractor and thus L2 learners become motivated, whereas other parental efforts, as shown in Min-Seo in Excerpt 9, may yield no visible positive motivational enhancement when its value was not acknowledged by the learners themselves. The situation is the same in the case of social pressure perceived by each participant.

SCT and AT can also provide a useful lens for grasping the idiosyncratic nature of L2 learning motivation. In this chapter, an expanded conceptualization of motivation, initiated by Leont’ev (1978), was used. If the learner sees the merit of their parents’ suggestion, appreciates and connects it to his or her future self, the objective environment is differentially perceived and gains a higher level of meaningful affordance (van Lier, 2000). In this case, the learners have a better chance of creating an ideal L2 self rather than an ought-to L2 self, as previously reported by Kim (2009, 2010b). If the learner does not see the interrelatedness of parental involvement or the social discourse of learning English with his or her EFL learning, the parental or social demand for learning English does not play a role in integrating the learners’ initial motive with specific learning goals and a sense of participation, thus failing to create motivation and to enact motivated behavior. In such a case, only the superficial motives, usually initiated by others, remain (as shown in Excerpt 10), and a disparity is found between the learners’ future career choice and the meaning of English learning.

In this chapter, attractors and system parameters, both of which result in different attractor/repeller states, are introduced to CDS for the purpose of finding a clearer explanation for the varying degrees of EFL learning motivation in Korea through a CDS framework. Additionally, the concept of meaning and sense and the motive–motivation distinction together with the goal and actual or imagined participation are adopted under the realm of SCT.

Based upon these findings, there exists a considerable interface between CDS and SCT. Many L2 motivation-related phenomena have been explained by either of these frameworks. For example, from the perspective of CDS, the positive influence of students’ parental involvement was explained by the concept of attractor and system parameter. Whereas SCT illustrates how similar events are the instance of development from motive to motivation wherein an external context acquires personal meaning and thus is transformed into an affordance or meaningful environment (van Lier, 2000, 2004).

Despite such noticeable affinity, the complementary conceptual distribution between these two theories lies in the emphasis on learner agency, which Ahearn (2001: 112) defines as a ‘socioculturally mediated capacity to act’. Within SCT literature, various aspects of learner agency have been reported by Gillette (1994) for learner motive, by Norton (2001)
for imagined L2 communities and by Pavlenko and Lantolf (2000) for L2 writers’ autobiographic narratives. In this chapter, parental involvement and the social discourse of English learning are subject to each individual learner’s judgement. Each learner has his or her own unique learning history and the accumulation of such ontogenetic history widens the individual uniqueness as life progresses. The subject or agent has long been the prime focus of SCT and the basic concern is how each human being perceives the mediational tool and succeeds in attaining the object or ultimate goal (Miettinen, 2005). Agency is a significant part of a person’s disposition. It is both historically and socially constructed, starting in childhood and continuing throughout our lives, and influences our actions and reactions (Lantolf & Pavlenko, 2001). In the case of L2 learning motivation, the learners’ initial motives are transformed into motivation upon the successful integration of short-term goals and participation in either physical or imaginary L2 communities. In this way, the learners’ agency has the potential to recognize an environment as a meaningful affordance, where the difference between meaning and sense (Kozulin, 1995) lies.

In CDS, however, although agency is also an important topic, it is not more important than other elements in the system, and the discussion about the role of agency in the CDS framework is still in its incipient stage (Al-Hoorie, 2015). In the excerpts presented, we can identify multiple attractors and system parameters, and can also grasp the holistic picture of L2 learning motivation that yields to idiosyncratic trajectories in L2 motivational change. This is often represented as demotivational or remotivational processes, indicating repeller states and attractor states, respectively. In these conceptualizations, a learner’s agency, or the capacity ‘of exercising free will by choosing how to behave’ (Al-Hoorie, 2015: 56) does not seem to be the main focus of investigation. Instead, the dynamism of the complex system is the major concern. In this vein, Larsen-Freeman and Cameron (2008) acknowledge that some critics of CDS ‘have pointed out that self-organization [of a system] may not be inevitable in human processes due to agency and volition’ (Al-Hoorie, 2015: 58). This issue of agency in CDS deserves more academic refinement in the future.

Overall, both CDS and SCT share significant similarities in that they are high-abstraction analytical frameworks and require retrodictive explanations of an individual learner’s L2 learning (de)motivation. However, CDS seems to pay equal attention to both learners and their environment, and how such dynamics create unique system parameters that influence attractor and repeller states. SCT, conversely, places more emphasis on an individual L2 learner’s agency. External, social factors are related to each learner’s agency, and this provides a useful research tool for investigating the unique process from meaning to sense. Therefore, these two frameworks are not in opposing positions, but instead have their strengths in different areas and thus warrant complementary co-habitation.
Summary

As Ushioda and Dörnyei (2012: 398) stated, most previous L2 motivation research that is based on linear quantitative models ‘have not taken adequate account of the dynamic and situated complexity of the learning process or the multiple goals and agendas shaping learner behavior’. In this chapter, I have attempted to highlight the prominent features found among nine Korean EFL learners from the perspective of CDS and SCT.

The findings of the research in this chapter are summarized as follows. From a CDS perspective, Korean EFL learners’ motivational changes are affected by two major attractors: parental involvement and social pressure. Participants’ perception and appreciation of these factors resulted in unique phase shifts for each participant. From an SCT perspective, the same set of data is coherently explained by the concepts of motive and motivation (Kim, 2010a; Leont’ev, 1978). When the participants’ short-term learning goal(s) and sense of participation are linked with their initial motive, agentic learners begin to perceive the external learning environment as a useful affordance, and objective meaning is transformed into sense (Kozulin, 1995).

In this chapter, it is thus argued that CDS and SCT highlight different aspects in L2 learning (de)motivation and thus are in complementary distribution.

Note

(1) Of course, we cannot deny the possibility that in a traditionally paternalistic society like Korea, the father’s presence _per se_ may have exerted a subtle influence on students’ English-learning motivation. This needs to be investigated further in a different study.

References


