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## The Dynamics of the L2 Motivational Self System among Saudi Study Abroad Students

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The Dynamics of the L2 Motivational Self System among Saudi Study Abroad Students

by

Fahad Alharbi

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
Second Language Acquisition & Instructional Technology  
College of Arts & Sciences  
and  
College of Education  
University of South Florida

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## **DEDICATION**

To my mother and the soul of my father

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## **ABSTRACT**

Adult second language acquisition takes time over an extended period of time during which the L2 motivation of learners goes through periods of ups and downs. Dörnyei, MacIntyre and Henry (2015) recognized the inherently dynamic nature of L2 motivation and called for adopting the Complex Dynamic System Theory (CDST) when studying this phenomenon. While using a CDST perspective, this mixed method study drew on Dörnyei's (2009b) model of the Motivational Self System to examine the L2 motivation of 86 Saudi study-abroad students. Also, the construct of the Anti-ought to Self (Thompson, 2015) and aspects of the Appraisal Theory (Schumann, 2001) were adopted to guide this examination. The results of the study showed that the L2 motivation of the participants fell into four main motivational patterns. Also, some of the participants shifted into new attractor states over the course of their academic semester. Another important finding was that the Anti-ought to Self appeared as an important construct. The results of the standard multiple regressions showed that the amount of the variance in the Intended Learning Effort that was accounted for by the Anti-ought to Self alone exceeded the amount of the variance accounted for by the other explanatory variables put together. Also, the analysis of the quantitative and qualitative data showed that the use of the Appraisal Theory improved the construct validity of the Learning Experiences. The implications of these findings and future directions of the L2 motivational research were also discussed in the study.

## **CHAPTER ONE:**

### **INTRODUCTION**

Adult second language development is a process that requires the investment of cognitive and time resources for an extended period of time. This process involves a complicated system of interconnected psychological and affective factors such as learners' aptitude, beliefs, attitudes, and L2 anxiety, among others. Moreover, to the dismay of eager language learners, achieving the ultimate desired outcomes of learning may take months or even years. This extended period of time may wear out the determination and enthusiasm of adult L2 learners. However, consistently motivated language learners are likely to overcome these challenges and maintain a high level of performance in the language class and high achievement in language tests. This sustained performance will eventually lead to substantial linguistic gains.

Linguistic gains and high L2 proficiency scores are associated with a number of factors. Motivation is considered one of the strongest predictors of success in second language learning (Dörnyei & Ryan, 2015). Highly motivated learners tend to have higher achievements than learners with low motivation. This association between motivation and success in L2 learning is not only in line with common sense but it is also supported by SLA empirical research (Dörnyei, 2005). From an early stage in the history of SLA, researchers were interested in uncovering the relationship between motivational profiles and the variability in the achievements of L2 learners. Gardner (1985) proposed the socioeducational model of second language learning to guide the scholarly investigation of L2 motivation.

Gardner's model assigns critical significance to the integrative goals of second language learners (e.g. the aspirations of some L2 learners of French to become legitimate members in the French-speaking community in Canada). However, the integrative goals are not clearly present in many language learning contexts, especially in the context of English as a Foreign Language (EFL) where many learners do not associate English with a specific social group. In an attempt to propose a model that can be applied to a wide range of language learning contexts, Dörnyei (2005) offered an alternative model of L2 motivation, that is, the L2 Motivational Self System (henceforth L2MSS). This model conceptualizes L2 motivation as system that comprises three components: the Ideal Self, the Ought to Self, and the Learning Experience (some elaboration will be provided below). Unlike Gardner's model that has an orientation towards a well-defined L2 community, the L2MSS has an internal orientation that focuses on the future self guides and the present and situated Learning Experiences.

The investigation of the situated Learning Experiences, as a component of the L2MSS model, highlighted the fluctuations of short-term motivation (Dörnyei & Ryan, 2015). Also, recognizing the dynamic nature of L2 motivation, Dörnyei (2009b) argued that the Complex Dynamic System Theory (henceforth CDST) provides a valid theoretical framework that accounts for the fluctuation and complexity of the L2 motivation. The new proposed theoretical framework (i.e. CDST) refers to:

a theory that seeks to explain complex systems in which variables interact with each other and the system continually changes. Weather and traffic patterns are examples of dynamic systems. Such models have begun to be applied to SLA, in recognition to the fact that language learning shows some of the core characteristics of dynamic

systems, including interconnectedness of subsystems (e.g. both social and cognitive), development over time, and variation. (Richards & Schmidt, 2013, p. 186)

In attempt to offer a deeper understanding of dynamic nature of the L2 motivation and how the components of this system interact with one another, the present study utilized the tools provided by the CDST to observe the changes in L2 motivation that take place during one academic semester. The study drew on the CDST approach because the L2 motivation, as argued by Dörnyei, MacIntyre and Henry, (2015), is inherently complex and dynamic.

### **Purpose of Study**

The present study had two main purposes: (a) developing a deeper understanding of the dynamics of L2 motivation and interactions that happens around the system through detailed investigation of the components of L2 motivation; (b) examining what Appraisal Theory (Schumann, 2001) has to offer to the study of the Learning Experiences within the L2MSS model. Achieving these two purposes contributed to the scholarly study of L2 motivation and helped the researcher develop a clear picture of the dynamics of L2 motivation. Also, the present study attempted to uncover the underlying interactions between the L2 motivation and the contextual elements e.g. the classroom environment. Typically, these interactions generate different motivational patterns that influence language learning in or out of classroom environment.

To serve this purpose, the current study adopted the CDST approach as a meta-theory to examine the L2 motivation of study-abroad learners of English. What motivated the adoption of CDST as an overarching theoretical framework was that this theory offered a collection of tools

and metaphors that matched the nature of L2 motivation. Dörnyei, MacIntyre and Henry, (2015) argued that CDST provides excellent conceptual and methodological tools for studying L2 motivation because the phenomenon of L2 motivation seems to lend itself easily to this framework. This argument came as no surprise as it was empirically established that motivation was not a static construct; rather it was a dynamic construct that fluctuates depending on personal and contextual factors.

In addition to the overarching conceptual framework of the CDST, Dörnyei's (2005) L2MSS model was adopted for the conceptualizing the L2 motivation. The selection of the L2MSS model was motivated by the fact that it was validated by SLA researchers in several empirical studies (Csizér & Kormos, 2009; Ryan, 2009; Taguchi, Magid & Papi, 2009; Lamb, 2012). In addition, the L2MSS model is compatible with the CDST assumptions since it combines aspect of the self, the social context and the situated learning experiences. Tools for investigating the components of the L2MSS have been empirically validated, as well.

The Appraisal Theory (Scherer, 1999; Schumann, 1997) also provided theoretical guidance for the current study. It was included specifically to facilitate the examination of the Learning Experiences of the learners and understand their contribution to the overall motivation. Unlike the Ideal Self and the Ought-to Self, the Learning Experiences remained an elusive construct, and when compared to the preceding two components of the L2 motivation, it becomes clear that this construct has not received equal attention. The current study incorporates Appraisal Theory to explore how learners make sense of their Learning Experiences and how these experiences contribute to the ebbs and flows of the L2 motivation.

Dörnyei's (2009b) theory of L2MSS recognizes the complexity and dynamic nature of the L2 motivation (Dörnyei, MacIntyre & Henry, 2015). Similarly, Appraisal Theory



acknowledges the complex relationships between language learners and the social circles in which they participate. The L2MSS theory and Appraisal theory both honor the basic principles of CDST, including the complexity of the system of L2 motivation, the interconnectedness of its components and that it shapes and is shaped by the Learning Experiences of language learners.

## **Research Questions**

This study was conducted to examine the changes that took place in L2 motivation over the course of one academic semester, and the interactions between L2 motivations and its constituent subsystems. The current study was motivated by the following main questions:

1. What is the trajectory of L2 motivation of the participants?

In particular, this study is interested in the answering following sub-questions:

- a. What are the homogenous groups that can be identified among participants at the beginning of the semester?
  - b. What are the motivational characteristics of these groups at the beginning of the semester? In other words, what are the motivational (attractor) states of the homogenous groups at the beginning of the semester?
  - c. Are there instances of phase shifts in the observed trajectories of L2 motivation between time 1 (the beginning of the semester) and time 2 (the end of the semester)?
2. To what extent are the subsystems of the L2 Motivational Self System (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences) associated with the Intended Learning Effort?

In particular, the following sub-questions are covered by the second main question:

- a. What is the relationship between the following independent variables:
    - The Ideal Self
    - The Ought-to Self
    - The Anti-ought-to Self
    - The Learning Experiences as operationalized by Appraisal Theory (Schumann, 2001)?
  - b. How much of the variance in the Intended Learning Effort can be explained by the independent variables (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences)?
3. How would the interviewed participants describe their L2 motivational system?
    - a. Do they describe their L2 motivation in a way comparable to the L2MSS conceptualization of motivation?
    - b. Does their description reflect an awareness of the CDST assumptions of dynamism and openness of L2 motivation?

The first and the second research questions were answered using primarily quantitative methodology. Several statistical procedures were employed to analyze the questionnaire data that were collected from the participants. The third question, however, was answered mainly by using qualitative methods. This being said, all questions equally benefited from qualitative and quantitative data and analyses. The general trends that were detected through statistical analyses informed the protocol of the interviews and the analysis of the qualitative data. Also, insights gleaned from qualitative data guided the interpretation and discussion of the quantitative data.

## **Significance of the Study**

The main goal of this study was to examine L2 motivation from a CDST perspective by using theoretical frameworks and methodologies that honor the complexity of L2 motivation. Achieving this goal required the identification of the patterns of L2 motivation among the participants and the detection of the changes in their motivation. By achieving these goals, this study had significant contributions to the scholarly research of L2 motivation. The following sections presents an overview of the intended contributions to the theory and methodologies of L2 motivational research. The overview also includes a discussion of the contributions of this study to the SLA empirical research and language pedagogy.

The theoretical significance of this study stems from its utilization of CDST as the main approach to this investigation of L2 motivation. CDST has promising contributions to SLA; yet very few L2 motivation studies have used this new approach to guide the stages of planning, data collection, analysis, and discussion. Csizér and Lukacs (2010) conducted multiple comparisons between Hungarian high school students who had English as their L2 and German as their L3 and those who studied the same two languages but in a reverse order. The CDST approach was only used in the discussion part to explain some of the complexities of multilingual motivation. Dörnyei, MacIntyre and Henry (2015) noted the scarcity of empirical studies that utilizes the CDST approach and indicated that most of the studies that claim the use of the CDST only use this approach to explain the complexity of their results. This study, however, drew on the CDST approach in all of the stages, including the development of the main research questions, the collection and analysis of the data, and the discussion of the results. This study contributed to a body of research that aims at empirically examining to what extent CDST represents a valid theory for researching the dynamics of L2 motivation. The current study assumes that CDST is a

flexible meta-theoretical approach and that it is capable of accommodating a wide range of SLA theories, including the L2MSS and Appraisal theory.

As for the methodological significance, this study did not propose a new instrument of data collection, nor did it introduce a new method of data processing and analysis. However, it offered novel uses of existing statistical procedures. Cluster analysis was used as a tool for identifying homogeneous groups and shared attractor states. This analytical tool was listed as one of the statistical tools that can be used in CDST research (MacIntyre, Dörnyei & Henry, 2015, p. 426). What makes cluster analysis one of the ideal methods in CDST research is that it simplifies the data to a practical point while preserving some of its complexity and variability. However, there is no a proliferation of research studies that shows how this method can be utilized in the CDST research. The current study comes to serve the goal of contributing to this type of research and providing practical examples of how L2 motivation can be analyzed using cluster analysis.

In addition, little was known about the dynamics of L2 motivation and the nature of the interactions between its components. It was not yet clear how much variability was exhibited by this construct over the course of one academic semester. Assuming that this system was open for the influence of contextual factors, it was also not clear what were the most influencing environmental factors. The current study derived its empirical significance from the fact that it was intended to contribute to scholarly body of knowledge by identifying the variability range of L2 motivation, and the contextual influences that permeates into this open system.

Before explaining the pedagogical significance of this study, it should be noted that using a CDST approach entails the assumption that the examined system exhibits several CDST features, such as the nonlinearity and the sensitivity to the initial conditions (Larsen-Freeman & Cameron, 2008). The current study, by establishing the complexity of L2 motivation, aimed at

informing the practices of language teachers. Language teachers are alerted that classroom incidents at the beginning of the academic semester may have major consequences on students' L2 motivation along the way, even if they seem negligible, and this is due to the sensitivity of the complex systems to initial conditions. Similarly, due to the nonlinearity of complex systems, insignificant classroom incidents could have major repercussions several weeks down the road on some learners' motivation while that of other learners might go unaffected by these incidents. Language teachers who understand the complexity of L2 motivation are in a better position since they are likely to act in accordance with the observed behaviors of this system.

By addressing the significance of the study and specific research questions that guide this scholarly investigation, the first chapter is concluded. An examination of the literature is warranted in the next chapter in order to position this study within the related scholarly research and highlight the gap that it strives to bridge.

## **CHAPTER TWO:**

### **LITERATURE REVIEW**

In the research literature on L2 motivation, there is a general consensus with regard to the strong relationship between the variability in L2 motivation and the variability in the success in L2 learning. However, within this literature there is no agreement as to what the antecedents of the motivated learning efforts are, or what the defining constituents of L2 motivation are. The socioeducational model of motivation (Gardner, 1985) dominated the research of L2 motivation during the early years of SLA history (see Figure 1). This model is commonly known as the integrative model of motivation, and is built on three constructs:

1. Attitudes toward the L2 community: They refer the desire to communicate with L2 native speakers, the desire to be integrated into a social group associated with the target language, and the interest in language learning in general.
2. Attitudes toward the Learning Experiences: They have to do with the effect of critical learning incidents, achievements, and the immediate Learning Experiences on L2 motivation.
3. Attitudes toward learning: They refer to the intended learning efforts and intensity of the desire to learn.

Gardner's (1985) model was very useful; it facilitated the development of SLA research on motivation and guided empirical L2 research for some time. It was noticed, however, that the scope of this model was narrow. This framework seems to perfectly meet the requirements of the Canadian context where it was developed (Dörnyei, 2009b). As for other contexts, including the

contexts of EFL or EAP (English for Academic Purposes), it seems that the integrative model has little relevance (Yashima, 2000). For this reason, there was a constant search for an alternative theoretical conceptualization of L2 motivation.

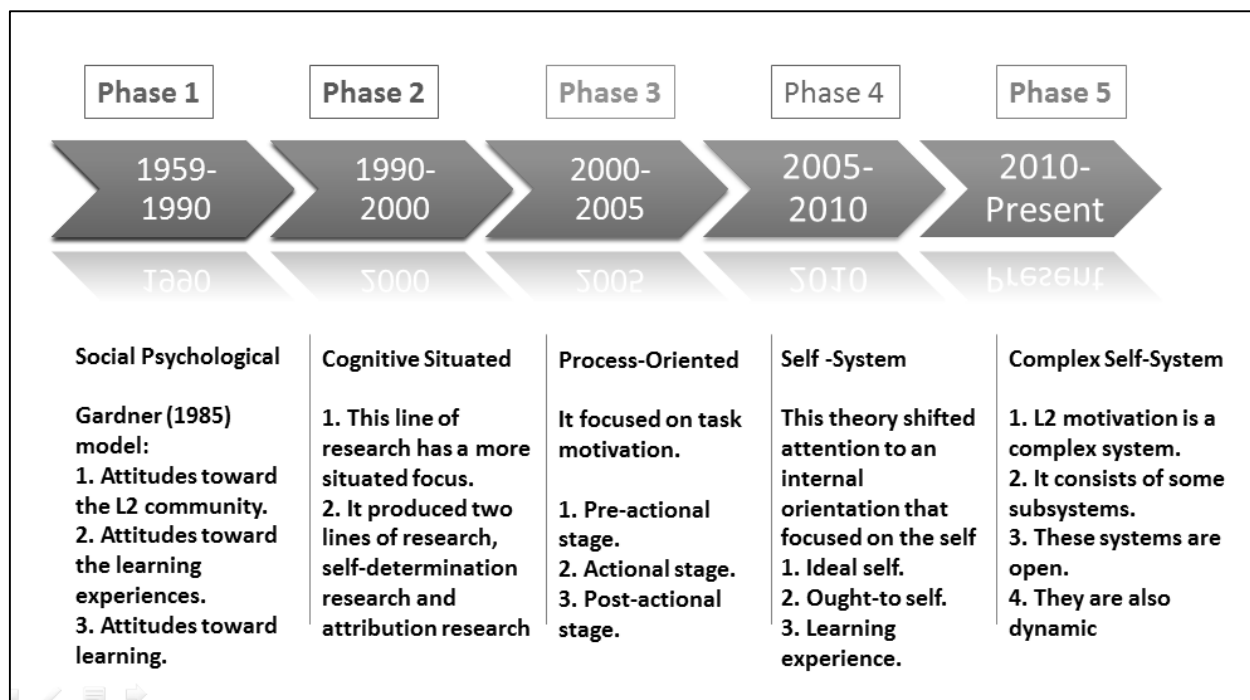


Figure 1. Phases of L2 motivational research

In addition to the need for a framework with a wider scope, there was a need for a conceptual framework that honors the complexity of L2 motivation and leads to a better understanding of the interplay between motivation and language learning. Several approaches were proposed, including the cognitive-situated approaches and process-oriented approaches (see Figure 1). However, none of these approaches gained great momentum like the L2MSS model. Dörnyei (2005) proposed the L2 Motivational Self System (L2MSS). This model builds on the developments in the neighboring field of psychology, especially the theory of future selves that

was developed by Markus and Nurius (1986) and the Self-Discrepancy Theory that suggests that the learning gains are greatly enhanced when individuals attempt to minimize the discrepancy between their actual selves and desired future selves, or maximize the discrepancy between their actual selves and their feared future selves. The L2MSS, like the theory of future selves (Markus & Nurius, 1986), shifts the attention from an external orientation that is associated with the L2 community to an internal orientation that revolves around the self (Dörnyei, 2009b). Dörnyei's L2MSS model includes three latent constructs that show how the self and the individualized Learning Experiences come to boost or inhibit the motivated efforts toward language learning. Dörnyei (2005, 2009b) identified the following three latent constructs of L2 motivation:

1. The Ideal Self : This construct refers to the future aspirations of L2 learners and the linguistic characteristics that are visualized in their future states. These aspirations are developed by the learners themselves.
2. The Ought-to Self : Like the Ideal Self, the Ought to Self refers to visualized future selves. However, it differs from the Ideal Self in that the development of future Ought to Selves are heavily affected by influential social figures and groups around the L2 learners, such as parents, friends, and the L1 community in general.
3. The Learning Experience: It refers to the day-to-day language Learning Experiences. This construct assumes that positive Learning Experiences motivate learners to invest more efforts in language learning while negative Learning Experiences demotivate learners.



Dörnyei's (2005) proposal of the L2MSS as a conceptual framework for studying L2 motivation ignited interest in the study of this L2 phenomenon. In the ten years from 2005 to 2015, a proliferation of publications appeared worldwide examining L2 motivation using the L2MSS framework (Dörnyei & Ryan, 2015). The L2MSS has been validated in different cultural contexts, including Hungary (Csizér & Lukacs, 2010), Indonesia (Lamb, 2012), Turkey (Thompson & Erdil-Moody, 2014), Saudi Arabia (Al-Shehri, 2009), Iran (Papi & Teimouri, 2014), and Sweden (Sylvén & Thompson, 2015). The majority of these studies were conducted in the context of learning English as a foreign language. However, there exist some studies that looked at languages other than English such as German (Busse & Williams, 2010), Spanish, French, and Russian (Henry, 2011).

### **Incorporating the Anti-ought to Self into the L2MSS Model**

The nature of the relationship between future self guides and the Intended Learning Effort is explained by theory of self-discrepancy (Higgins, 1987). The theory assumes that the major force that drives L2 motivation is a natural tendency to minimize the gap between the present L2 self and futures L2 selves, whether these future selves are internalized (the Ideal Self) or induced by social environment (the Ought-to Self).

Dörnyei and Ryan (2015) noted that the large number of publications that draw on the L2MSS highlights the legitimacy of this approach to L2 motivation and that the next phase of L2 research should involve collective efforts geared towards elaborating and refining the L2MSS. Working toward this end, Thompson and Vasquez (2015) showed that language learners vary with regard to their reactions to social pressures. While some L2 learners seem to build their visualized future selves in alignment with the expectations of the significant figures in their lives,

other learners seem to develop a psychological reactance to these pressures (Brehm & Brehm, 2013). Individuals tend to develop a form of psychological reactance when they sense that their individual freedom is undermined by their social contexts. The concept of the psychological reactance explains why some individuals do the opposite of what is socially expected from them. Thompson and Vasquez (2015) argued that this psychological reactance can be seen as a form of an Anti-ought-to Self. In line with this argument, Lanvers (2016) pointed out that some of the motivational profiles of language learners were found to be incompatible with the L2MSS, and an updated motivation theory was created by adding the construct of the Rebellious Self. The construct of the Anti-ought-to Self/the Rebellious Self provides valuable insights that explain the unpredictable responses of L2 learners to social expectations. While some L2 learners commit to a specific course of actions to meet the expectations of their families and gain their approval, other learners might do the opposite of what is expected from them without fearing the disapproval of the people around them.

The present study adopts the elaborated version of the L2MSS that incorporates the Anti-ought to Self. The decision to include this new construct is empirically and theoretically valid. First, the data in Thompson and Vasquez's (2015) research study suggest that Anti-ought to Self is one of the underlying constructs of L2 motivation. Second, adopting a CDST approach to guide the study of L2 motivation involves the assumption that L2 motivation is an open system, that is, a system which is susceptible to influences from the surrounding environment (Larsen-Freeman & Cameron, 2008). According to the CDST approach, it is important to incorporate all control parameters that control the trajectory of this open system, including the Anti-ought to Self. Also, incorporating the construct of the Anti-ought-to Self improves the explanatory power

of the L2MSS model as this new addition enables the model to account for both types of learners' responses, those that meet the expectations of others and those that do not.

### **Appraisal Theory**

In addition to incorporating the Anti-ought to Self component, the present study proposes an alternative way of looking at the Learning Experiences. Although there is a proliferation of empirical works on the L2MSS, little attention has been given to the dimension of the Learning Experience. In contrast, the future self guides seem to be at the center of the focus of most studies with the Ideal Self explaining most of the variability in L2 motivation (Dörnyei, 2009b). The investigation of the Learning Experience remains the least-structured component when compared to the investigation of future self guides. The lack of shared common grounds among researchers with regard to this component could be traced back to the lack of a proper operationalization of this comprehensive construct. There seems to be no agreement as to what the scope of this construct covers. Papi and Teimouri's (2014) study only covered one dimension of the Learning Experiences, that is, the pleasantness of the Learning Experiences. Other dimensions of this construct were not covered. The present study proposes the use of Appraisal Theory (Scherer, 1999; Schumann, 2001) to guide the study of L2 experiences within the L2MSS model because this theory has a clear structure that covers multiple dimensions of learners' experiences. It should be noted, however, that Appraisal Theory is not adopted as an alternative for the L2MSS model. Rather, the present study proposes that Appraisal Theory can be used within the L2MSS model to advance the study of the component of Learning Experiences.

Schumann (1997) argued that individuals develop a system of preferences and aversions, and that this system is constantly activated during the Learning Experiences. When L2 learners are engaged in the Learning Experiences they evaluate the experiences using a five-dimension system of appraisal. These five dimensions are novelty, pleasantness, goal or need significance, coping ability, and compatibility with self and social image. The premise of Appraisal Theory is that positive appraisals interact with cognitive, affective, and motor systems and trigger the emergence of the Intended Learning Efforts. The positive appraisals are achieved when L2 learners encounter new and enjoyable Learning Experiences that are related to their own needs and goals, do not challenge them beyond their coping abilities, and contribute to the achievement of future selves and social images.

The multi-dimensional nature of the Learning Experiences is confirmed by existing motivational research. Yashima and Arano (2015) found that taking optional EFL classes was not solely facilitated by the appraisal of the pleasantness of the classes. Instead, multiple factors combined to produce an overall incentive for taking the classes. These factors included the appraisals of the pleasantness of the classes, the relevance of the classes to learners' needs, and the absence of social and job commitments that prevent learners from enrolling in the EFL classes. Yashima and Arano (2015) argued that these appraisals are primarily active at the micro-genetic level of motivation, the one that covers the short-term motivation. However, their influence, if sustained, might permeate to other levels of motivation and create a long-term pattern of performance.

MacIntyre and Serroul (2015) found that the lack of adequate vocabulary in speaking tasks negatively impacted the task motivation of the participants. The relationship between the absence of the linguistic items needed to complete the task and the decrease in task motivation

can be described using the terms of Appraisal Theory which states that changes in the coping abilities of the learners with the demands of their classes are associated with changes in L2 motivation. The findings of empirical studies (e.g. MacIntyre & Serroul, 2015; Yashima & Arano, 2015) confirm the explanatory power of Appraisal Theory. What this theory adds to the study of the situated Learning Experiences is that it provides a structure and systematic way of studying this complex construct.

### **Intended Learning Effort**

The L2 motivation is mostly studied within the general field of the psychology of the language learners. This field is not only interested in the mental processes of motivation. Whether these mental processes would be manifested as learning behavior also lies within the scope of this field. Researchers in the field of L2 motivation looked into the Intended Learning Effort, as one of the antecedents of the learning behavior. This line of research aimed at studying whether learners were likely to act upon their motivation by taking practical steps. The term “Motivated Learning Behavior” was used in the early motivational research to refer to the learning intentions (see for example: Csizér & Dörnyei, 2005; Dörnyei, Csizér, & Németh, 2006; Kormos & Csizér, 2008). However, the term “Motivated Learning Behavior ” is a misnomer because what was measured was not the students’ actual behaviors, rather it was their intended learning efforts. In a study conducted by You and Chan (2015) the same construct was aptly named “Intended Learning Effort”. The present study used the same term (Intended Learning Effort) to refer to students’ willingness to exert efforts to enhance their language acquisition. In other words, the current study set off to examine the motivational system and whether this system is likely to be translated into actions i.e. motivated behavior by looking into the Intended Learning

Effort to see whether learners are planning to act upon their motives. In order to accomplish the goal of investigating the Intended Learning Effort, there was a need for operationalizing this construct.

In their study that was conducted in Hungary, Dörnyei, Csizér, & Németh (2006, p. 51) operationalized the Motivated Learning Behavior as (1) the intended effort and (2) language choice. The first item in this operationalization was meant to target the magnitude of the Motivated Learning Behavior while the second item was concerned with its direction, i.e. whether the learners wanted to study English, German, or French. Papi and Teimouri (2014), however, excluded the language choice from their operationalization of the term “Motivated Learning Behavior”, and while they used this term to refer solely to learners’ intentions, they retained the word “behavior” in the term. The retention of this word is likely to cause unnecessary confusion.

Therefore, for the purpose of the current study, the Intended Learning Effort is operationalized as the learners’ willingness to act upon their motivation and take practical steps that are directed toward learning English. The language choice is not included in the operationalization of this construct because it was a constant, i.e. the participants were not offered languages other than English. Appendix 2 listed the survey items intended for examining the magnitude of the Intended Learning Effort.

Several L2 research studies included what was commonly known as the Motivated Learning Behavior within the scope of their investigation (see for example: Csizér & Dörnyei, 2005; Dörnyei, Csizér, & Németh, 2006; Kormos & Csizér, 2008; Papi & Teimouri, 2014). Like the present investigation, some of the aforementioned research studies looked at the association

between motivational indices (e.g. the Ideal Self) and the Motivated Learning Behavior. Kormos and Csizér (2008) tested several regression models and found that the Ideal Self was the most prominent predictor of the Motivated Learning Behavior across the different age groups. Papi and Teimouri (2014) used partial correlation analysis to examine the association between the Ideal Self and the Ought-to Self on the one hand and the Motivated Learning Behavior on the other. Their study revealed that the Ideal Self had a stronger relationship with the Motivated Learning Behavior than the Ought-to Self. The current study represented a continuation of this line of research that focuses on the relationship between the components of L2 Motivational Self System and the Intended Learning Effort. One of the significant contributions of the current study to the research in this area is that it included the Anti-ought-to Self as operationalized by Thompson (2015) and included the Learning Experiences as conceptualized by the Appraisal Theory. Both were included in the regression analysis that examined the relationship between the L2 Motivational Self System and the Intended Learning Effort.

### **Study-Abroad Learners and L2 Motivation**

To investigate the L2MSS from a CDST perspective, motivational data were collected from Saudi study-abroad students. Data collected from study-abroad learners in previous research studies suggested that language learners who participate in study abroad programs tend to develop more motivation for continued language learning (Ingram, 2005; Allen, 2010). Moreover, the length of the study-abroad program is related to the level of increase in the motivation. Dwyer (2004) found that longer study-abroad programs that go on for more than three months are associated with higher and more enduring increases in motivation.

The nonlinearity and constant flux of complex systems pose a challenge to researchers who are interested in examining L2 motivation. Dörnyei (2014), however, argued that there are situations in which complex systems develop some patterns of performance. It is during these situations that meaningful empirical research can be conducted. Dörnyei, Ibrahim and Muir (2015) argued that one of these situations involves students in study-abroad language programs since students in these programs usually experience surges of directed motivational currents that reduce chaotic fluctuations in their L2 motivations. Participants in the present research project represent a group of study-abroad students who came to the United States to improve their academic English skills. According to Dörnyei, Ibrahim and Muir's (2015) argument, the context and the participants of the current study are ideal for conducting an L2 motivational study from a CDST perspective because their motivation is characterized by a level of stability that allows for conducting a meaningful research study.

### **Complex Dynamic System Theory and Second Language Acquisition**

SLA is described as a multidisciplinary field of study that has strong connections with theoretical linguistics, applied linguistics, language pedagogy (Gass, Behney & Plonsky, 2013). This multidisciplinary nature of SLA is reflected on the SLA approaches to research. For example, there are linguistic approaches, cognitive approaches, psychological approaches, and social approaches to SLA. Also, there has been a call for adopting a new approach that has been used to explain phenomena in the fields of biology, physics, and mathematics. Different terms have been used to describe this new theoretical framework and sometimes they are used interchangeably, including Chaos/Complexity Theory (CT), Dynamic System Theory (DST), and the theory of Complex Adaptive Systems (CAS). Every term highlights specific constructs



within the theory, whether it is the complexity, dynamism, or adaption. In an anthology of studies on motivational dynamics, MacIntyre, Dörnyei and Henry (2015) argued for the use the term Complex Dynamic System Theory (CDST) because of its inclusivity. This study also adopts the term Complex Dynamic System Theory (CDST) to refer to the new approach because it is more comprehensive and it captures the salient features of the new approach.

### **A Brief Historical Account of the CDST Approach to SLA**

SLA started as an independent field of inquiry in the 1970s (Brown, 1980) and made great advances in a relatively short period of time. However, there was a sense of dissatisfaction among some SLA researchers as to the direction in which the field is going since the theoretical tools available at the early history of SLA do not seem to honor the complexity, dynamism, and non-linearity of second language acquisition (Larsen-Freeman, 2007). Theoretical frameworks that draw on positivist epistemologies reduced L2 complex systems into fragmented decontextualized constructs that fail to consider the interconnectedness of SLA systems.

As result of this theoretical shortcoming, Larsen-Freeman called for considering CDST as a valid approach to SLA at her presentation at the Second Language Research Form in Montreal in 1994 and, a few years later, an updated version of the presented paper appeared in a journal article to advocate the same cause (Larsen-Freeman, 1997). The calls for adopting the new approach gained some acceptance in 2002 (Larsen-Freeman, 2007) when conceptual papers started to appear in an attempt directed toward creating a CDST framework well-adapted to the SLA field of inquiry (Mallow, 2002; Herdina & Jessner, 2002). Since then, there have been a number of conceptual papers that address CDST and several empirical studies that examined

second language acquisition from a CDST perspective (see for example: Macintyre & Legatto, 2011; Poupore, 2013).

The CDST asserts that SLA systems are never completely static (Larsen-Freeman, 2011). In other words, it recognizes the fluidity of second language acquisition and other related psycholinguistic constructs, such as L2 beliefs and identities (Mercer, 2011). This assertion comes at ideal time, as argued by Larsen-Freeman (1997), because the SLA field was moving away from objectifying the dynamic processes of learning (see for example process-oriented approaches to L2 writing). In addition, some of the CDST constructs are not completely unfamiliar in the field of SLA. The connectionist or holistic understanding of SLA constructs is available in ecology approaches (van Lier, 1997) and it is at the center of sociocultural theory (Lantolf, 2007). Also, the CDST construct of self-organization is analogous to the construct of emergence in usage based approaches (Larsen-Freeman & Cameron, 2008). CDST, however, has the advantage of combining several theoretical constructs and presenting them in a complete and compatible theoretical and mythological framework.

### **CDST: Definitions and an Overview**

Since the CDST represents a central component of this study, this section is dedicated to the definitions of key CDST terms. MacIntyre, Dörnyei and Henry (2015) indicated that CDST comes with its own language and this is one of challenges that face the novice CDST researchers. To address this important issue, the definitions of the key terms are provided below and followed by a review of the conceptual CDST papers that have been published in the SLA field.

## Key Terms

- **System:** This term refers to “a set of components that interact in a particular way to produce some overall state or form at a particular point in time.” (Larsen-Freeman & Cameron, 2008, p. 26)
- **Complexity:** Systems are described as complex because they nest components (subsystems). As the number of the components increases, the complexity of the host systems increases.
- **Interconnectedness:** This feature has to do with the idea that components of complex systems engage in intricate networks of interactions.
- **Openness:** This term refers to the concept that complex systems are open to influence from the surrounding context.
- **Sensitivity to Initial Conditions:** This feature is also known as the butterfly effect (Larsen-Freeman & Cameron, 2008, p. 4). Minor events may not have immediate effect on complex systems. However, these events might trigger a series of events with major implications along the way.
- **Dynamism:** Complex systems are in constant flux. The constant change has to do with the assumption that complex systems are open to outside influence. Also, inside pressures that result from interactions between the subsystems contribute to the constant changes.
- **Phase Shifts/Bifurcations:** Major changes that shift the system to a different state.
- **Attractors:** Stages in which the system is characterized by relative stability.
- **Repellers:** Stages that precede phase shift. In these stages, complex systems accumulate energy that would eventually drive them off the attractor states.

- Control Parameters: Major elements that contribute to the change in complex systems. They are called control parameters because they control the trajectory of the system.
- System Trajectory: A description of the system's path. It includes the identification of attractor states and phase shifts.
- Nonlinearity. This term refers to the assumption that changes in complex systems are not proportional to the factors that triggered them.
- Self-organization: This feature describes one of the salient behaviors of complex systems, in which components of complex systems self-organize/evolve into a new state after chaotic changes.

### **Overview of Conceptual Papers on CDST**

Larsen-Freeman and Cameron's (2008) book represents one of the key SLA publications on CDST. According to this book, complex systems, in contrast to simple systems, involve larger numbers of components that have complex networks of interactions. Also, what adds to the complexity of the system is that its components could be subsystems that consist of their own components (Larsen-Freeman & Cameron, 2008). de Bot, Lowie, and Verspoor (2007) suggested that "every system is always part of another system, going from submolecular particles to the universe, with the same dynamic principles operating at all levels" (p. 8). For instance, L2 learners' Willingness to Communicate in the second language (Macintyre & Legatto, 2011) is a complex system that involves L2 proficiency, L2 motivation, L2 anxiety, self-confidence, among other components. Going a step further, L2 motivation in itself is a subsystem that contains a

number of components. This analysis can further be extended by looking at the components of L2 motivation.

The construct of complexity does not entail a lack of order. Instead, complex systems have self-organizing characteristics that ensure equilibrium following every incident of phase shift. Mallows (2002) indicated that relative stability within complex system is ensured by the interconnectedness and the constant interaction between their components. Likewise, Beckner et al. (2009) asserted that patterns can be found everywhere despite the complexity of these systems.

Larsen-Freeman and Cameron (2008) differentiated between three possible types of system components. According to the authors, a component might be an agent, an element, or a process. The term agent refers to the animate components of the system whereas element refers to the inanimate components. Elements and agents are all connected though the connections between them are not equal (de Bot & Larsen-Freeman, 2011). Moreover, elements or agents that influence the trajectory of the system are called control parameters. Returning to the example of L2 Willingness to Communicate, if an L2 learner maintains a lack of willingness to communicate in the second language mainly because he has a very high level of anxiety, it can be said that anxiety is an element that acts as a control parameter since it exerts a strong influence on the trajectory of the system.

To make the study complex systems manageable, CDST researches may analyze the systems using scales and levels. Scales here refer to the duration that will be focus of the study whereas levels refer to the size (Larsen-Freeman & Cameron, 2008). When investigating L2 speaking anxiety, for instance, a researcher should first make a decision regarding the level that

he or she is including in the study, for example, is the focus on L2 anxiety occurring during one-to-one conversation, L2 anxiety when speaking in front of the classroom, or anxiety that goes beyond the level of L2 speaking to influence speaking in all contexts, including the L1 context? Having so many levels has to do with the fractal nature of complex systems (Larsen-Freeman, 2007). In other words, there are always super-systems that host subsystems, and the subsystems in turn host other subsystems in complex yet organized networks.

Dealing with intricate networks of multiple systems, CDST researchers might encounter the dilemma of how much to include in their studies while keeping them manageable and making sure that they honor the interconnectedness of complex systems. Larsen-Freeman and Cameron (2008) suggested that the line should be drawn in a way that does not leave key areas inexplicable. This might be easier said than done but researchers should always use their own judgment when making a decision regarding the scale and level of their study.

Complex systems are embedded in their surroundings and are open to the matter and energy that permeate into them (Larsen-Freeman & Cameron, 2008). A high school student whose classmates and close friends choose to sign up for French rather than Spanish might conform to his surrounding context and sign up for French too. In other words, he adapts to the pressures of the surrounding social context. This sensitivity to the surrounding context suggests that it is simply not possible to make robust judgments about complex systems when they are isolated from their surround environments (Larsen-Freeman & Cameron, 2008). Thus, it is important to be rather cautious when interpreting the results of SLA studies that are carried out in closed lab environments since it is most likely that the observed SLA systems are not going to operate in a natural way.

Carrying out a thorough investigation that includes an iterative process of data collection gives CDST researchers the opportunity to draw a picture of the trajectory of the complex system under investigation. Larsen-Freeman and Cameron (2008) indicated a system trajectory is characterized by attractor and repeller stages. Attractors are those segments in the trajectory of the system that show relative stability. The system is drawn to these segments in same way that water bodies are draw to low topographical areas. On the other hand, repellers are those segments in the trajectory accumulating an energy that drives the system off. Elements and agents that contribute to the changes in the trajectory by pulling the system into an attractor or off a repeller are called control parameters. Whether a system element or component has an attracting role or a repulsive one depends on nature of the interactions that take place in the system and affect the role of the control parameter. The same control parameter might assume different roles at different environments and this unpredictability contributes to the nonlinearity of complex systems and makes it next to impossible to accurately build a future trajectory of the system. For this reason, Dörnyei (2014) argued for retrodictive qualitative modeling because the CDST fosters retrodictive studies rather than the predictive ones.

van Geert (2008) argued that CDST is all about the study of the dynamics of complex systems and the recording of their changes over time. These changes in complex systems, as argued by Larsen-Freeman (2011), could be either gradual and smooth or sudden and dramatic. Also, Larsen-Freeman and Cameron (2008) differentiated between two distinct types of changes. The first type is concerned with the minor changes that occur as a response to weak energy or fragments of restricted powerful energy. Thus their effect fails to bring about drastic changes in the systems, yet they cause a lot of variability around stability. In other words, the minor changes represent one of the defining characteristics of dynamic complex systems and ensure a certain

level of constant activity at the attractor stages of the trajectory. Although the described changes do not succeed in creating new forms of the system, "the potential for future development lies in this variability around the relatively fixed stability" (Larsen-Freeman & Cameron, 2008, p. 55). This is why these areas in the trajectory deserve a close examination by CDST researchers.

The second type of change concerns those drastic changes that succeed in creating shifts in the system i.e. movement out of an attractor stage. These shifts are introduced by a sudden flux of energy or the accretion of energy over time. It is possible that a control parameter maintains power and pulls a system deeper into an attractor, thus creating a form resistance to change. The resistance to change when challenged by a continued flux of energy brings the system to the fragile state at the edge of the attractor (see Figure 2). At the tipping point of the fragile state, a minor input of energy is capable of producing dramatic and profound changes. In contrast, a large amount of input might fail to produce profound changes when the system is deep in the middle of an attractor state. These disproportionate relationships between inputs and outcomes explain the nonlinearity of relationships in complex systems. So whether a certain amount of input is capable of producing profound changes depends on the state of the system along the trajectory. Such changes are likely to take place when the system is in a fragile condition at the edge of an attractor.

Profound changes represent a good indicator that the system is going through a phase shift. During the shift, the whole system witnesses a period of chaos that does not last for long as complex systems tend to fall into a new attractor and develop new patterns of performance. The emergence of new patterns is known as self-organization. Instances of self-organization are present everywhere and one can easily find examples of this feature when he looks around them.



## Complex Systems: An Example from the Field of SLA

In order to show how CDST has an appeal for SLA systems, an example from the field of SLA is needed to illustrate the construct of self-organization along with other constructs such as complexity, openness, and dynamism.

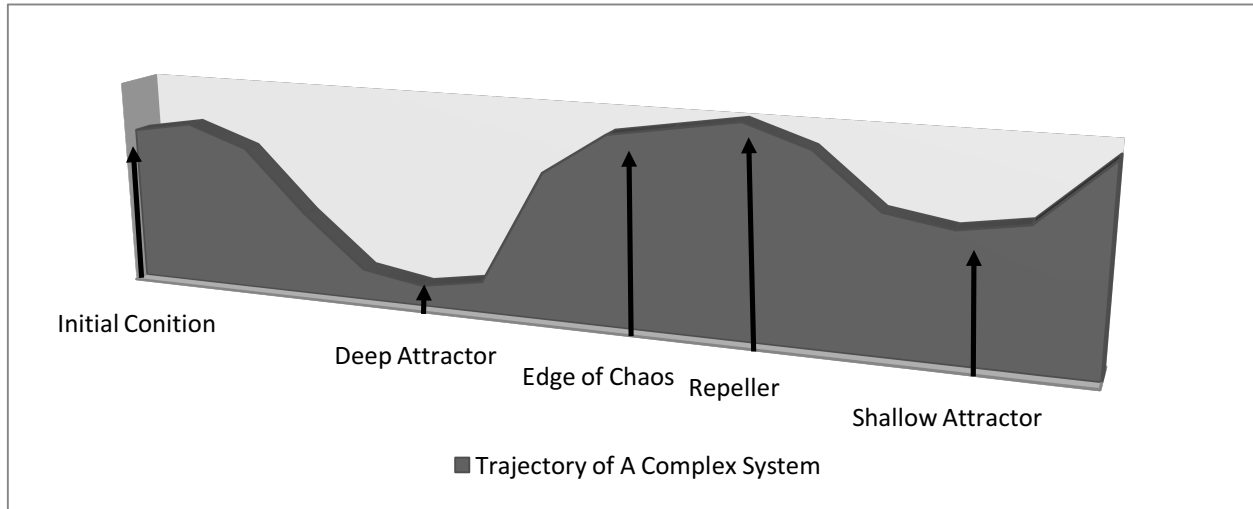


Figure 2. Trajectory of complex systems

L2 speaking represents a complex system with many components. Students with speaking anxiety who attend L2 speaking classes are likely to maintain equilibrium of their L2 speaking system by resorting to avoidance; that is, avoiding the situations where they might be urged to speak in front of the whole class by sitting away from the teacher, and avoiding eye-contact. Thus, the students' L2 speaking systems are stabilized into an attractor stage in the trajectory (see Figure 2). Nevertheless, if the teacher and peers exert pressures to force those with anxiety out of their comfort zone (attractor state), it is likely that the systems show some resistance. As the pressures keep escalating and L2 speaking system is forced into the edges of the attractor, one cannot anticipate what might happen next. A phase shift would eventually take place and during this shift the L2 speaking system of some learners might self-organize by a

transition to a new attractor in which they satisfy these pressures by having minimum participation in L2 speaking activities to keep the levels of anxiety under control while the L2 speaking system of other learners might self-organize by moving to another attractor in which the student misses classes in order to stabilize the L2 speaking anxiety.

### **L2 Motivation from a CDST Perspective**

Motivation accounts for a large portion of the variability in the success of L2 learners (Dörnyei & Ryan, 2015). Using CDST terms, L2 motivation is identified as one of the major control parameters of second language development (Larsen-Freeman & Cameron, 2008). This means that motivation is one of the factors that influence the trajectory of L2 development, thus affecting the velocity of language development and attracting the system into relatively stable states.

The current study uses the CDST approach to study the L2 motivation of ESL learners in a study abroad program. Using CDST as a theoretical framework entails that L2 motivation is considered a complex system that is open for the influence that comes from its context. This also entails that L2 motivation is not static; rather it is a dynamic construct that goes through phases of wild or moderate fluctuations. One more aspect of L2 motivation when studied as a complex system is that the relationship between this system and the influential contextual factors is nonlinear; i.e. the strength of the impact of these factors is moderated by the position of the system in its state space (Hivers, 2015). What is meant by this statement is that a small amount of influential energy could have no effect on the system when it engages the system while it is settling in an attractor basin, yet the same amount of energy may trigger a series of drastic changes when it engages a tense system at the tipping point of a fragile state along its trajectory.

The CDST approach highlights the complexity, openness, interconnectedness, and nonlinearity features that characterize complex systems. An argument to be put forward here is that SLA researchers have noticed some of these characteristics while studying L2 motivation long before the incorporation of CDST into SLA research but fell short of building a theory that incorporates all of these features in a compatible manner. The literature on L2 motivation suggests that some of the concepts proposed by CDST are not completely new to the field of L2 motivation. However, these features were not discussed as being all related to one theoretical framework. Moreover, some of the defining characteristics of complex systems (e.g. sensitivity to initial conditions) have not been adequately investigated in the field of L2 motivation. The following sections discuss these defining characteristics of L2 motivation and review the existing literature on motivation from a CDST perspective to show that the CDST approach is the ideal theoretical framework for studying L2 motivation.

### **Complexity of L2 Motivation**

Dörnyei's (2005; 2009b) L2MSS model, as well as preceding models, did not identify L2 motivation as a simple construct. Instead, L2 motivation was identified as a multi-dimensional complex system that comprises several sub-constructs. According to the L2MSS model, motivation has three sub-constructs (or subsystems); (a) the Ideal Self, (b) the Ought-to Self, and (c) the Learning Experience. There is a lot of variability among learners as to the nature of their future selves or the nature of their Learning Experiences. Learners have their individualized future selves and their unique Learning Experiences that do not necessarily resemble those of their peers.

What adds to the complexity of L2 motivation is that its subsystems represent complex constructs, too. The Learning Experiences, for example, do not have straightforward relationship with learners' motivated efforts. Learners are not influenced by the nature of their Learning Experiences per se; rather they are influenced by the way they perceive these experiences. The perception of Learning Experiences is based on a multi-dimensional evaluation of Learning Experience that involves, among other things, the novelty and pleasantness of the experiences, and the coping abilities of learners (Schumann, 2001).

Another factor that adds to the complexity of L2 motivation is that the components of the L2MSS do not have equal contributions to the total effect of motivation. The Ideal Self seems to emerge always as the principal antecedent of L2 motivation (Csizér & Lukacs, 2010) while the role of the Ought-to Self has remained inconsistent.

### **Dynamic Nature of L2 Motivation**

Recognizing the sensitivity of L2 motivation to the day-to-day Learning Experiences, both Gardner (1985) and Dörnyei (2009b) included the Learning Experiences in their models of L2 motivation. Great importance is attributed to the dynamic interaction with the ever-changing learning contexts. Other theories of L2 motivation also take into consideration the dynamic Learning Experiences and how they are reflected on learners' motivation. Attribution Theory (Weiner, 1992) and Appraisal Theory (Scherer, 1999) suggest that learners' daily experiences and how they interpret these experiences have an impact on their motivation. Changes in the Learning Experiences are expected to bring changes to L2 motivation though this relationship is far from being linear.

In addition, Dörnyei (2005) noted that the shift from the macro-perspective to the micro, process-oriented, situation-specific approaches in L2 motivation research in the 1990s “soon drew attention to another, rather neglected, aspect of motivation: its dynamic character and temporal variation [emphasis in the original]” (Dörnyei, 2005, p. 83). Several empirical studies showed that L2 motivation changes over time. These changes are manifested as a notable increase or decrease in the motivation of language learners. Koizumi and Matsuo (1993) and Gardner, Masgoret, Tennant, and Mihic (2004), for example, examined the motivation of language learners for extended periods of time and noticed that the motivation of the participants witnessed some fluctuation. Moreover, the process-oriented period of motivation in 1990s, witnessed the development of theoretical frameworks that shed some light on the dynamic nature of motivation. The Process Model of L2 Motivation (Dörnyei & Otto, 1998), for example, represents a theoretical framework that aims at investigating the dynamic aspects of L2 motivation on a timescale of a few minutes.

More recently, Csizér and Lukacs (2010) argued that L2 motivation is a dynamic construct that goes through a lot of changes during the complex process of language development. Csizér and Lukacs (2010) noted that the trajectory of L2 motivation was characterized by a number of attractor states and that the component of Ideal Self acted as a control parameter that influenced the trajectory of L2 motivation and pulled it into a more stable mode of operation. In line with these findings, MacIntyre, MacKinnon, and Clément (2009) asserted that the self system is dynamic and sensitive to cultural variations. Also, Dörnyei and Ryan’s (2015) discussed the future self guides indicated that they are not fixed targets. Instead, they are constantly updated by language learners. Henry (2015a) argued that learners are engaged in constant appraisal of their Learning Experiences and that they update their future self

guides in accordance with the perceived achievability of those future targets. For this reason, Henry (2015a) recommended that original papers that address the Ideal Self and the Ought-to Self should take into consideration the dynamic nature of these possible selves

### **Openness to the Context**

The L2MSS model acknowledges the influence of surrounding environment of L2 learners. According to this model, the L2 motivational system comprises three constructs; two of them are inherently susceptible to influence from the surrounding context on L2 motivation. Firstly, the construct of Ought-to Self is built into the system of L2 motivation to study how the people around L2 learners influence the learners' desires and aspirations. In CDST terms, the system of L2 motivation involves a subsystem (the Ought-to Self) which is open to the influence of the surrounding social groups. Secondly, the construct of the Learning Experience suggests that the L2MSS reacts and adapts to the immediate Learning Experiences. Rewarding Learning Experiences, unlike disappointing ones, are likely to have some positive impact on L2 motivation.

Not only does the theory of L2MSS suggest that the system of L2 motivation adapts to the influences of its environment but empirical L2 motivational research does as well. Lamb (2012) found that the L2 motivational profiles of metropolitan Indonesian learners of English are different from those of students learning English in rural settings. Also, the findings of Csizér and Lukacs' (2010) study suggest that L2 learners have higher L2 motivational measures when they study in schools that accommodate their choice for the second language.

## **Interconnectedness of the Components of the L2MSS**

It is highly important to consider the interconnectedness and interaction among the subsystems of L2MSS when defining L2 motivation because complex systems cannot be defined only by the sum of their elements. Rather, the outcome of the interactions among these components should be considered when studying L2 motivation because these interactions represent an important defining feature of complex systems. Appraisal Theory of motivation accounts for the ongoing interaction between socio-cognitive and contextual factors of language learning (Schumann, 1997). Also, Henry (2015a) provided a detailed explanation of the relationship between the Learning Experiences and future selves. His explanation shows that the feedback that learners get from their Learning Experiences gives them some indications of the likelihood of achieving their future selves. Henry (2015a) argued that:

... because possible selves tend, by nature, to take the form of best-case outcome (people being generally optimistic about the future), the consequences of such positively perceived indicators of success may not have the same self-changing effects as their negative counterparts, the indicators of (partial) failure. When an individual experiences indications that progress towards the ideal self is not going as well as anticipated ... an alternative, less desirable, but perhaps more realistic 'ideal' self may appear as more attractive. (p. 87)

The first days of language courses are usually characterized by high levels of motivation. The temporary effect of novelty may contribute to these surges in motivation (Scherer, 1999). The surges in motivation take place because possible selves are not harnessed by the realities of everyday language- Learning Experiences prior to the first days of classes. The Learning Experiences in the different contexts of language development provide learners with a valuable

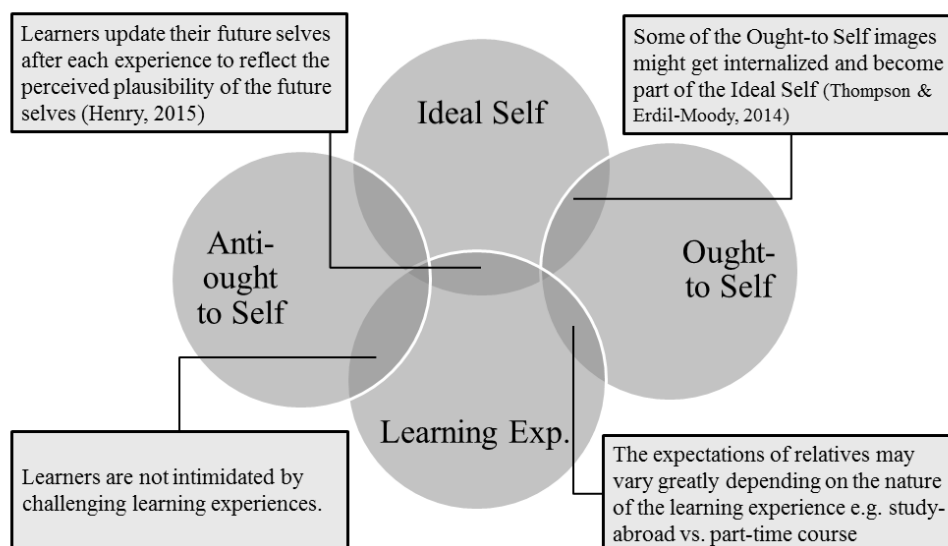
reality-check of the likelihood of their envisioned Ideal Selves. Learning Experiences have a confirmatory effect on Ideal Selves when they appear to be plausible. However, when learners perceive their Ideal Selves as being unlikely they are replace them with more realistic ones.

Similarly, the components of the Ideal Self and the Ought-to Self are closely connected. Images of the Ideal Self sometimes represent socially celebrated models of success in language learning (Henry, 2015a). The social idolization of some types of language learners and the reinforcement of their images in classroom cultures could cause some individual L2 learners to embrace these images as part of their internal system of motivators. In such cases, the complex system of L2 motivation witnesses an interaction between its subsystems. As a result of this interaction, images of socially-driven future selves (the Ought-to Self) might be transformed into images of internally-driven future selves (the Ideal Self). Thompson and Erdil-Moody (2014) argued that language learners sometimes internalize strongly enforced Ought-to Selves into the Ideal Selves. It is worth noting, though, that the relationship between the subsystems of the Ideal Self and the Ought-to Self is bidirectional. Input from the subsystem of the Ought-to Self could introduce changes in the subsystem of the Ideal Self and a relationship in the opposite direction is equally possible. Successful language learners who managed to materialize their ideal selves are treated as experts in their communities of practice (Lave & Wenger, 1991). These individual learners are likely to asset new roles as active participants in the creation of new possible selves that would be socially introduced to novice L2 learners as future Ought-to Selves.

Also, there exists a relationship between Ought-to Selves and Learning Experiences. The Ought-to Selves are influenced by the nature of the Learning Experiences and the affordances of language learning opportunities. Generally speaking, individuals are offered more learning opportunities when they are enrolled in study-abroad programs compared to what they are likely



to encounter when they learn the target language in a foreign context. What relatives expect from study-abroad learners is likely to be different from what they expect from study-at-home students. Consequently, the socially co-constructed visions of Ought-to Selves for learners in the study-abroad programs are likely to be more demanding (see Figure 3) and this why, among other reasons, study-abroad programs are usually associated with prolonged motivational surges (Dörnyei, Ibrahim & Muir, 2015).



*Figure 3.* Interconnectedness of the components of L2MSS

The Anti-ought to Self is another dimension of L2 motivation (Thompson & Vasquez, 2015). Yet, due to the fact that this construct has been recently introduced to the L2MSS model, the relationship between the Anti-ought-to Self and the other dimensions has not yet been empirically established. However, a positive correlational relationship is assumed between the Ideal Self and the Anti-ought to Self. High levels of the Ideal Self and the Anti-ought to Self

reflect a preference for the “I” dimension of personality. In contrast, high levels of the Ought-to Self reflect the activation of the “other” dimension.

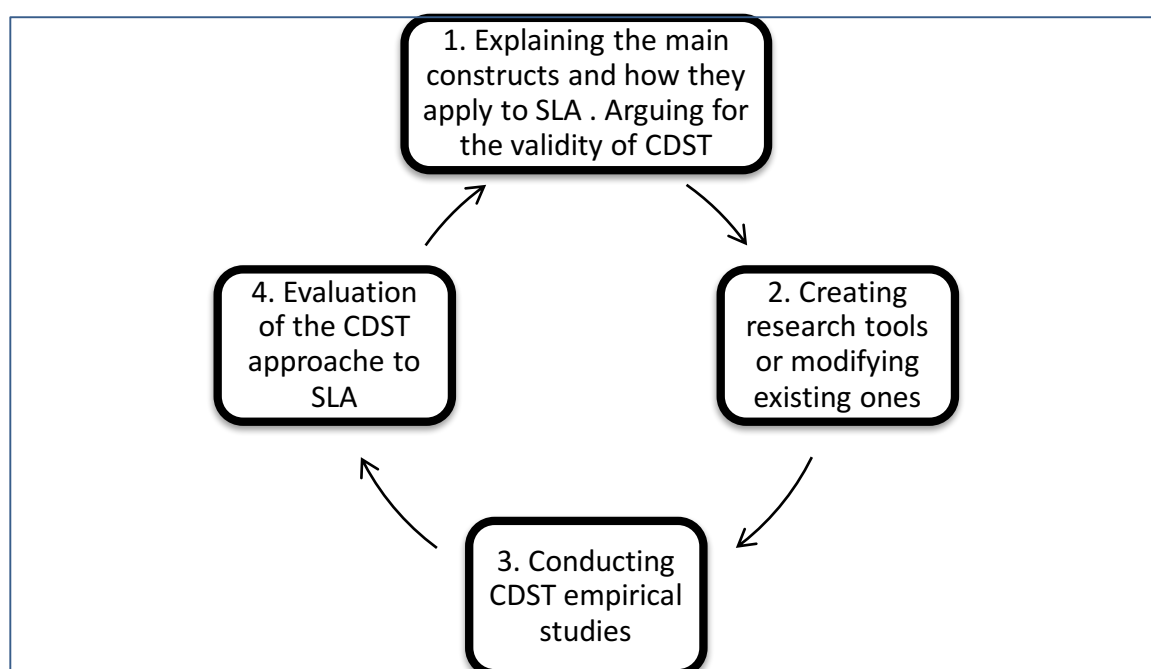
The above review of dynamics of L2MSS indicates that L2 motivation exhibits the characteristics of a complex dynamic system. It has a complex structure, open to the energy flowing from its environment, and it is far from being static. For this reason, the CDST approach is seen as an ideal theoretical framework for studying L2 motivation.

### **Review of Empirical L2 Motivation Studies Using CDST**

The discussion of the CDST approach to SLA has become one of the hot emerging topics; there has been a remarkable increase in journal articles, book chapters, and full books that address CDST in one way or another. Since 2008, *The Modern Language Journal* (volume 92, issue 2) devoted a whole issue to this topic. *The Journal of Language Learning* (volume 59, issue supplement 1), while celebrating its 60<sup>th</sup> anniversary, published a supplement issued that is dedicated to topic “Language as a Complex Adaptive System”, and the *International Journal of Bilingualism* (volume 17, issue 6) had a special issue that focus on L1 attrition from a CDST perspective. Moreover, while some books dedicated chapters to the discussion of the CDST approach to SLA (Gass, & Mackey, 2011; Atkinson, 2011), others were wholly devoted to establishing the relevance of CDST to Applied linguistics and SLA (Larsen-Freeman & Cameron, 2008; Verspoor, de Bot, & Lowie, 2011). All these SLA scholarly works contribute to establishing CDST as a legitimate approach to SLA.

Nevertheless, using a CDST lens to examine SLA topics represents a major paradigm shift that caused many SLA researchers to engage in theoretical debates. The debates aimed at revising existing SLA theories, discussing how far the new approach applies to SLA, and

checking the compatibility of the existing data elicitation techniques and methods of analysis to the CDST approach (Rosmawati, 2014). SLA researchers who were fascinated by the new approach were consumed by the goal of arguing for CDST, adapting it to the field of SLA, and developing new research tools that acknowledge the complexities of language development (see Figure 4). A great deal of what has been published on CDST has been geared toward these ends. As a result, most of what has been published so far represents conceptual papers that discuss how CDST would inform the SLA theory.



*Figure 4.* The stages of incorporating CDST into SLA

As for empirical SLA studies, only a few of them has been conducted due to the fact that CDST represents a relatively recent approach to SLA. Dörnyei, MacIntyre, and Henry (2015)

recognized the scarcity of empirical motivational studies that explicitly adopt CDST principles. Also, many empirical studies that claim the adoption of the CDST approach seem to use CDST for a limited purpose only. CDST was only used to “explain away difficult-to-interpret results, stating in effect such results occurred because of the unpredictable or ‘emergentist’ nature of the system” (Dörnyei, MacIntyre, & Henry, 2015, p. 2). MacIntyre and Leggato’s (2011) study was the first empirical paper that truly adopts CDST principles. Since then, more empirical studies have been published. It is these empirical studies that would have a promising effect on the development of the CDST approach to SLA. For this end to be served there is a need for a proliferation of CDST empirical studies and this current study aims to contribute to this collective effort.

According to de Bot (2011), there are two CDST approaches within SLA body of research: the hard-science like approach and the soft approach. The former involves the collection of big data for extended periods of time and analyzing those data by using complex mathematical equations while the latter represents a qualitative and interpretive approach that utilizes the metaphors of CDST and links them to the existing ecological approaches in social sciences (de Bot, 2011, p. 127). The hard-science approach has a limited application in the field of SLA as it requires big longitudinal data. A few studies adopted this approach to analyze corpus data and examine the development of lexical, syntactic, or morphological features (e.g. Schmid, Verspoor & MacWhinney, 2011; Van Dijk, Verspoor, & Lowie, 2011; Lowie, Caspi, van Geert & Steenbeek, 2011). This hard science approach seems to be appropriate for investigating linguistic features, such as vocabulary development, rather than affective features, such as motivation. However, “in social sciences where the basic units of analysis are self-reflective human beings, dynamic situations tend to be so complex – and embedded in each other

in such a multi-layered manner – that accurate mathematical modeling might be an unrealistic expectation” (Dörnyei, MacIntyre, & Henry, 2015, p. 3). This is why very few SLA studies used computational dynamic modeling for analyzing data.

One of the early CDST-inspired research papers was Csizér and Lukacs’ (2010) study that investigated the L2 and L3 selves of Hungarian learners of English and German. The study compared L2 and L3 selves of learners who have English as their L2 and German as their L3 with those who have the opposite order of acquisition. Csizér and Lukacs’ (2010) study made a valuable contribution to the SLA body of knowledge but it is important to mention that the CDST approach did not guide the processes of data collection and analysis. As noted by Dörnyei, MacIntyre, and Henry (2015), in the early stages of this line of research, the CDST role was limited. It was used primarily to explain the complex results of the study.

Recent years, however, witnessed the appearance of methodological tools that are compatible with the assumptions of the CDST, tools that honor the complex and dynamic attributes of L2 motivation. The availability of these tools informed the research practices of SLA researchers who were interested in examining L2 motivation from a CDST perspective. A number of these empirical studies (see Appendix 1) appeared in an anthology edited by Dörnyei, MacIntyre, and Henry (2015).

The sensitivity of the L2 motivational system to influences from other individual-differences systems has been highlighted in some of the studies in listed in Appendix 1. Piniel and Csizér (2015) examined the dynamic relationship of anxiety, self-efficacy, and motivation among 21 students who were enrolled in an academic writing seminar. Their findings suggested that anxiety, self-efficacy, and motivation witnessed small changes. The changes in these

systems did not exhibit uniformed characteristics: while anxiety, self-efficacy and the Ought-to Self showed nonlinearity in their trajectory, the changes in the Ideal Self remained linear.

Poupore (2013) also examined the relationship between motivation and other L2 systems with 38 Korean learners of English. The results of the study showed that “task motivation is the result of a complex interaction of motivational, cognitive, emotional, social, and task structure–related elements in which cognitive complexity and task topic functioned as important control parameters in the shaping of the decreasing motivational patterns” (Poupore, 2013, p. 112). In another study conducted by Waninge (2015), a conglomerate of cognitive, motivational, affective factors was identified as the main power that controls learners’ states in the classroom environment. Moreover, similar results were reached by Yashima and Arano (2015) who pointed out that the ebbs and flows of L2 motivation were triggered by dynamic interactions between psychological and contextual factors at multiple levels. These results confirmed that L2 motivation is a construct that should be investigated in light of the interaction between its components and role of contextual factors in the constant flux of the L2 motivation.

MacIntyre and Serroul (2015) and Mercer (2015) observed the changes in motivation on a per-second timescale. Both studies used the idiodynamic data elicitation tool (MacIntyre & Leggato, 2011) to stimulate the recall of the motivational state at the time of the task execution. The findings of these studies showed that L2 motivation embeds multiple levels, including task motivation. MacIntyre and Serroul (2015) argued that task motivation is a level of motivation with a high degree of fluctuation. The findings of the two studies were confirmed by semi-structured interviews conducted with the participants.

Retrodictive approaches to the study of L2 motivation, rather than predictive ones, were adopted in Chan, Dörnyei, and Henry (2015) and Henry (2015b). Retrodictive Qualitative

Modelling (Dörnyei, 2014) was used to identify the different types of L2 learners and observe the changes in their motivations. This approach proved helpful in providing a detailed trajectory of each of the identified learner archetypes. In addition to creating a trajectory in Henry (2015b), two types of perturbations were identified; perturbations that have an overall effect, yet fail to cause a phase shift, and perturbations that succeed in moving the system into a different state.

### **CDST Methods in Empirical Studies**

One of the overarching characteristics of the studies in Appendix 1 is that they involved multiple rounds of data collections. Multiple data collections appeared in the form of administering surveys at different points in time, collecting weekly journals, or conducting multiple interviews. The purpose of iterated processes of data collection was to allow for better chances of observing changes in motivation or detecting phase shifts in the trajectory of L2 motivational system.

Qualitative research methods had a remarkable presence in the CDST research. Out of the eleven empirical studies that appeared in Appendix1, nine studies included a qualitative component. This may not come as a surprise as the CDST calls for holistic approaches to research. The holistic approaches are intended to accommodate the interconnectedness of components of complex systems and their open interaction with their environment. However, there were some differences among the CDST studies with regard to way they analyzed qualitative data. While some studies (e.g. Gergersen & MacIntyre, 2015) developed codes in light of the CDST approach and conducted a deductive analysis of the data, other studies adopted an inductive approach and allowed themes to appear without theoretical restrictions (e.g. Waninge, 2015).

Interviews remained as a central source of data for the CDST qualitative studies. Chan, Dörnyei, and Henry (2015) and Yashima and Arano (2015) used interview questions to elicit retrospective reflections on L2 motivation. Researchers in these two studies investigated the dynamic nature of L2 motivation by utilizing interviews as the sole source of data. Yashima and Arano (2015) mentioned that the effectiveness of retrospective interviews were restricted by memory limitations as the interviewees usually lose details of their past experiences. Instead, the researchers suggested the use of real-time interviews to enrich the interview data with details and add to their vividness.

Unlike studies that solely depended on interview data, other studies used interviews along with other qualitative sources of data. Henry (2015b) used interviews combined with observations to investigate the L3 motivation of the participants. Finally, Gergersen and MacIntyre (2015) conducted their qualitative study depending on journals and essays collected from the participants.

The investigation of the multiple levels of L2 motivation at multiple timescales was an important, yet challenging, research area in the reviewed studies (Mercer, 2015; Yashima & Arano, 2015). Including more than one level of motivation proved to be a difficult and problematic task. The defining boundaries of each level of L2 motivation were not clear. Future CDST researchers that aim at exploring multiples levels of motivation are encouraged to clearly identify the scope of each level of motivation.

The need to delineate the empirical studies and clearly define the investigated levels of L2 motivation also poses some challenges. When delineating the constructs under investigation, researchers run into the risk of fragmenting complex systems (Yashima & Arano, 2015). A



balance should be struck between the need to keep the study manageable and the need to honor the complexity of investigated systems.

### **Gaps in the Research**

While outlining the future directions of L2 motivational research, Dörnyei (2009b) highlighted the need for empirical research that deals with L2 motivation as a situated and dynamic construct (p. 354). Also, Dörnyei (2009b) expressed uneasiness over what he called a “schizophrenic situation” in SLA research which is characterized by ubiquitous dichotomies such as qualitative vs. quantitative, cognitive vs. sociocultural, and decontextualized vs holistic, and suggested that CDST has the potentials of marginalizing these dichotomies.

Although Dörnyei (2009b) called for researching L2 motivation from a CDST perspective, very few studies have ventured into this area mainly because there was a lack of adequate CDST research tools. Dörnyei (2014) addressed this shortcoming and proposed a set of guidelines that could help CDST researchers manage this line of research while at the same time honor the complexity of the systems under investigation. Unfortunately, most of the publications on CDST represent conceptual papers that argue for CDST and present it as valid theory in SLA. Dörnyei, MacIntyre, and Henry (2015) noted that it is time to start doing motivational research using CDST, rather than talking about it. The recently published book *Motivational Dynamics in Language Learning* contains a group of empirical studies that examined L2 motivation from a CDST perspective. Yet, there is a need for a proliferation of empirical SLA studies in order to improve the CDST model and develop a deeper understanding of the complex system of L2

motivation. The current study is intended to contribute to the body of research that examines L2 motivation from a CDST perspective.

The present study also comes to bridge another gap in the body of literature on L2 motivation. Little research has been done to examine the motivation of Saudi ESL learners. Research on this topic in Saudi Arabia remained uncharted territory although there are assumptions that this group of learners, along with other collective societies, represents a distinct population of language learners with regard to the L2 motivation. Kormos and Csizér (2008) argued that the Ought-to dimension of future self guides is more relevant to collective cultures in Asian and Arab countries. Building on this assumption, one can also expect that the Anti-ought to Self would be negatively influenced by tendencies to conform to social expectations in these cultures. These specific assumptions have not been validated by empirical research on Saudi English language learners at home or on those studying abroad.

Also, there is a scarcity of research on L2 motivation on language learners from this part of the world even though the last ten years have witnessed many developments in the field. The recent developments include the adoption of the L2MSS and the CDST theories and influx of large numbers of study-abroad Saudi students to US language schools. Choudaha and Chang (2012) reported that there was a sharp increase in the numbers of Saudi students studying in the US in 2010. The rise in the number of international students from Saudi Arabia started in 2005 with the launch of a government-funded program for sending Saudi students to study abroad. Records showed that Saudi students in the US represent the fourth largest group of international students in this country and that their numbers increased by 50% in 2010 (Choudaha, & Chang, 2012). In 2012, the total number of Saudi nationals studying in the US reached 71,000 students

(Saudi Arabian Cultural Mission to the US, n. d.), more than half of them were enrolled in ESL programs to develop their academic English.

Although there is an increasing need for L2 motivational research on language learners from Saudi Arabia, there have been only a few studies that covered this area. Al-Shehri (2009) was the first L2MSS study to explore the Saudi context (Eusafzai, 2013). The aim of that study was to examine the relationship between the visual style of learning and the Ideal Self. A few other studies were also conducted in Saudi Arabia to examine the motivational profiles of English language learners (e.g. Javid, Al-Asmari, & Farooq, 2012; Eusafzai, 2013; Alrabai, 2014) but the scope of these studies did not address that above assumptions about collective cultures and they did not include a comprehensive look into the contributions of the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences to the Intended Learning Effort, a gap of research that was covered by the present study.

While some similarities are expected to be found between Saudi English language learners at home and those who study abroad, this study does not assume that these two groups of learners are identical since there are huge differences between the two learning contexts (e.g. compared to study-at-home students, study-abroad students tend witness a remarkable increase in their L2 motivation in the initial stages of the Learning Experience). The primary focus of the current study is the investigation of the L2 motivational dynamics among Saudi study-abroad ESL learners from a CDST perspective. The next chapter includes detailed accounts on how this study is going to be conducted.

## CHAPTER THREE:

### METHODS

#### Overview of the Research Design

Because quantitative research methods alone are unlikely to produce a holistic and complete understanding of L2 motivation, a mixed methods approach was adopted in the current study in an attempt to conduct a complete investigation of the L2 motivation. The mixed methods approach was selected because of its ability to supplement holistic observations with more focused ones. The mixed methods approaches fulfill the pragmatic needs of scholarly research by combining quantitative and qualitative research methods, though it is acknowledged that this marriage might not align very well with the philosophical underpinnings of the qualitative methods. The CDST research found that the mix methods successfully contributed to the efforts directed towards filling in the vacuum of the CDST research tools. Also, Dörnyei (2009a) convincingly argued that mixed methods research has great potentials for CDST research since this research design “offers a radically different new strand of research methodology that suits the multilevel analysis of complex issues, as it allows investigators to obtain data about both the individual and the broader societal context” (p. 242). Surprisingly, although the mixed methods design is not an inherently CDST approach, MacIntyre, Dörnyei and Henry (2015) argued that this design continued to produce CDST studies with valuable contributions.

The qualitative part of the study adopted the design of multiple-case studies (Duff, 2008), where the participants in interviews were viewed as multiple cases. The interviews were conducted with a small number of participants. The purpose behind conducting the interviews was to allow for a better and deeper understanding of the dynamics of L2 motivation. The study of the multiple cases in this research project is viewed as descriptive and relational (Duff, 2008). It is descriptive because a description of the trajectory of L2 motivation was offered by this part of the study. It is also relational because this part showed how the components of the L2MSS interact and collectively act as a driving force that guides L2 development.

The design of this study also included multiple rounds of data elicitations. Researchers who seek to examine the dynamics of complex systems are encouraged to utilize longitudinal research designs to allow for better chances of detecting the perturbations and phase shifts experienced by those systems (Dörnyei, 2009a; MacIntyre, Dörnyei & Henry, 2015). The reviewed SLA studies that adopted a CDST approach to examine L2 motivation have a wide range of data collection periods. While there were CDST studies that focused on longer timescales of L2 motivation that extended for two successive academic semesters or more (e.g. Poupore, 2013; Yashima & Arano, 2015; Hiver, 2015), there were other CDST studies that did not show the characteristics of longitudinal studies because they were interested in observing the motivational dynamics over shorter timescales (e.g. MacIntyre & Serroul, 2015; Piniel & Csizér 2015). The length of studies depends on the focal timescales, the specific level of the construct, and the nature of the observed construct. Literature on the nature of L2 motivation showed that this construct is highly dynamic and that it includes many timescales (e.g. seconds, classes, weeks, months, or semesters) and levels (e.g. task motivation, writing motivation, course motivation, L2 motivation). Generally, changes in L2 motivation can be easily detected over

short periods of time because of the highly dynamic nature of this psychological construct. The present study, however, investigated the overall L2 motivation of ESL students for the timescale of one academic semester to explore the trajectory of this system during this period. This timescale was found to be reasonable for observing changes in L2 motivation due to the dynamic nature of this aspect of individual differences among learners. In addition, a timescale of one academic semester was found to be ideal for this kind of investigation since it followed the observed phenomenon as the L2 learners embarked on a new phase in their language acquisition and continued for a whole unit of timescale (one semester). Finally, this timescale was preferred over longer timescales since longitudinal studies that go over one academic semester are likely to put pressure on the logistics of the study and threaten to render the study difficult to manage.

### **Overview of Analytical Procedures**

After collecting the first round of motivational data using questionnaires, participants were be classified into different groups with the help of the statistical procedure of cluster analysis. Using repeated-measures ANOVA, the motivational measures that had been collected in the first round of data collection were compared to those collected in the second round to see if the groups witnessed any significant changes. Significant changes were discussed in light of the concepts of attractor states, dynamism, and phase shifts.

Standard multiple regression was another statistical procedure that was used in the study to investigate how much of the variance in the Intended Learning Effort was explained by the components of the L2MSS. The study was not only interested in the overlap between the explanatory variables and the outcome variable. Studying the overlap between explanatory

variables themselves was within the scope of this study and it was achieved by conducting the test of Pearson correlation.

Although correlational relationships were highlighted by the Pearson test, collecting and analyzing interview data offered a deeper understanding of the relationships between the L2MSS components. The interviews were intended to facilitate the exploration of the L2 motivation from the perspective of the learners. Also, the relationship between the situated Learning Experiences and L2 motivation cannot be fully grasped without conducting a qualitative investigation that takes into account the learners' description of their English classes.

## **Participants**

The study was conducted in an English-language program in a US metropolitan city. The school is located in a large public university and, at the time of the study, it enrolled more than 400 students in three programs: the General English Program, the Academic English Program, and the Pathway Program. The General English Program is small when compared to the other two programs whereas the Academic English Program is the biggest. It aims at preparing students for their academic pursuits at American universities. This program consists of six levels that teach academic skills, such as writing research papers and giving presentations. Each level lasts for one academic semester, meaning that a student who starts at level one needs 24 months to finish the whole program. As for the Pathway Program, it is bridging program that enrolls students who exhibit advance language skills yet they have not the language requirement yet.

There was a high concentration of Arabic-speaking students; most of them were Saudi students who planned to learn English and to complete a degree in the US. Participants in the

current study were Saudi ESL learners of English who were enrolled in the mentioned language school. The proficiency level of participants varied greatly, and most of them were placed at level one when they first arrived at the language school. The ages of the participants range from 18 to 37 years old, with a mean age of 25.9 years.

### **Sample Size for the Quantitative Analysis**

The targeted number of participants was motivated by demands of the analytical procedures used in the study. Cluster analysis, as one of the analytical procedures in this study, always produces results regardless of sample size. There is no generally accepted rule of thumb that indicates the minimum required number of participants (Dolnicar, 2002). However, Mooi and Sarstedt (2011) recommended that the number of participants should be proportionate with the number of cluster variables. Thus, it is not reasonable to segment a sample of twenty participants using twenty clustering variables. Mooi and Sarstedt (2011) and Dolnicar (2002) cited Formann's (1984) rule of thumb that requires a minimum of  $2^k$  participants, where  $k$  is the number of clustering variables. In the current study, the means of the four sub-constructs of motivation (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences) were used as clustering variables. Following Formann's (1984) suggestion, a total number of  $2^4 = 16$  participants represents the minimum number of participants ideally needed in this study. However, Dolnicar (2002) modified the  $2^k$  rule to  $(2^k)5$  to yield a more cautious sample size. Thus, the minimum number of participants that is ideally required would be  $(2^4)5 = (16)5 = 80$  participants.



Cluster analysis was not the only statistical procedure in the current study. Multiple regression represented another statistical analysis. Larsen-Hall (2015) cited a variety of rules of thumb for the recommended sample size in studies that utilize multiple regression. These rules are listed in Table 1.

Table 1  
*Recommendations for Sample Size*

Reference	Rule of Thumb	Total Sample Size
Green (1991)	$N \geq (8/f^2)+(m-1)$	$N \geq (8/.15)+(4-1) = 57$
Tabachnich and Fidell (2001)	$N \geq 50 +8m$	$N \geq 50 +(8*4)= 82$
Porte (2002)	30m	$30*4=120$
Stevens (2002)	15m	$15*4= 60$

$f^2$ = effect size; m= number of explanatory variables.

Table 1 shows that there is no consensus with regard to the sample sizes recommended for multiple regression studies. The above recommendations included 57, 60, 82, and 120 participants. Besides rules of thumb, priori power analyses provide helpful recommendations for the ideal sample sizes. Larsen-Hall (2015) strongly encouraged SLA researchers to consider a priori power analysis. The priori power analysis basically identifies the recommended number of participants needed for conducting a statistical test powerful enough to detect the relationship between the variables under investigation. Since this priori test is sensitive to the expected value of the effect size, the present study explores how three values of effect size (small, medium, and large) influence the recommendations for the sample size. The three effect size values correspond to Cohen's (1988) guidelines for the  $f^2$  measure of effect size with  $f^2 = .02$  as small,  $f^2 = .15$  medium, and  $f^2 = .35$  large. G\*Power program (Faul, Erdfelder, Buchner, &

Lang, 2009) was used to test different scenarios and examine the relationship between effect size and sample size. See Table 2 for more details.

Table 2

*A Priori Power Analysis*

Expected effect sizes	$f^2$	Power	No. explanatory variables	$\alpha$	Total sample size
Small effect size	.02	.80	4	.05	602
Medium effect size	.15	.80	4	.05	80
Large effect size	.35	.80	4	.05	40

$f^2$ = effect size

Although published SLA research studies tend to have large effect sizes (Plonsky & Oswald, 2014), the present study erred on the side of caution and expects a medium effect size. Thus, the recommended sample size according to the priori power analysis is 80 participants.

To conclude, the present study recruited a total of 80 Saudi ESL learners. The selection of this number was guided by the more prudent rule of thumb for the sample size needed for cluster analysis, and also by the majority of the rules in Tables 1 and 2.

### **Sample Size for the Qualitative Analysis**

In addition to recruiting 80 participants for the survey part of the study, four participants were invited to participate in the semi-structured interviews. The decision to include this specific number of participants was taken to maximize the possibility of accounting for a larger portion of the L2 motivational system of the observed sample while at the same time keeping the study manageable. Dörnyei (2014) argued that although there might be a lot of variability in a certain classroom setting, the number of learner types tends to be small and rarely goes above four or six types.

The size of the sample that participated in the interviews was selected to represent the number of the clusters in the study. Cluster analysis was used to classify participants into distinct motivational groups, and a representative interviewee was selected from each group. This type of sampling can be seen as a form of multiple-case sampling (Duff, 2008) that aimed at finding multiple participants with contrasting characteristics. The statistical technique of cluster analysis was used for selecting participants because it classified participants in a way that maximized the differences between the clusters to which they belonged (Verma, 2013).

During the procedure of cluster analysis, initial cluster centers were identified and participants were assigned to their initial clusters based on their distances from the centers. Then, the centers of the cluster were recalculated while considering the position of the initial members and a new round of member assignment was performed using the adjusted values of the centers. This iterative process ended when the cluster centers became stable. SPSS output of the procedure of cluster analysis included a table that shows the members of each cluster and their distances from its centers (see Table 3).

Table 3

*Selecting Interview Participants from the Cluster Membership Table*

Case Number	Cluster	Distance
1	1	.310
2	.	.
3	2	1.028
4	.	.
5	1	.361
6	1	1.058
.....		
20	3	1.047

Table 3 includes three columns: the first one shows the number of the participant, the second identifies the cluster to which the participant is assigned, and the third shows the distance of the participant from the center of the cluster. In each cluster, the participant who is the closest to the center of the cluster is seen as being the best representative of the characteristics of the cluster and this is why they have priority in the recruiting process, while the next closest member in each cluster is identified as second candidate in case the first candidate chooses not to volunteer to be interviewed.

### **Data Sources/Instruments**

A CDST approach to L2 motivation requires the collection of rich information on the motivational factors. Qualitative and quantitative data were collected to deepen our understanding of L2 motivation. The data in present study were collected from the participants using the sources indicated in Table 4.

Table 4

#### *Data Types and Data Sources*

Research Question (RQ)	Data	Type & sources of data	Type of analysis	No. of Participants	Frequency
RQ1	Background info., Ideal Self, Ought-to Self, Anti-ought-to Self, & Learning Exp.	Quantitative / Questionnaire	Cluster analysis / RM ANOVA	80 students	2 times
RQ2	Background info., Ideal Self, Ought-to Self, Anti-ought-to Self, Learning Exp. & Intended Learning Effort	Quantitative / Questionnaire	Standard multiple regression	80 students	2 times
RQ3	In depth semi-structured interviews	Qualitative / Interviews	Iterative, deductive, and theory-driven	6 students	Fortnightly

These multiple sources data were intended to provide adequate information on L2 motivation and to facilitate the drawing of a complete picture of this complex phenomenon. The background and motivational questionnaire comprised two sections (see Appendix 3). The questionnaire had a six-point Likert scale with 6 being “Strongly Agree” and 1 “Strongly Disagree”. The first section was developed for the purpose of this study to collect information on age, gender, and English language proficiency. The second section of the questionnaire contains five subsections: the Ideal Self, the Ought-to Self, the Anti-ought to Self, the Learning Experiences, and the Intended Learning Effort.

The sections that address the Ideal Self, the Ought-to Self, and the Intended Learning Effort were originally developed by Dörnyei and Taguchi (2010). The instrument was used in several research studies that drew on the L2MSS model. A considerable amount of literature established the reliability of the instrument and supported the validity of the constructs of the Ideal Self, the Ought-to Self, and the Learning Experiences (Dörnyei & Chan, 2013) see Appendix 2 for more information. The questionnaire items that focus on the Ideal Self, Ought-to Self, and Intended Learning Effort represent a version of the original instrument slightly modified to fit the Iranian context (Papi & Teimouri, 2014). The current study adopted this version because it was applied to a context presumably closer to the original context of the participants in this study.

In addition to the mentioned items, six of items were included in the questionnaire to measure the Anti-ought-to Self of the participants from a pool of eleven items. This section was adopted from Thompson (2015) questionnaire on L2 motivation. And the researcher used the epistemical knowledge that he shared with the community of ESL learners from Saudi Arabia to select the items that fit the Saudi context. Questionnaire items that had less relevance to the

Saudi context were not included. For instance, the context of second language acquisition is dominated by English. Other languages are not even offered in the public schools. Therefore questionnaire items that indicated the preference for more challenging languages over less challenging languages were not included. For instance, one of the excluded items says “I chose this language despite others encouraging me to study something different (another language or a different subject entirely)”. Another criterion that was used to minimize the number of questionnaire items was the loadings of these items in previous studies that utilized factor analysis, including Thompson (2015). Items with more heavy loadings were given preference. The use of the researcher’s emic perspective of the Saudi context combined with items’ loadings resulted in including a total of six questionnaire items (see Appendix 2).

As for the section of the Learning Experiences, it was developed by the researcher to reflect the multi-dimensional nature of the Learning Experiences. The items in this section address issues related to the novelty and pleasantness of the L2 experiences, coping abilities of the learners, and whether the experience is seen as related to goals and needs. Prior to the formulation of the statements, the definition of each of the dimension was considered. The novelty dimension has to do with uniqueness and newness of the experience. The pleasantness of the experience refers to the quality of being interesting and enjoyable. Coping abilities refer to the ability of the learners to meet the requirements of the language course and being comfortable in the classroom environment. Finally, goal significance has to do whether the Learning Experiences are expected to fulfill daily and academic goals of the learners. Then, for each dimension two statements were developed by the researcher to provide a better representation of the dimension.

Also, a small-scale pilot study with a total of 23 male participants was conducted to measure to test the reliability of the newly developed instrument that was intended for measure the Learning Experiences. Also, the data from the pilot study were used to run the statistical tests that were later used in the full scale study. The results of these tests were presented below in subsequent section. The five scales that were used in the current study were the Ideal Self, the Ought-to Self, the Anti-ought to Self, the Learning Experiences, and the Intended Learning Effort. Table 5 presents these scales and reports the Cronbach's alphas as tested by previous studies.

Table 5

*Sections of the Questionnaires with Reliability Scores*

Section	Items	Cronbach's alpha
<u>Ideal self</u> e.g. I can imagine myself writing English e-mails fluently.	6	$\alpha = .77$ (Papi & Teimouri, 2014)
<u>Ought-to self</u> e.g. If I fail to learn English, I will be letting other people down.	6	$\alpha = .70$ (Dörnyei, 2005)
<u>Anti-ought to self</u> e.g. I am studying English because I want to stand out amongst my peers and/or colleagues.	6	$\alpha = .80$ (Thompson, 2015)
<u>Learning Experiences</u> e.g. I find learning English really interesting.	8	$\alpha = .73^*$
<u>Intended Learning Effort</u> e.g. If an English course was offered in the future, I would like to take it.	6	$\alpha = .80$ (Papi & Teimouri, 2014)

\* Cronbach's alpha was calculated using the pilot data.

The current study also involved the collection of interview data. Interviews represented a commonly used data elicitation technique that plays an important role in SLA research (Duff, 2008). The interviews in the current study were semi-structured and each one took approximately thirty minutes (interview protocols are presented in Appendix 4). Each interview session consisted of three parts: introduction, body, and conclusion. The introduction provided an opportunity for the researcher to introduce himself and engage in a small talk to thank the participants and explain the purpose of the interview. The body of each interview included types of questions: main questions, probe questions, and follow-up questions. Finally, the conclusion of each interview was used to express thanks to the participants and offer them a chance to share any additional information they might want to share. The researcher himself conducted the interviews and audio-record them using a digital recorder. The selection of the topics that were discussed in each interview was inspired by Dörnyei's (2009b) theory of L2 motivation. For this reason, a special emphasis was given to the discussion of future selves and Learning Experiences of the interviewees.

The participants in the present study were L1 speakers of Arabic from Saudi Arabia. To accommodate their linguistic needs, the questionnaire items were translated into Arabic. The use of Arabic in the questionnaires and the interviews served four purposes. First, it expanded the pool of potential participants since it ensured the inclusion of participants with low levels of English proficiency. Second, administering the questionnaire in the L1 of the participants was expected to lead to more accurate responses since having a full comprehension of the questionnaire items was a precursor for giving a response that truly represent what they feel as much as possible. Third, communicating in Arabic during the interviews facilitated the production of a more elaborate description in which the participants expanded on their answers



without being restricted by the limits of their linguistic abilities in English. One last advantage of using Arabic was that the interviewer was also an L1 speaker of Arabic, who could identify with the participants and build rapport with them. Firth and Wagner (2007) called on SLA researchers to adopt more emic-based perspectives. Building rapport with the participants and communicating with them in a language they fully understand facilitated the emergence of the responses and experiences that represented the emic perspectives of the participants. Highlighting these perspectives was central to the focal points of the present study since they addressed the issues of the self and the situated Learning Experiences of individual learners.

When translating questionnaires there is always the possibility of having some errors due, among other factors, to the fact that languages express meaning in different ways (Solano-Flores, Backhoff & Contreras-Niño, 2009). Poor instrument translation poses a threat to the trustworthiness of studies. One of the threats has to do with the reliability of the instrument. Hambleton (2005) warned that translation errors undermine the reliability of tests and render them invalid. To avoid having translation problems, measures were taken to minimize the discrepancies between the source and target versions of the questionnaire to the extent possible. As recommended by Hambleton (2005), the technique of back-translation was employed. The original version was translated into Arabic by the researcher, then back-translated into English by a bilingual Arabic-English speaker who has not seen the original version of the questionnaire. Comparison between the original and the back-translated versions resulted in the modifications of some of the items due to some discrepancies. Also, the second translator contributed to the process of smoothing out some Arabic sentences.

## **Procedures**

After securing the required institutional approvals, the researcher distributed the instruments at two different points in time during the semester. Language classrooms were visited by the researcher and printed copies of the survey instrument were handed out to the participant during their first week of the semester and this is the first round of collecting questionnaire data. A second round was collected during the twelfth week of the semester. ESL learners who were willing to participate in both rounds were encouraged to fill in the questionnaire at home and bring them the next day. Language instructors were asked to collect the questionnaires and leave them at the front desk.

Collecting data on future selves during the first days of the semester and comparing them with data collected deep in the semester is of paramount importance in this study as it helps in detecting the dynamic nature of L2 motivation. Henry (2015a) argued that learners' future selves are built on the basis of best case scenario. As the semester goes, L2 learners adjust their future selves in accordance with their Learning Experiences. It was within the scope of this study to record the initial future self guides and compare them to more stable future selves that are recorded after passing of more than half of the semester. After collecting the first round of questionnaires, data were input to SPSS version 23 and they were prepared for the procedure of cluster analysis.

A special consideration was given to the recommendations needed for conducting in-depth interviews. Chase (2003) encouraged qualitative researchers to consider two principles of qualitative data to inform the interviewing practices of qualitative researchers. The first principle was that interviews are all about inviting people to express their life experiences. The second principle was that individual experiences were inherently social in nature. These principles guide

the designing, conducting and interpreting of interviews in this study. Following these principles, open ended questions rather than closed ended ones were used. Also, having rich data is a precursor to providing a thick description in qualitative studies. For this reason, the interviewees were asked to elaborate, explain, provide example, and describe their Learning Experiences.

The interviews with the learners took place on campus. The researcher conducted the interviews and made sure that the setting and procedures of the interviews were followed to minimize the effect of the differences in power between the interviewer and the interviewee. The interviewer managed to develop rapport with the interviews and facilitate the smooth and unrestricted description of the Learning Experiences. The interviews were audio-recorded and transcribed using ATLAS.ti version 6.2. Arabic would be the language of the transcription, yet only the English translations of any excerpt were presented if they were found to be closely relevant to the analysis and discussion of the data.

Prior to conducting the primary investigation, a pilot study was conducted to guard against any procedural problems. The questionnaire instrument was administered to twenty three participants; all of them were Saudi study-abroad students. Measures were taken to ensure that the collection of data do not disturb the process of language instruction. Participants were encouraged to fill in the questionnaires at home. Also, interviews were conducted at convenient times when participants have no exams or major assignments. The responses of two participants were eliminated because they did not complete the questionnaire. The purpose of the pilot study was to test the analytical procedures adopted in the main study. Also, it was helpful in examining the translation of the questionnaire instrument. Preliminary analysis of the pilot data is presented in the sections that follow.

## **Data Analysis**

The present study aims at investigating the L2 motivation among Saudi study-abroad learners from a CDST perspective. Investigating changes in L2 motivation, identifying the control parameters that affect the trajectory of the motivational self system, and examining the relationships between the control parameters were at the center of this research project. Qualitative and quantitative research tools were utilized to cover these topics. Detailed accounts of the analytical procedures that pertain to each research question will be provided below. Since the first research question involved using one of less commonly used statistical tests in SLA, more elaboration was provided to explain the analytical procedures used to answer this question.

### **The First Research Question**

What is the trajectory of the L2 motivation of the participants?

In particular, this study was interested in the following sub-questions:

- a. What are the homogenous groups that can be identified among participants at the beginning of the semester?
- b. What are the motivational characteristics of these groups at the beginning of the semester? In other words, what are the motivational (attractor) states of the homogenous groups at the beginning of the semester?
- c. Are there instances of phase shifts in the observed trajectories of L2 motivation between time 1 (the beginning of the semester) data collection and time 2 data collection (the end of the semester)?

This question addresses the trajectory of the L2 motivation by (a) identifying the homogeneous groups that share the same attractor or reside in adjacent attractors; (b) identifying the motivational characteristics of each group; (c) test if any group witnesses a phase shift during the semester.

Cluster analysis was utilized in the study to group together the participants who were having similar motivational measures and going through similar attractor states. The statistical procedure of cluster analysis is a multivariate technique, not widely used in SLA research (Plonsky, 2013). Plonsky (2014) called for reforming the quantitative research practices in the field of second language acquisition and broadening the narrow range of statistical tests that are commonly used by SLA researchers. In a response to these recommendations, an anthology of statistical procedures (Plonsky, 2015) has been recently published and aptly titled *Advancing Quantitative Methods in Second Language Research*, with a chapter devoted to cluster analysis.

Although cluster analysis was not a common statistical analysis in SLA, Staples and Biber (2015) in a chapter in the aforementioned anthology noted that recent years have witnessed a growth in the number of studies that used cluster analysis. Also, they stated that cluster analysis represents an ideal statistical analysis for classifying participants when there is a wide range of variability among them, as it is commonly seen when examining motivational or attitudinal data. Staples and Biber (2015) reported that cluster analysis has been used in SLA studies that examined individual differences, such as L2 motivation, to identify sub-communities within a larger ESL community, and that this statistical procedure was found to be scarce in other SLA research areas. In one of the early studies that used cluster analysis, Skehan (1986) conducted a study to identify learner types. Also, recently Piniel and Csizér (2015) used this procedure to identify the trajectories of the L2 motivation, self-efficacy, and anxiety among the participants.

According to Piniel and Csizér's (2015) study, the use of cluster analysis facilitated the identification of the participants who scored similarly and seemed to belong to the same or adjacent attractor states.

Conducting a cluster analysis involves making decision with regard to the clustering variables, the specific clustering procedure, and the number of clusters. Reddy (2014) explained that the selection of the clustering variables has to be based on a theory that explicitly justifies the use of these variables for segmenting the participants. The selection of variables in this study is motivated by SLA theories. Dörnyei's (2005) L2MSS model conceptualizes L2 motivation as being a complex system that consists of three components. These components are the Ideal Self, the Ought-to Self, and the Learning Experiences. Drawing on the L2MSS mode, the current study uses the three components as clustering variables to facilitate the classification of the participants. In addition to these three components, the construct of Anti-ought-to Self is included as a clustering variable since it has been identified as a motivating factor in second language acquisition (Thompson & Vasquez, 2015). The mean scores in the four questionnaire sections that correspond to the four components of L2 motivation were used as clustering variables. In other words, the statistical program, SPSS, is commanded to classify participants on the basis of their mean scores on the four motivational indices, i.e. the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences.

Choosing a specific clustering procedure from a pool of different procedures is another decision that has to be made by the researcher. A two-stage cluster analysis is selected for analyzing the data in the current study. The hierarchical clustering procedure is used in the first stage, followed by the k-means procedure in the second stage. Verma (2013) explained that it is recommended to examine the data using the hierarchical procedure since it is ideal for studies

with small data sets and this is why it is used in the current study where a comparatively small number of participants is expected. One of the advantages of using this clustering procedure in the initial stage is that it does not require researchers to decide on the number of clusters prior to conducting the analysis (Staples & Biber, 2015). SPSS processes the data and produce a descriptive analysis with numerical and visual representations. These pieces of information were helpful in deciding on the ideal number of clusters as it will be explained below.

Deciding on the ideal number of clusters is the third decision that researchers had to make and provide theoretical and/or statistical justification for their decision. It is common that this number positively correlates with the number of participants and spread of the data. However, there is always a limit on how many clusters can be built. Verma (2013) noted that having a meaningful segmentation can be difficult when dealing with a large number of clusters. In other words, having a fewer number of clusters facilitates the process of finding the defining characteristics of the clusters. Finding the ideal number of clusters can be achieved when examining the output of the hierarchical procedure; in particular, the agglomeration schedule and the dendrogram chart (Verma, 2013). The agglomeration schedule provides important information that can be used to find the ideal number of clusters. A truncated version of the agglomeration table is provided in Table 6 which presents the clustering stages of the participants in the pilot study.

Table 6

*The Agglomeration Table*

<u>Stage</u>	<u>Cluster Combined</u>		<u>Coefficients</u>	<u>Stage Cluster First Appears</u>		
	<u>Cluster 1</u>	<u>Cluster 2</u>		<u>Cluster 1</u>	<u>Cluster 2</u>	<u>Next Stage</u>
1	6	7	.022	0	0	12
2	2	23	.053	0	0	7
3	4	14	.165	0	0	6
4	9	10	.335	0	0	14
5	8	15	.547	0	0	11
....						
14	2	9	6.776	9	4	17
15	1	22	8.638	10	0	16
16	1	3	11.783	15	13	20
17	2	21	15.354	14	0	19
18	6	8	19.433	12	11	19
19	2	6	29.185	17	18	20
20	1	2	47.624	16	19	0

The coefficient column in the middle of the agglomeration table (see Table 6) offers information that helps in justifying the selection of the ideal number of clusters. The incremental changes in the coefficient column represent the changes in the within-cluster sum of squares. SPSS monitors these changes at all stages as clusters are formed in a hierarchical way. Slight incremental changes indicate that homogeneous clusters were joined while large changes signal the opposite. It is important to calculate the changes in the coefficient values in order to make a decision with regard to the optimal number of clusters. The changes in the coefficient values during the last 7 stages of clustering are provided in Table 7.



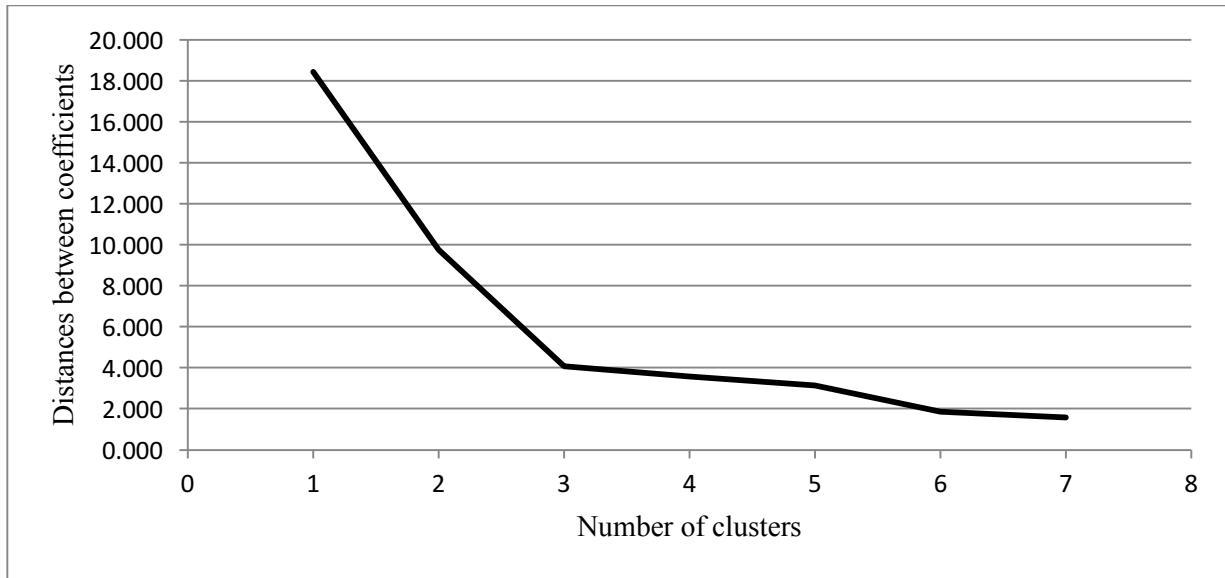
Table 7

*The Coefficients of the Clustering Solutions*

Number of clusters	Coefficient of the current clustering solution	Coefficient of the previous clustering solution	Distance between coefficients
1-cluster solution	47.624	29.185	18.440
2-cluster solution	29.185	19.433	9.751
3-cluster solution	19.433	15.354	4.079
4-cluster solution	15.354	11.783	3.571
5-cluster solution	11.783	8.638	3.145
6-cluster solution	8.638	6.776	1.862
7-cluster solution	6.776	5.199	1.577

Verma (2013) argued that the clustering solution should be retained when the distances between coefficients start to level out. It can be noticed that these distances level out after the 3-clustering solution. A three-clustering solution is recommended based on the information provided in Table 7.

The distances between the coefficients can also be represented visually in a plot to facilitate the identification of the cut-off point (see Figure 5). In this visual representation, the distances between coefficients (Y-axis) is plotted against the number of clusters in the solution (X-axis). Typically, the line in the plot is characterized by the steep decent followed by a tailing off. Staples and Biber (2015) argued that the cut-off point for selecting the number of clusters should be at the point of inflection in this line.



*Figure 5.* Plotting the distances between the coefficients

In Figure 5, a clear point of inflection appears parallel to the number three in the X-axis. The plot confirmed the results of the examination of the distances in Table 7, showing that the number of the clusters in the pilot study should be three. This clustering solution is also supported by the information provided by the dendrogram.

The dendrogram is a tree diagram that offers a visual representation of the data. The level of the nodes' heights in the tree diagram signals distance or closeness between clusters. Clusters that are joined by a high node are considered dissimilar when compare to those joined by a low node. In other words, similar clusters tend to conglomerate at an early stage, while distant one are usually joined at later stages of clustering. By examining this visual representation (see Figure 6), the researcher can visually identify different concentrations of participants and consequently decide on the ideal number of clusters. For example, three clusters can be distinguished in the dendrogram chart (see Figure 6), the same number that was suggested by the

data in Table 7 and the plot in Figure 5.

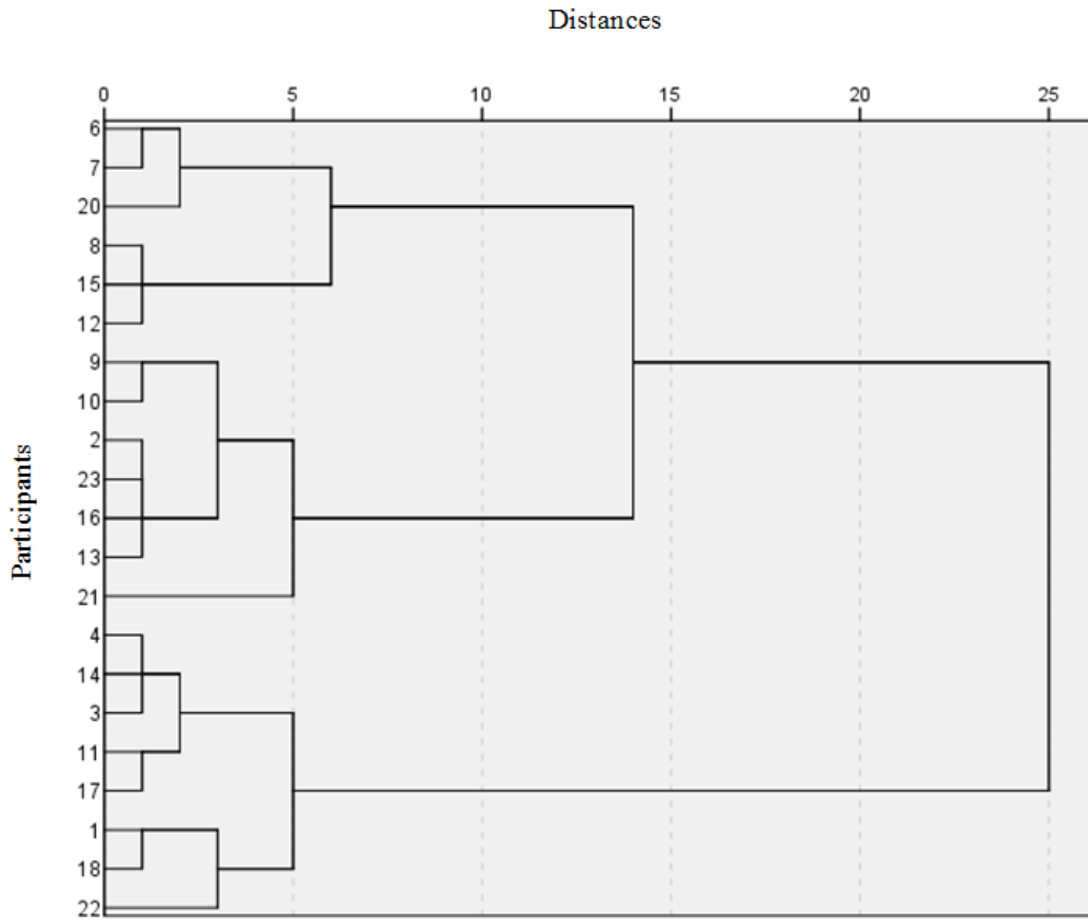


Figure 6. The Dendrogram of the pilot study

After deciding on the number of clusters, k-means procedure is conducted in the second stage of clustering procedure. Important statistics are produced by this procedure, including the centers of the clusters and distance of each member from the center of its assigned cluster. These statistics can be used to guide the selection of the member that best represent the characteristics of the cluster. These members can be invited to participate in subsequent phases of data collections. One-way ANOVA is another statistic that appears in the k-means output to test and

validate the clustering solution. The ANOVAs test whether the differences between clusters have reached statistical significance. It should be noted, however, that cluster analysis is known for creating clusters in a way that minimizes differences within groups while maximizing those between groups (Staples & Biber, 2015).

To reiterate, the purpose of using cluster analysis is to classify participants into groups on the basis of their motivational measures at the beginning of the semester (during round 1 of questionnaire data). After identifying group membership, descriptive statistics of the identified groups are presented to provide information with regards to the defining characteristics of each cluster. Motivational data were collected from participants in a second round of data collection at the end of the semester. Motivational scores on the four components of motivation from round 1 and round 2 of data collection were examined and a repeated-measures ANOVA were conducted to test if there is a significant statistical difference between round one and round two of data collection in each of the within-subject variables. The detection of any significant difference suggests that the motivational characteristics have witnessed dynamic changes during the period of the study. There are four within-subjects variables with two levels for each of them. The levels in these variables represent the number of the questionnaire application (i.e. time 1 and time 2). The between-subject variables represent the groups of participants. As explained above, cluster analysis was utilized to group the participants into distinct groups based on their responses to first round of data collection.

L2 motivation is operationalized as a complex system with four components; the Ideal Self, the Ought-to Self, the Anti-ought-to Self, and the Learning Experiences. The grouping of the participants is based on the state of their L2 motivation. To determine the state of their motivation, this study relies on the mentioned operationalization of L2 motivation. Cluster

analysis is used because it helps in describing the motivational trajectory of different groups of participants (Piniel & Csizér, 2015). The purpose behind using this procedure is to group together participants who are located in the same or neighboring attractor states. Participants with similar motivational scores were grouped together, resulting in clusters with homogeneous motivational scores.

Participants in each cluster are homogenous, that is, they share similar motivational states. For this reason, it can be argued that the participants in each cluster share the same or adjacent attractor states. MacIntyre, Dörnyei and Henry (2015) noted that the term attractor state is “simply used to describe a possible state of the system” (MacIntyre, Dörnyei & Henry, 2015, p. 422). Based on the definition of the term attractor states, clusters of participants, who share similar motivational profiles, are considered representations of the attractor states. In other words, for the purpose of this study, attractor states can be operationalized as motivational clusters.

The present study seeks to identify the attractor state of each group and record the descriptive statistics of the groups based on the information collected during the first round of data collection. Descriptive statistics of the motivational measures show the defining characteristics of each attractor state. Comparisons between the motivational measures that were elicited at two different points in time are conducted to test if the groups have witnessed a phase during the semester. The assumption that is put forward in this study is that participants start at some point across the trajectory space and as the semester goes they end up at some other point. Changing the positions were reflected on their motivational scores and consequently on the descriptive statistics of their clusters in the second round of data collection. It is argued that

groups with statistically significant differences in the second round of data have witnessed a phase shift (Larsen-Freeman & Cameron, 2008).

### **The Second Research Question**

- 2 To what extent are the subsystems of the L2 Motivational Self System (Ideal Self, the Ought-to Self, the Anti-ought-to Self, and the Learning Experiences) associated with the Intended Learning Effort?

In particular, this study is looking to answer these sub-questions:

- a) What is the relationship between the following independent variables:
  - a. Ideal self
  - b. Ought –to self
  - c. Anti-ought-to self
  - d. Learning Experiences as operationalized by Appraisal Theory (Schumann, 2001)?
- b) How much of the variance in the Intended Learning Effort can be explained by the independent variables (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences)?

The second research question in this project addresses the relationships between the components of the L2MSS and looks into how much explanatory power each of them uniquely has when their relationship with the Intended Learning Effort is tested. The first part of this question examines the relationship between the components of the L2MSS model. Larsen-Hall (2015) indicated that Pearson correlation is used when trying to examine the relations between variables and how much variance is share between each pair of them. The data from the pilot study indicated that there is a moderate positive relationship between the Ideal Self and the

Ought-to Self (95% CI [.328, .9],  $r=0.66$ ,  $N=21$ ,  $R^2=0.43$ ), the Ideal Self and the Learning Experience (95% CI [.28, .88],  $r=0.63$ ,  $N=21$ ,  $R^2=0.39$ ). Pearson correlation failed to detect any other significant relations between the variables.

The aim of the second part of this research question is to identify the control parameters that control the changes in the L2 motivational system. In order to identify these parameters, it is important to investigate how much of the variance in the Intended Learning Effort is explained by the control parameters. Larsen-Hall (2015) argued that multiple regression should be used when dealing with research questions that focus on the explanatory function of a number of independent variables.

Following Larsen-Hall's (2015) recommendations, the standard method of multiple regression is selected since the present study is examining the unique contribution of each of the independent variables. The step-wise method of multiple regression is discarded because of its sensitivity to sampling errors (Field, 2009) while the decision not to use the hierarchical method is based on the fact that this study hold not prior assumptions with regards to importance of the individual components of the L2MSS.

The constructs of the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences were entered as independent variables at the same time to explain the variability in the dependent variable, the Intended Learning Efforts. The selection of the explanatory variables is motivated by the L2MSS theory (Dörnyei, 2005) which conceptualizes motivation as psychological construct with three antecedents. Also, the findings of Thompson and Vasquez's (2015) study suggest the Anti-ought-to Self dimension is an influential variable in the L2 motivation of some language learners.

Using the pilot data, a standard multiple regression was conducted to examine the unique relationship between each of the subsystems of the L2MSS and the Intended Learning Effort. The total  $R^2$  for this model was 53%, meaning that the inclusion of the four subsystems of the L2MSS explained 53 % of the variance in the Intended Learning Effort. See Table 8 for more information on the result of the regression test.

Table 8

*Standard Multiple Regression Showing the Unique Effect of Each Independent Variable on the Dependent Variable*

	Total $R^2$	Intercept	Ideal Self	Ought-to	Anti-Ought to	Learning Exp.
B	.53	1.53	.27	.19	-0.14	0.35
95% CI		[-0.49, 3.55]	[-.3, .85]	[-.15, .52]	[-.36, .084]	[-.16, .87]
Relative import. ( $sr^2$ )			2.4%	3.3%	4.1%	5%

$sr^2$  (squared semipartial correlation) shows how much each independent variable uniquely contributes to  $R^2$ .

Table 9 also shows that the Learning Experience claimed the highest unique contribution (5%) to the overall  $R^2$ .

### **The Third Research Question**

3. How would the interviewed participants describe their L2 motivational system?
  - a. Does their description reflect an awareness of the CDST assumptions of dynamism and openness of L2 motivation?
  - b. Do they describe their L2 motivation in a way comparable to the L2MSS conceptualization of motivation?



With regard to the qualitative part of this study, an iterative, deductive thematic analysis was utilized when analyzing the qualitative data (Strauss & Corbin, 1998, Duff, 2008). The researcher read the transcription of the data multiple times, and thoroughly examine the details of the discussed topics. The interview data represent the L2 learners' perspectives of the Learning Experiences and the parameters that they see as influential in the promoting or suppressing their effort and persistence in learning English. These perspectives were interpreted and inferences were drawn in light of the L2MSS conceptual framework.

The first cycle of coding was the open coding which involves the identification of all phrases, patterns, and incidents that have to do with “the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalized and (successfully or unsuccessfully) acted out” (Dörnyei & Otto, 1998, p. 65). Thus, statements that denote approaching or avoiding the learning situations were identified in this cycle of coding and highlighted as instances of L2 motivation at work. Moreover, Appraisal Theory (Scherer, 1999; Schumann, 1997) guided the analysis of how participants evaluate and react on their experiences and how these evaluations are associated with the ups and downs in their L2 motivation.

A second cycle of coding was conducted to cluster similar codes together in a process conventionally called axial coding (Ezzy, 2002). Unlike the first cycle of coding which is limited to verbatim of the participants' description of their Learning Experiences, this cycle can utilize inferential categories and depart from the using the exact words in order to develop more comprehensive categories. Yet as recommended by Duff (2008), the reliability of the codes was established by using coder checks when needed.

In the final stage of coding the researcher used selective coding (Lichtman, 2013). During selective coding the researcher reformulated the developed codes into major themes in light of the theoretical constructs of the CDST and L2MSS theories. This entails that the researcher looked for the components of L2 motivation and closely examined the interactions between them.

## **CHAPTER FOUR:**

### **RESULTS**

#### **An Overview**

In this chapter, the results of the different analyses will be presented. Before going into the details to these results, an overview of the purpose of the current study is due. The study was started to serve two main purposes. First, it sought to develop a deeper understanding of the dynamics of the system of L2 motivation and shed some light on the interactions that take place among the components of this system. Second, this research endeavor aimed at testing what the Appraisal Theory (Schumann, 2001) has to offer in terms of developing a better understanding of the connection between the Learning Experiences and the L2 motivation.

In order to serve the aforementioned purposes, survey data were collected from 102 ESL learners in the first round of data collection. However, in the second round of survey data collection, only 86 participants were successfully matched to their data from the first round. Background information showed that the ages of the participants ranged from 18 to 37 years ( $M = 25.9$ ). However, 68% of the participants were between 24 and 27 years old. Also, gender distribution showed that out of the total sample size ( $N=86$ ) 51 participants were males while 35 participants were females. Background information also indicated that 69 of the participants already had an undergraduate degree from their home country and that they were interested in pursuing higher studies after finishing their language program.

## **Results of the First Research Question**

What is the trajectory of L2 motivation of the participants?

In particular, this study is interested in the following sub-questions:

- a. What are the homogenous groups that can be identified among participants at the beginning of the semester?
- b. What are the motivational characteristics of these groups at the beginning of the semester? In other words, what are the motivational (attractor) states of the homogenous groups at the beginning of the semester?
- c. Are there instances of phase shifts in the observed trajectories of L2 motivation between time 1 (the beginning of the semester) data collection and time 2 data collection (the end of the semester)?

### **Identifiable Clusters**

Data from the first round of data collection were used to answer this question. Survey data that cover the Ideal Self (6 items), the Ought-to Self (6 items), the Anti-ought to Self (6 items), and the Learning Experiences (8 items) were collected from the participants. A list of these items organized by category is presented in Appendix 2. Descriptive statistics were obtained to a general understanding of the data (see Appendix 5). The descriptive statistics showed that the measures of skewness and kurtosis were roughly within the acceptable range (between -1 and 1 for skewness and -3 and 3 for kurtosis).

A two-stage cluster analysis was conducted to classify participants into homogeneous groups on the basis their responses to the survey questions. The means of the scores that cover the Ideal Self, the Ought-to Self, the Anti-ought-to Self, and the Learning Experiences were used

as clustering variables. In the first stage, the Hierarchical Cluster Analysis was conducted to identify the ideal number of clusters. This stage was followed by a k-means Cluster Analysis to confirm group memberships and identify the distances of the participants from the centers of their respected groups.

As recommended by Staples and Biber (2015), Ward’s method was used as the clustering method in the exploratory hierarchical cluster analysis. Also, the squared Euclidean distance was adopted to measure the distances between the clusters. Four distinct patterns of L2 motivation emerged from the responses of the participants at the beginning of the semester. The output of

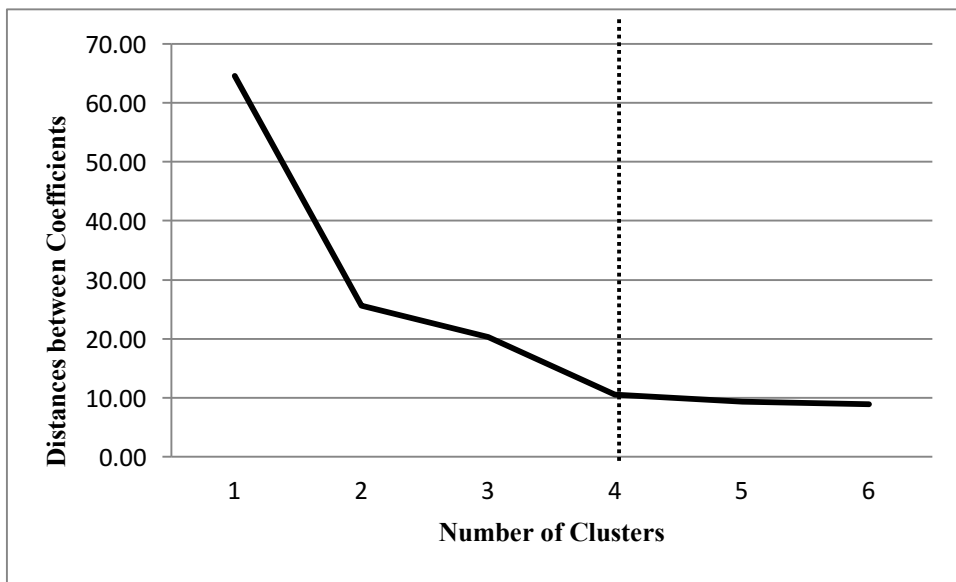


Figure 7. Plotting the distances between the coefficients

the hierarchical cluster analysis showed having a four-cluster solution was the optimal solution for the data collected in this study. As seen in Figure 7, the difference between coefficients started to level out at number four. Figure 7 also showed that creating additional clusters after cut-off point at number four does not introduce any new distinct clusters. After identifying the optimal number of clusters of the current data, a k-means clustering was used to identify clusters’

centers and confirm group memberships. Figure 8 provides the mean values of each of the four motivational measures of the four clusters. It should be noted that mean values of the Ideal Self and the Learning Experiences show less variability compared to the mean values of Ought-to Self and the Anti-ought to Self. Also, the mean values of the Ought-to Self in clusters one and four obviously dipped into a low of 3 out of 6. Another observation is that cluster four interestingly exhibits a distinct motivational pattern. Participants in this cluster were found to be less sensitive to the expectations of their social context. However, they were likely to defy the social pressures and do the opposite of what would be expected from them, thus engaging in a psychological reactance to the social pressures.

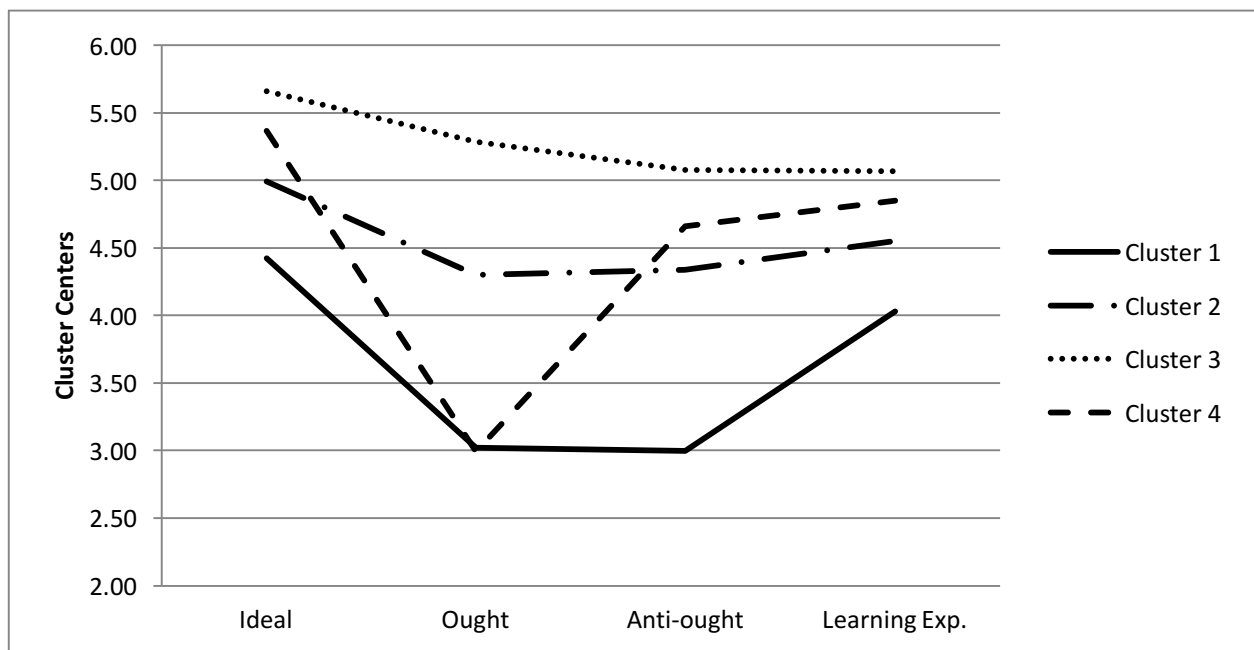


Figure 8. Plotting cluster centers

Group membership in each cluster was determined by the closeness of the member to the center of the cluster. The output of the k-means showed that eight participants appeared in cluster one, thirty-four in cluster two, twenty four in cluster three, and twenty in cluster four. Table 9 summarizes the demographic information of across clusters.

Table 9

<i>Demographic Information</i>					
Characteristics	Total	Cluster 1 (n = 8)	Cluster 2 (n = 34)	Cluster 3 (n = 24)	Cluster 4 (n = 20)
Gender					
Male	51	4	25	12	10
Female	35	4	9	12	10
Age (years)					
Mean	25.9 (3.9)	24.4 (4.4)	26.8 (4.2)	25.8 (3.2)	25.4 (3.6)
Length of stay (months)					
Mean	9.3 (4.5)	13.4 (4.6)	8.3 (4)	9.8 (4.4)	8.5 (4.6)
Self-rated L2 Proficiency (5-point Likert)	3.03 (.54)	3.23 (.31)	2.94 (.34)	3.18 (.75)	2.96 (.56)

Preliminary examination of the results revealed some interesting observations. For example, gender distribution across clusters was balanced with the exception of cluster two which was dominated by male participants. Also, unlike other clusters, cluster one had a unique pattern of motivation. Participants in this cluster appeared to be mainly motivated by internally-oriented future selves, with no obvious presence of socially-oriented future selves. In another interesting finding, the scores of the two dimensions of the socially-oriented future selves (the Ought-to Self and the Anti-ought to Self) seemed to maintain a balance between them across clusters as shown in Figure 8 and Table 11. Cluster four was the exception because it did not follow this pattern and a big gap difference was recorded between the two dimensions in this cluster.

Part (a) of the first research question was concerned with identifying the different clusters in the sample. Four clusters with maximized within-group homogeneity and between-group heterogeneity were formulated. Since the Cluster Analysis is an exploratory multivariate analysis, it is highly recommended to validate any resulting cluster solution (P. Hiver, personal communication, April 10, 2016). A Multivariate Analysis of Variance (MANOVA) and a Discriminant Function Analysis are among the available statistical tools for validating the clustering solution.

Table 10

*Classification Analysis of Clusters\**

Actual cluster membership	Number of participants	Predicted cluster membership							
		Cluster 1		Cluster 2		Cluster 3		Cluster 4	
		n	%	n	%	n	%	n	%
Cluster 1	8	8	100	0	.0	0	.0	0	.0
Cluster 2	34	0	.0	34	100	0	.0	0	.0
Cluster 3	24	0	.0	1	4.2	23	95.8	0	.0
Cluster 4	20	0	.0	2	10	0	.0	18	90

\* 96.5% of clusters' members correctly classified.

To validate the clustering solution, a MANOVA examining the effect of cluster membership on the four motivational measures (the Ideal Self, the Ought-to Self, the Anti-ought-to Self, and the Learning Experiences) found a statistically significant difference across the clusters on a linear combination of the motivational measures ( $F_{3,82}=16.47$ ,  $p < .000$ , partial  $\eta^2=.45$ ). The results of this test confirmed that clusters are distinct from each other with respect to



the motivational measures when they are taken as a whole (see Tables 13 – 16 for post-hoc comparisons).

Also, a Discriminant Function Analysis was performed to validate the clustering solution. This analysis can be seen as a reversed MANOVA because it, unlike MANOVA, treats clusters as dependent variables and predictors as independent variables. The results of the Discriminant Function Analysis showed that 96.5% of the actual cluster memberships had met the predicted cluster memberships (see Table 10). Also, this analysis showed 76.8% of the variability in cluster memberships was accounted for by the variable Ought-to Self alone while 22.3 % of the variability in group memberships was accounted for by the Anti-ought to Self and the Learning Experience combined. Finally, the participants in the study mostly scored high on the Ideal Self with limited variability and this is why the Ideal Self only explained about 1 % of the variability in group memberships (see Appendix 5).

Taking into account the results of the MANOVA analysis and the Discriminant Function Analysis, it was therefore concluded that the four-cluster solution was satisfactorily robust. Thus, further analysis of the motivational profiles of each cluster can be performed.

### **Motivational Characteristics of the Clusters**

The first round of data collection that was conducted during the first week of the semester highlighted four different starting points at which the cluster members began their formal language learning. Greater discrepancy between clusters was recorded on the Ought-to Self measure as seen in Table 11, while the least discrepancy was associated with Ideal Self measure. Pairwise comparisons were carried out to investigate the statistical significance of cluster

differences. The clusters in the current study had unequal sample sizes and the statistics that covered the Ought-to Self was found to be violating the assumption of the homogeneity of variances (see Table 16 for the results of Levene’s test of homogeneity of variances). Therefore, the Games-Howell post-hoc test was used to conduct pairwise comparisons because the test was designed to cope with unbalanced group sizes and heterogeneous group variances (Field, 2009).

Table 11

*Motivational Characteristics of the Clusters at the Beginning of the Semester*

Motivational Measure	Cluster 1 (n = 8)	Cluster 2 (n = 34)	Cluster 3 (n = 24)	Cluster 4 (n = 20)	Total (n = 86)	MANOVA post-hoc tests*
Ideal	4.43 (.27)	4.99 (.53)	5.66 (.39)	5.37 (.56)	5.21(.61)	1 < 2, 3, 4 ; 2 < 3
Ought-to	3.02 (.89)	4.30 (.39)	5.28 (.47)	2.99 (.64)	4.15(1.0)	1 < 2, 3 ; 4 < 2, 3 ; 2 < 3
Anti-ought	3.00 (.34)	4.34 (.52)	5.08 (.50)	4.66 (.59)	4.49(.76)	1 < 2, 3, 4 ; 2 < 3
Learning Exp.	4.03 (.62)	4.56 (.50)	5.07 (.39)	4.85 (.38)	4.71(.55)	1 < 3, 4 ; 2 < 3

\* Games-Howell post-hoc tests were used with the significance level set at .05

A summary of the comparisons is presented in Table 11 while the detailed output is shown in Tables 13 – 16. Cluster 3 was significantly higher than clusters 1 and 2 across all measures. Cluster 2 was always significantly higher than cluster 1 and it also achieved statistical significance in the comparison with cluster 4 on the Ought-to Self measure. By closely examining the motivational measures in Table 11 and the significant discrepancies between clusters on each of the measures, the defining characteristics of each cluster can be brought to light. Descriptions of the characteristics of each cluster are presented next.

***Cluster One: The Passive Nonconformist***

Members of this category were assigned to cluster one. This cluster had the least number of members with only eight participants. Demographic and background information showed that the nonconformists tended to be younger when compared to the members of other clusters. Also, the length of their stay in the United States was found to be longer and this is why they were typically in the advanced levels at the time of the study. Males and females were equally represented in this cluster. Background information also showed that the nonconformists had the highest self-rated L2 proficiency.

Table 12

*Cluster One: Reporting the Results of the Post-hoc Multiple Comparisons*<sup>a</sup>

	CL1: Passive Nonconformists			
	Ideal Self	Ought-to Self	Anti-ought to Self	Learning Experiences
<u>CL2: Average Cluster</u>				
Mean Diff. (1 – 2)	-.57*	-1.28*	-1.34*	-.52
Sig. (p)	p = .001	p = .019	p = .001	p = .187
effect size (d)	1.35	1.86	3.09	.92
<u>CL3: Highly Motivated</u>				
Mean Diff. (1 – 3)	-1.23*	-2.26*	-2.08*	-1.04*
Sig. (p)	p < .001	p < .001	p < .001	p = .007
effect size (d)	3.70	3.18	4.87	2.01
<u>CL4: Active N.C.<sup>b</sup></u>				
Mean Diff. (1 – 4)	-.94*	.03	-1.66*	-.82*
Sig. (p)	p < .001	p = 1.00	p < .001	p = .027
effect size (d)	2.16	0.04	3.49	1.59

<sup>a</sup> Games-Howell test was used.

<sup>b</sup> Active Nonconformists

\* The mean difference is significant at the .05 level.

Figure 8 showed that the nonconformists scored less than other clusters on every motivational measure. The most salient distinctive features that set them apart from other clusters were related to the socially-oriented motivational measure i.e. the Ought-to Self and the Anti-ought to Self. The difference between the passive nonconformists and other clusters was bigger on the aforementioned socially-oriented motivational measures. However, members of the first cluster managed to minimize the gap between them and other clusters related to the Ideal Self and the Learning Experience which might be seen as an indication that the nonconformists were internally oriented. They were assigned this name because they were less sensitive to the expectations and demands of their social context. Social pressures had the least effect on their future aspirations and goals. They were not trying to conform to social expectations nor were they challenging a socially imposed model. Instead, their L2 future selves of represented their original and internal selves because they were less prone to social pressures. The summary of the multiple comparisons presented in Table 11 (see also Tables 13 – 16 for more information) clearly showed that the nonconformists scored significantly less than any other cluster on every motivational measure with two exceptions. When looking at the Ought-to Self, the difference between the nonconformist cluster and cluster four was reduced to an insignificant level, though differences with clusters two and three remained statistically significant. Also, the pair-wise comparisons showed that the non-conformist cluster and cluster two are not significantly different on the Learning Experiences scale.

### ***Cluster Two: The Average Cluster***

Cluster two was the largest cluster in terms of group membership with 34 participants enlisted in this cluster. Gender distribution was skewed towards male participants (25 males, 9

females). The cluster was labeled as the average cluster because the cluster's means on each of the four motivational measures was in the middle between the maximum and minimum points as shown in Figure 8 above. Also, as shown in Table 11 the means of this cluster had the least departure from the overall means of the sample on each of the motivational measures. The demographic information showed that the average learners were typically older than the members of other clusters ( $M = 26.8$ ;  $SD = 4.2$ ). Also, the mean length of their stay in the United States was typically shorter than those of other clusters (see Table 9). In addition, Table 9 showed that the mean self-rated proficiency of this cluster ( $M = 2.94$ ) was lower than those of other clusters. It should be noted, however, that the group differences in self-rated L2 proficiency failed to reach statistical significance after running a Welch test to compare means ( $F_{3,27.92}=2.19$ ,  $p = .11$ , est.  $\omega^2 = .04$ ). Note that Welch test was used instead of the regular one-way ANOVA because it is robust to unequal sample sizes and heterogeneous variances.

According to the results of Games-Howell pair-wise test, the average cluster was in the middle between clusters one (the passive nonconformists) and cluster three. Statistically significant differences separated this cluster from these two clusters on all motivational measures (the one exception was the difference between the passive non-conformists and average learners on the Learning Experiences which yielded a  $p$  value of .187). As for the comparisons between the average cluster and cluster four, the results showed the Ideal Self, the Anti-ought to Self, and the Learning Experiences of cluster four were stronger, yet difference gaps between the two clusters on those scales were not significant. The results of the remaining scale, that is, the Ought-to Self proved to be significant, showing that the average cluster had a higher Ought-to Self (see Table 13 for comparisons between clusters).

Table 13

*Cluster Two: Reporting the Results of the Post-hoc Multiple Comparisons<sup>a</sup>*

	CL2: Average Cluster			
	Ideal Self	Ought-to Self	Anti-ought to Self	Learning Experiences
<u>CL1: Passive N.C.<sup>b</sup></u>				
Mean Diff. (2 – 1)	.57*	1.28*	1.34*	.52
Sig. (p)	p = .001	p = .019	p = .001	p = .187
effect size (d)	1.35	1.86	3.09	.92
<u>CL3: Highly Motivated</u>				
Mean Diff. (2 – 3)	-.67*	-.99*	-.74*	-.52*
Sig. (p)	p < .001	p < .001	p < .001	p < .001
effect size (d)	1.43	2.27	1.45	1.15
<u>CL4: Active N.C.<sup>c</sup></u>				
Mean Diff. (2 – 4)	-.38	1.31*	-.32	-.30
Sig. (p)	p = .088	p < .001	p = .197	p = .082
effect size (d)	0.69	2.45	.58	.67

<sup>a</sup> Games-Howell test was used.

<sup>b</sup> Passive Nonconformists

<sup>c</sup> Active Nonconformists

\* The mean difference is significant at the .05 level.

***Cluster Three: The Highly-Motivated***

Cluster three was the second largest group in the study with males (N = 12) and females (N = 12) equally represented in the cluster. The average age of the participants in cluster three (25.8 years) was the closest to sample mean (25.9 years). Information retrieved from the background section of the survey showed that members of the highly-motivated cluster tended to be students who were enrolled in intermediate or advanced levels in the language institute. Also,

the mean self-rated language proficiency ( $M = 3.18$  out of 5) was the second highest in the sample.

This cluster was aptly named the highly-motivated cluster because the mean score of this group of participants was higher than any other cluster on every single motivational scale as seen in Table 11. The Ought-to Self of the highly-motivated cluster was significantly higher than any other cluster (see Table 14). Also, it was significantly higher than clusters one and two on the measures of the Ideal Self, the Anti-ought to Self, and the Learning Experiences. As for the pair-comparison with cluster four, a difference was detected in favor of the highly-motivated cluster but this difference failed to reach statistical significance.

Table 14

*Cluster Three: Reporting the Results of the Post-hoc Multiple Comparisons<sup>a</sup>*

	CL3: Highly Motivated			
	Ideal Self	Ought-to Self	Anti-ought-to Self	Learning Experiences
<u>CL1: Passive N.C.<sup>b</sup></u>				
Mean Diff. (3 – 1)	1.23*	2.26*	2.08*	1.04*
Sig. (p)	p < .001	p < .001	p < .001	p = .007
effect size (d)	3.70	3.18	4.87	2.01
<u>CL2: Average Cluster</u>				
Mean Diff. (3 – 2)	.67*	.99*	.74*	.52*
Sig. (p)	p < .001	p < .001	p < .001	p < .001
effect size (d)	1.43	2.27	1.45	1.15
<u>CL4: Active N.C.<sup>c</sup></u>				
Mean Diff. (3 – 4)	.29	2.30*	.42	.22
Sig. (p)	p = .213	p < .001	p = .076	p = .259
effect size (d)	-0.61	4.07	.76	.56

<sup>a</sup> Games-Howell test was used.

<sup>b</sup> Passive Nonconformists

<sup>c</sup> Active Nonconformists

\* The mean difference is significant at the .05 level.

***Cluster Four: The Active Nonconformists***

A total of 20 participants were grouped in cluster four. Like clusters one and three, this cluster had a balanced gender distribution. The participants who clustered in group four shared a unique motivational pattern that set them apart from the rest of the sample. Other clusters witnessed what looked like coordination between the social dimensions of the future selves (the Ought-to Self and Anti-ought to Self). For example, the means of the social dimensions of the



future selves were both low in cluster one and both high in cluster three. However, members of cluster four had the lowest mean on the Ought-to Self scale ( $M = 2.66$ ) and the second highest mean on the Anti-ought-to Self scale ( $M = 4.66$ ). This preliminary observation called for detailed pairwise comparisons with other clusters.

The results of the pairwise comparisons are presented in Table 15. The means of cluster four were high on the motivational measures of the Ideal Self, the Anti-ought to Self, and the Learning Experiences, to the degree that there was no significant difference between cluster four and cluster three, the cluster with the highest means. As for the Ought-to Self, cluster four had lowest mean with ( $M = 2.99$ ). The low mean on the Ought-to Self represented a stark contrast to their high means on other motivational measures. This low mean suggested that the members of cluster four did not necessarily conform to the expectations of social contexts. Unlike the passive nonconformists (cluster one), the active nonconformists (cluster four), with their low Ought-to Self and high Anti-ought to Self, did not only insulate their future selves from social pressures but also went on to challenge these future images in a form of psychological reactance to the social expectations and academic challenges, and this is why it was decided to assign them the label the active nonconformists as opposed to the passive nonconformists. The label “active” was assigned because the results of the Anti-ought to Self suggested that this cluster was likely to be involved in active resistance to social expectations while the label “nonconformists” was given to this group to highlight the low mean score on the Ought-to Self scale. The results of the active nonconformists were low on this scale, thus suggesting that they were less likely to be motivated by social expectations when compared to the highly-motivated cluster and average cluster.

Table 15

*Cluster Four: Reporting the Results of the Post-hoc Multiple Comparisons<sup>a</sup>*

	CL4: Active Nonconformists			
	Ideal Self	Ought-to Self	Anti-ought to Self	Learning Experiences
<u>CL1: Passive N.C.<sup>b</sup></u>				
Mean Diff. (4 – 1)	.94*	-.03	1.66*	.82*
Sig. (p)	p < .001	p = 1.00	p < .001	p = .027
effect size (d)	2.16	0.04	3.49	1.59
<u>CL2: Average Cluster</u>				
Mean Diff. (4 – 2)	.38	-1.31*	.32	.30
Sig. (p)	p = .088	p < .001	p = .197	p = .082
effect size (d)	0.69	2.45	.58	.67
<u>CL3: Highly Motivated</u>				
Mean Diff. (4 – 3)	-.29	-2.30*	-.42	-.22
Sig. (p)	p = .213	p < .001	p = .076	p = .259
effect size (d)	-0.61	4.07	.76	.56

<sup>a</sup> Games-Howell test was used.

<sup>b</sup> Passive Nonconformists

\* The mean difference is significant at the .05 level.

### Phase Shifts

Studying L2 motivation from a CDST perspective involves viewing L2 motivation as complex system in constant change. Some of these changes are slight perturbations that are not associated with drastic modifications to the complex system while others involve major perturbations and could cause phase shifts. To test whether the different clusters of participants had gone through a phase shift during the semester, a repeated-measure (RM) ANOVA test was performed for each of the components of L2 motivation.

Before conducting the test of RM ANOVA, a couple of statistical tests were performed to examine the assumptions of RM ANOVA. First, the Shapiro Wilk test of normal distribution was carried out and its results revealed deviations from normal distributions in three of the motivational measures across the two rounds of data collections (see Table 16). The items that showed abnormality in their distributions were the Ideal Self component in rounds one and two, and the Ought-to Self in round two. The histograms of the abnormally distributed measures indicated that they were positively skewed (see Appendix 6 ), meaning that the participants tended to agree with the questionnaire statements .

In addition to Shapiro-Wilk test of normality, Levene's test of the homogeneity of variances was conducted. The results of the test showed that the data met the assumption of homogeneity with the exception of the Ought-to Self measure in the second round of data collection ( $F_{(3,82)} = 4.353, p = .007$ ). The significant result in the Lavene's test suggested that the variances among the clusters were not homogeneous on the Ought-to Self. Mauchly's sphericity test represents another important assumption of RM ANOVA, however, it was not applicable to the current study because it only had two levels of the within-subjects variable. The sphericity test requires at least three levels to be performed. Although the detected violations of RM ANOVA assumptions were concerning and could undermine the power of the statistical test (Larsen-Hall, 2015), they should not prevent from conducting the RM ANOVA.

Table 16

*Testing Normality and Homogeneity Assumptions*

Motivational Measures	Shapiro-Wilk			Lavene			
	Statistic	df	Sig.	Statistic	df1	df2	Sig.
Ideal Self - Time 1	.941	86	.001*	2.130	3	82	.103
Ought to Self - Time 1	.978	86	.141	4.353	3	82	.007*
Anti-ought to Self - Time 1	.972	86	.059	1.094	3	82	.357
Learning Experience - Time 1	.973	86	.068	.895	3	82	.447
Ideal Self - Time 2	.955	86	.004*	.147	3	82	.931
Ought to Self - Time 2	.942	86	.001*	2.073	3	82	.110
Anti-ought to Self - Time 2	.974	86	.086	1.411	3	82	.246
Learning Experience - Time 2	.934	86	.059	.644	3	82	.589

\*alpha value was set at .05

Four RM ANOVAs were conducted to test change over time in the four motivational measures. First, an RM ANOVA was performed for the Ideal Self. The within-subject variable in this test was the time of measuring the Ideal Self (time one and time two) and the participants' clusters (four clusters) were entered as a between-subject variable. The result of the test revealed a main effect of time with a medium effect size ( $F_{1,82}=6.41$ ,  $p = .01$ , partial  $\eta^2 = .077$ ). However, no interaction was detected between time and cluster ( $F_{3,82}=.843$ ,  $p = .47$ , partial  $\eta^2 = .03$ ). The significant main effect of time indicated that the participants' Ideal Self in the second round ( $M = 5.32$ ) was significantly higher than that of the first round ( $M= 5.21$ ), irrespective of their clusters (see Figure 9)

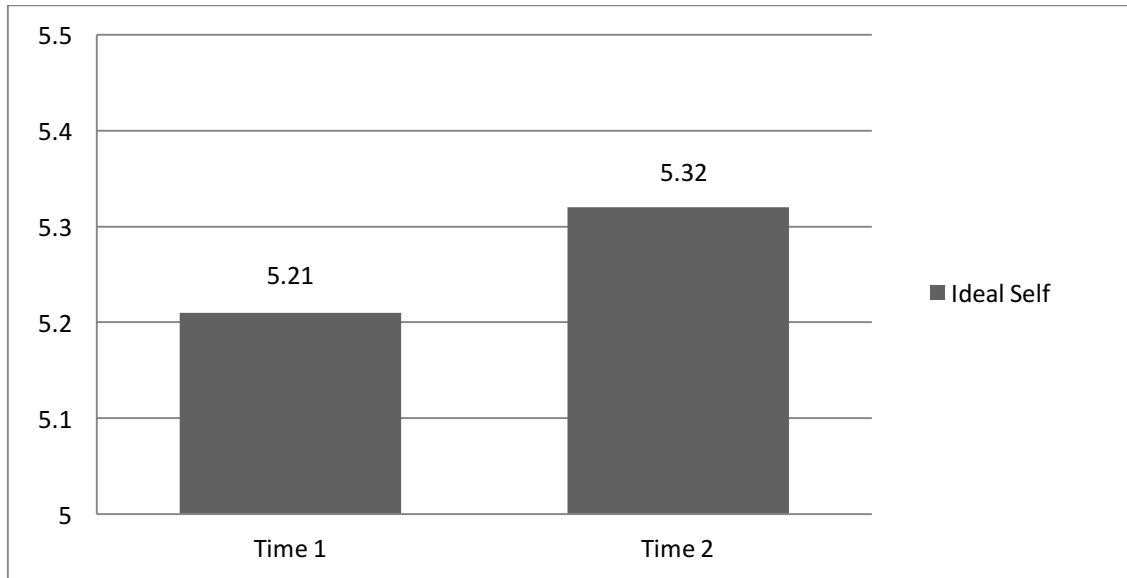


Figure 9. A Bar Graph of Time 1 and 2 of the Ideal Self

A second RM ANOVA was carried out to examine changes in the Ought-to Self over time across the four clusters. The test showed a main effect of time ( $F_{1,82}=56.75$ ,  $p < .001$ , partial  $\eta^2 = .41$ ). Also, a significant interaction was found between time and cluster ( $F_{3,82}=6.59$ ,  $p < .001$ , partial  $\eta^2 = .19$ ). Having a significant interaction between time and cluster meant that results would not allow for making accurate conclusions about the main effects individually. Also, it meant that the magnitude of the difference between scores recorded in the first round and those in the second round depended on the cluster. This is why additional examination was needed to interpret the results of the interaction. Plotting the means of the clusters for time 1 and time 2 facilitates the interpretation of the interaction between time and cluster. As shown in Figure 10, the magnitude of the increase was higher in clusters one (passive nonconformists), two (average cluster), and four (active nonconformists). The nonparametric test of Wilcoxon Signed-Rank was utilized to confirm this observation. This specific test was used because the data related to the Ought-to Self did not meet the assumptions of the non-parametric paired-

sample t-test. The results showed a significant increase in cluster two, the average cluster, ( $p = .001$ ) and cluster four, the active nonconformists, ( $p < .001$ ) with effect size values of .40 and .62 respectively. The tests on clusters one (the passive nonconformists) and three (the highly-motivated cluster) did not yield significant results. It should be noted that the mean difference in clutter one seemed big enough to yield some statistical results. However, it is likely that the small sample size of this cluster ( $N=8$ ) undermined the power of the test and resulted in potential case of type II error.

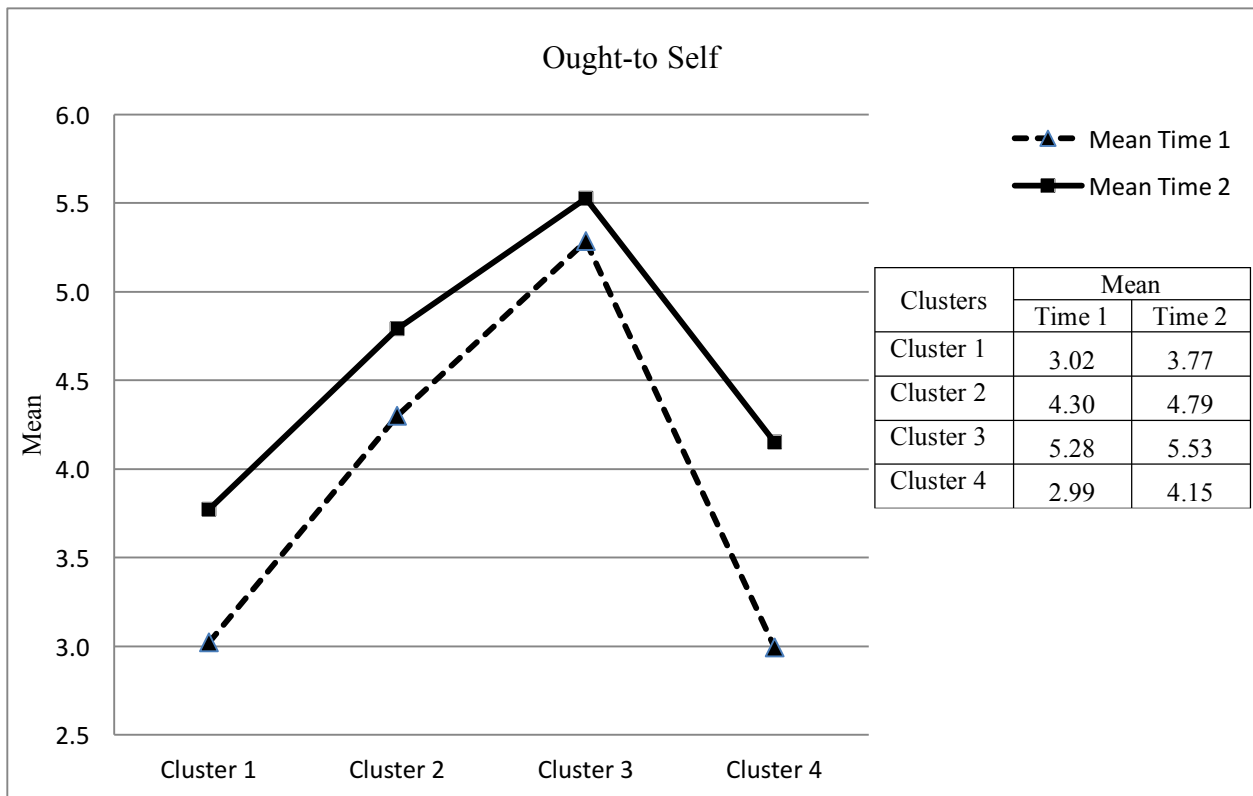


Figure 10. Plotting Change over Time in the Ought-to Self

The repeated measure ANOVA that was performed on the Anti-ought to Self revealed a main effect of time ( $F_{1,82} = 41.98$ ,  $p < .001$ , partial  $\eta^2 = .34$ ) and a significant interaction between time and cluster ( $F_{3,82} = 5.7$ ,  $p = .001$ , partial  $\eta^2 = .17$ ). The significant interaction effect was an indication that the amount of change between the Anti-ought to Self in the first round and that of the second round was not equal across clusters. Figure 11 suggested that the increases were particularly accentuated in the clusters that scored low during time one of data collection. Paired samples t-tests showed that cluster one, the passive nonconformists, witnessed a significant increase ( $t(7) = -3.60$ ,  $p = .009$ ,  $d = 1.27$ ). Also, clusters two, the average cluster, ( $t(33) = -4.84$ ,  $p < .001$ ,  $d = .83$ ) and three, the highly-motivated, ( $t(23) = -2.17$ ,  $p = .041$ ,  $d = 0.24$ ) had showed a significant increase in the Anti-ought to Self. The results of the paired sample t-test of cluster four, the active nonconformists, did not reach statistical significance ( $t(19) = -1.69$ ,  $p = .1$ ,  $d = 0.22$ ), suggesting that no significant changes were witness from time 1 to time 2 in this cluster.

By examining the effect sizes of the clusters one ( $d = 1.27$ ), two ( $d = .83$ ), and three ( $d = 0.24$ ), one can conclude that although these clusters went through statistically significant increases during the data collection period, the increases were losing momentum and the magnitude of the difference was shrinking. In fact, the effect size of cluster three, the highly-motivated cluster, did not reach the lower limit of the small effect size for the within-groups effect size in the field of second language research. According to Plonsky and Oswald (2014) the general bench marks for interpreting Cohen's  $d$  in the field of L2 research is  $d = 0.60$  for small,  $d = 1.00$  for medium, and  $d = 1.40$  for large effect sizes for the within-groups differences. Therefore, although cluster three reached statistical significance, the size of the difference between the two means was too small, suggesting that this statistical difference lacked any practical significance.

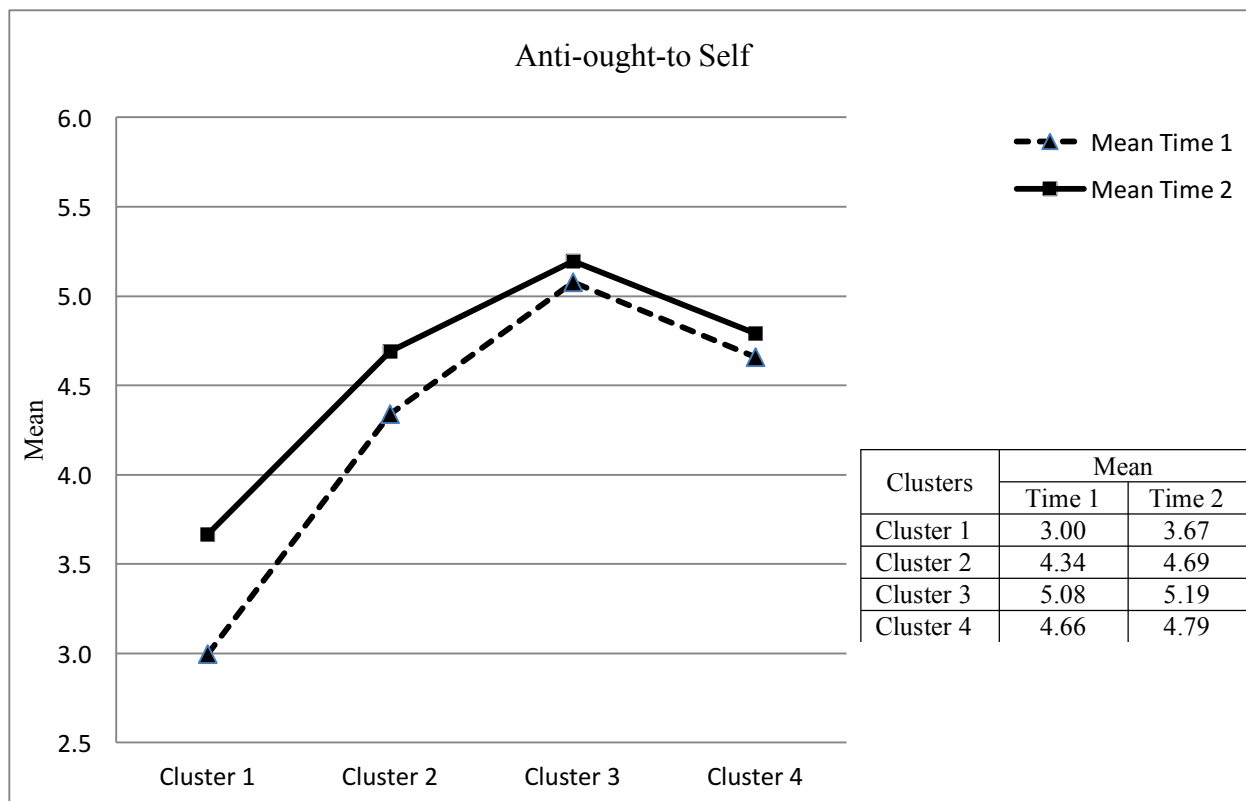


Figure 11. Plotting Change over Time in the Anti-ought to Self

Finally, the repeated measure ANOVA, examining the changes in the Learning Experiences over time and across the four clusters, showed a significant interaction effect between time and cluster ( $F_{3,82}=7.14$ ,  $p < .001$ , partial  $\eta^2 = .21$ ) while testing the main effect of time did not reveal significant results ( $F_{1,82}=.852$ ,  $p = .36$ , partial  $\eta^2 = .01$ ). The significant results of the interaction between time and cluster indicated that there was a combined and simultaneous effect of time and cluster. Figure 12 revealed that the effect of time the Learning Experiences of the participants was not constant across clusters. While clusters one (the passive nonconformists), three (the highly-motivated), and four (the active non-conformists) witnessed a decline in the positive Learning Experiences, cluster two (the average cluster) recorded a



remarkable increase. Multiple paired-samples t-tests were carried out to examine the significance of these changes. The tests showed that clusters one experienced significant fall ( $t(7) = 2.48, p = .04, d = 0.45$ ) while cluster two witnessed a significant improvement in the Learning Experiences ( $t(33) = -3.70, p = .001, d = 0.64$ ). Finally although clusters three and four suffered some decline, the magnitude of this decline was not statistical. The results of the t-tests for cluster three and four were ( $t(23) = 1.61, p = .12, d = 0.33$ ) and ( $t(19) = , p = .53, d = 0.17$ ) respectively.

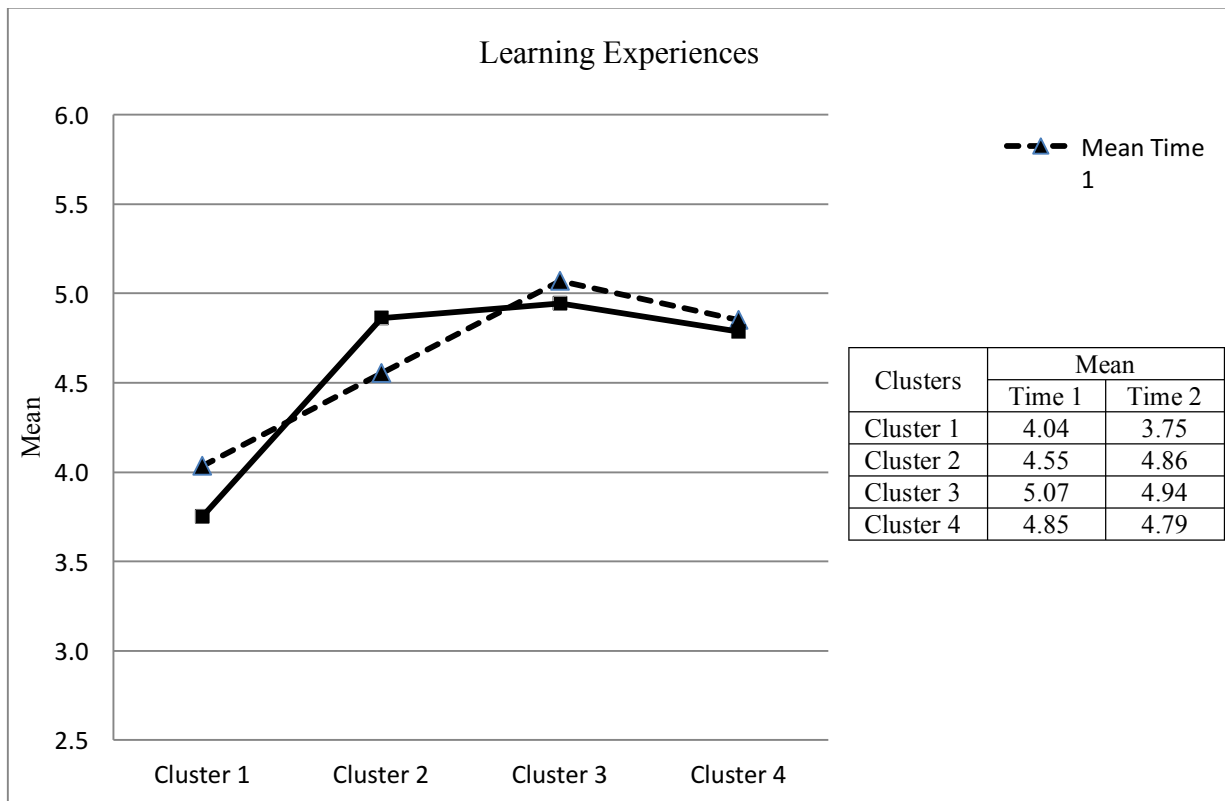


Figure 12. Plotting Change over Time in the Learning Experiences

Now that the results of the RM ANOVA were presented, the question would be how these results could be interpreted. The tests showed a general trend toward developing less positive Learning Experiences with the exception of cluster two (the average cluster). As for the

future self images, there was a tendency toward improvement as the time passed. The Ideal Self image was reinforced by the time the participants reached the second point of testing and all participants experienced this change regardless of their clusters because the RM ANOVA results did not show any interaction between time and cluster. However, change over time in the socially-driven future images, or in other words, the reinforcement of the Ought-to Self and the Anti-ought Self by the time of the second round of data collection was somehow connected to the cluster membership. The magnitude of the improvement was greater in the clusters that had a relatively low initial states of the Ought- to Self and the Anti-ought to Self (e.g. cluster two). Clusters with high initial states witnessed some improvement but it was not significant (e.g. cluster three). Comparisons between time 1 and time 2 results suggested that clusters one and two witnessed phase shifts (see Table 17). This conclusion was supported by the fact that the two clusters showed significant changes across the four motivational scales (note that the non-parametric paired-sample t-test for the Ought-to Self in cluster one (the passive nonconformists) did not have enough power to reach significance). As for clusters three (the highly-motivated) and four (the active non-conformists), there was not adequate evidence to suggest that a phase shift took place. Both of them did not exhibit significant results in at least two of the four motivational scales.

Table 17

*Summary of the results of the RM ANOVA and the subsequent pairwise comparisons: Were there any significant changes in the motivational measures between Time 1 and Time 2?*

Cluster	Ideal Self	Ought-to	Anti-ought to	Learning Exp.
Cluster 1 (Passive Nonconformists)	Yes (regardless of the cluster)	No <sup>a</sup>	Yes	Yes
Cluster 2 (Average Cluster)		Yes	Yes	Yes
Cluster 3 (Highly Motivated)		No	Yes <sup>b</sup>	No
Cluster 4 (Active nonconformists)		Yes	No	No

<sup>a</sup> No significant difference was found most likely due to the fact that the test lacked adequate power.

<sup>b</sup> The effect size was too small. Therefore, it can be concluded that the significant difference has no practical significance.

It should be noted, however, that the mentioned changes that were exposed by the RM ANOVA were based on the means' differences. The mean of any cluster gives an indication of general trend in the cluster but it might not accurately reflect the scores of individual members. Individual participants might not always follow the general pattern of change in their clusters. Note that the participants were assigned to their clusters based on their responses at the beginning of the semester (time one). Therefore, it worth investigating to see if the participants' responses in the second round were used as the basis for group membership would they end up in their original clusters. In other words, did the participants follow the shared pattern of movements that was exhibited by their clusters? Or did they develop new patterns of change that were aligning more toward a different cluster?

The statistical test of Discriminant Function Analysis has the potential of testing group providing answers to the above questions. To run the test, two types of information were needed; (1) the original clustering solution that was based on the data from time one and (2) the responses of the participants during the second time of data collection. The results showed that some participants deviated from the general patterns of change that were prevalent in their original clusters. As a result, these participants ended up in clusters that expressed their newly developed model of motivation.

The results of the Discriminant Function Analysis revealed that 80% of the participants maintained their cluster memberships. As for the remaining 20%, they switched to other clusters. Cluster two, the average cluster, was at the center of these changes in cluster membership, gaining more members and losing some. Figure 13 provides the ID numbers of the participants and traces their movements. It, also, shows that cluster one remained isolated from the changes in cluster membership. The changes in group membership represent another type of change that does involve the cluster as a whole which is different from the first type, the one that was highlighted by the significant results of the RM ANOVA.

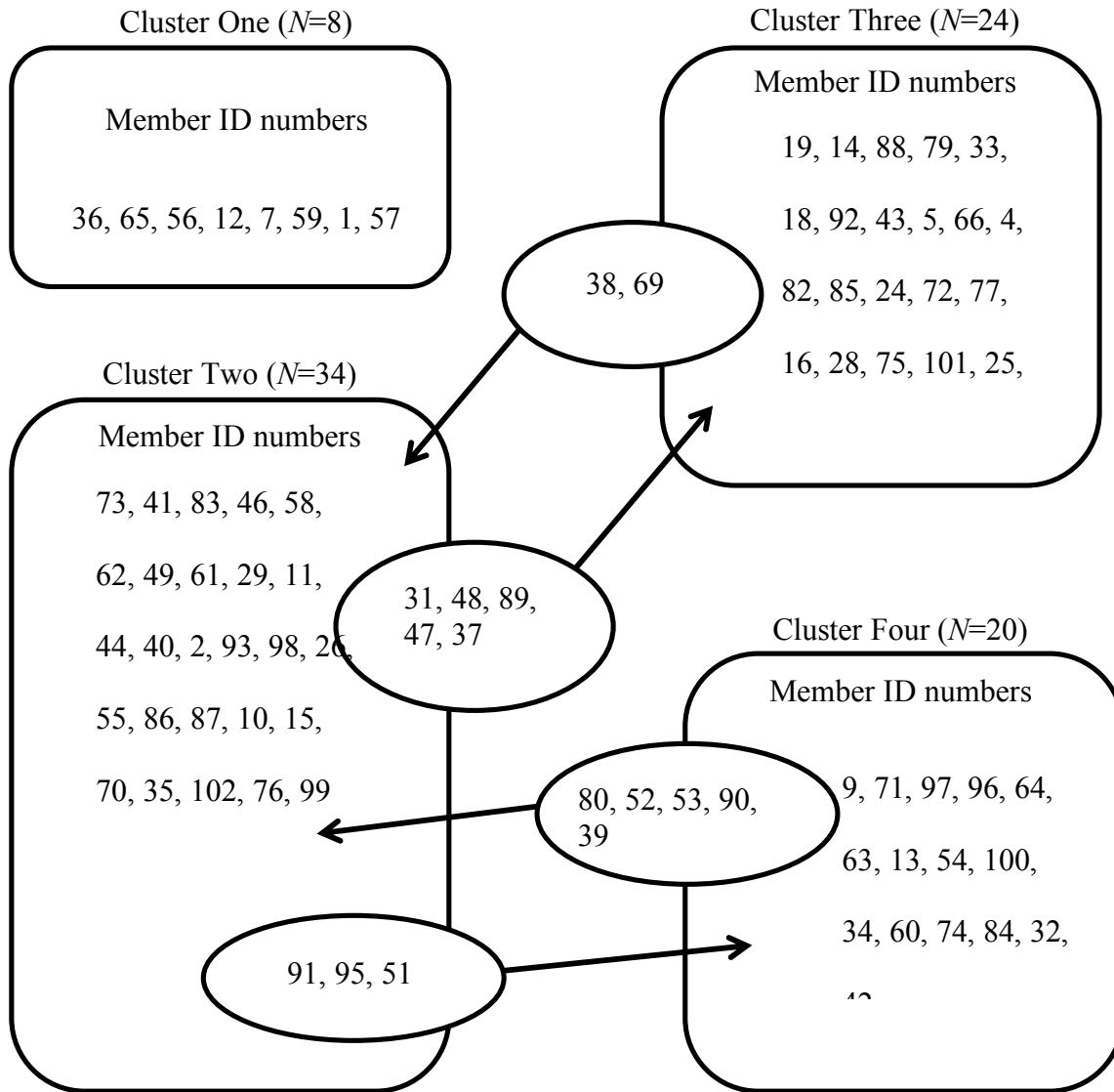


Figure 13. Illustration of the movements of the participants

### **Results of the Second Research Question**

- 3 To what extent are the subsystems of the L2 Motivational Self System (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experience) associated with Intended Learning Effort?

In particular, this study is looking to answer these sub-questions:

- a) What is the relationship between the following independent variables:
  - a. Ideal Self
  - b. Ought-to Self
  - c. Anti-ought to Self
  - d. Learning Experiences as operationalized by Appraisal Theory (Schumann, 2001)?
- b) How much of the variance in the Intended Learning Effort can be explained by the independent variables (the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences)?

The data from the first round of data collection were used to satisfy the second research question. The question focused on the interrelationships between the subsystems of L2 motivation, i.e. the Ideal Self, the Ought-to Self, the Anti-ought-to Self, and the Learning Experiences. It also examined the association between these subsystems on the one hand and the variability in the Intended Learning Effort on the other. Examining the interrelationships between the subsystems of L2 motivation was motivated by the CDST assumption that the subsystems of a complex system are inter-connected and engaged constant interaction. To statistically examine this assumption, the present study used the analysis of Pearson correlation to identify the correlated subsystems. It should be noted that there is always a good chance of

finding some level of correlation in any given analysis. However, the present study intended to uncover the pairs that seem to have closer connections in comparisons with other pairs. Also, it is important to examine the impact of the correlations on the regression analysis that would follow, and determine the amount of the  $R^2$  in the regression model that would be jointly explained by the subsystems of L2 motivations as opposed to the amount that would be explained by the individual subsystems.

The Pearson correlation was used to examine the relationships between the subsystems of the L2 motivation. As seen in Table 12, positive moderate correlations were found between the Anti-ought-to Self and each of the other subsystems. These relationships suggested that whenever L2 learners develop a strong essence of their personalities to the effect that they manage to challenge and overcome social and academic obstacles, positive changes are likely to be recorded in their Ideal Selves, Ought-to Selves, and Learning Experiences as well.

Table 18

*Pearson Correlations*

	Ideal Self	Ought-to Self	Anti-ought to Self	Learning Experiences
<u>Ideal Self</u>				
correlation coefficient (r)	1			
effect size (R <sup>2</sup> )	1			
confidence intervals	1, 1			
<u>Ought-to Self</u>				
correlation coefficient (r)	.24*	1		
effect size (R <sup>2</sup> )	.06	1		
confidence intervals	.04, .44	1, 1		
<u>Anti-ought to Self</u>				
correlation coefficient (r)	.51**	.43**	1	
effect size (R <sup>2</sup> )	.26	.19	1	
confidence intervals	.35, .65	.23, .62	1, 1	
<u>Learning Experiences</u>				
correlation coefficient (r)	.40**	.21	.51**	1
effect size (R <sup>2</sup> )	.16	.04	.26	1
confidence intervals	.24, .56	.001, .42	.32, .68	1, 1

\* Correlation significant at .05 (two-tailed)

\* Correlation significant at .01 (two-tailed)

Table 18 also revealed a positive moderate correlation between the Ideal Self and the Learning Experiences. Another positive, yet weak, correlation was found between the Ideal Self and the Ought-to Self. The relationships that were found between the subsystems of the L2 motivation seem to allude to the complex nature of L2 motivation. In theory, the components of complex systems are expected to be involved in complex network of relationships. It is not



certain how strong the association between the components of the complex systems is expected to be. The findings of current study indicated that the subsystems of the L2 motivation were correlated. The strength of the correlations ranged from medium to weak correlations. This level of relationships poses no threat to the following regression analysis which is known to be negatively affected by strongly-correlated explanatory variables. Strong correlations violate the multicollinearity assumption of multiple regression, a test that is carried out next, using the subsystems of the L2 motivation as explanatory variables.

The multiple regression analysis was performed to assess the association between the Intended Learning Effort (the outcome variable) and the subsystems of L2 motivation (the explanatory variables). The data of the current study were screened for any violation of the assumptions of multiple regression. First, the assumption of the sample size was considered. The required sample size for a multiple regression analysis with four explanatory variables is 80 participants and current study used data from 86 participants. Next, the Shapiro-Wilk test of normal distribution showed that the Ideal Self was not normally distributed. All of the other variables proved to be normally distributed (see Table 16). Also, the data were screened for any univariate or multivariate outliers. Univariate outliers are those cases with a z-score of  $\mp 3.29$ . Only case was dropped of the analysis because it had a z-score of -3.37. Multivariate outliers were screened for by using the Mahalanobis Distance. In a model with four explanatory variables, the multivariate outliers would be those cases with Mahalanobis distance value of  $\mp 18.47$  (for more details see Jeon, 2015, p. 137). The current study had no multivariate outliers since the minimum Mahalanobis value was .24 and the maximum was 11.02.

Another important assumption of multiple regression is multicollinearity. This assumption is violated when two explanatory variables are found to be highly correlated. Also, it

can be checked by looking at the variance inflation factor (VIF) and making sure it does not exceeds the value of 5 (Larsen-Hall, 2015, p. 248). The explanatory variable in the current model met this assumption. The VIF value of the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences were 1.74, 1.33, 1.21, and 1.38 respectively. As for the linearity assumption, it can be check by plotting the Intended Learning Effort against each of the explanatory variables. The plots in Appendix 8 show that the Ideal Self, Anti-ought to Self, and the Learning Experiences seem to have a reasonable linear relationships with the Intended Learning Effort. The Ought-to Self was not as linear as the other explanatory variables, but it did not show a curvilinear or any other identifiable patterns.

After checking for the assumptions of the multiple regressions, SPSS was used to run a standard model of regression. A significant regression model was found ( $F_{4,81}=23.30$ ,  $p < .0001$ ,  $R^2 = .54$ ). These results show that the subsystems of L2 motivation explained 54% of the variance in the Intended Learning Effort as shown in the model summary Table below (Table 19). The standard multiple regression is considered a rigorous type of regression and it usually yields conservative results (Jeon, 2015), yet the present model managed to explain more than half ( $R^2 = 54$ ) of the variability in the outcome variable. Having such a considerable value of  $R^2$  highlighted the strong association between the Intended Learning Effort and the subsystems of L2 motivation.

Table 19

*Model Summary: 4 -Predictor Model of Multiple Regression of the Intended Learning Effort \**

Model	R	R <sup>2</sup>	p
1	.73	.54	< .0001

\* The type of the regression model was a standard multiple regression.

Table 20

*Standard Multiple Regression Showing the Unique Effect of Each Independent Variable on the Intended Learning Effort*

	Total R <sup>2</sup>	Intercept	Ideal Self	Ought-to	Anti-Ought to	Learning Exp.
B	.54	.33	.20	-.15	.50	.37
95% CI		[-0.84, 1.51]	[-.20, .42]	[-0.27, -0.31]	[.30, .69]	[.13, .62]
Relative import. (sr <sup>2</sup> )			2%	4%	14%	5%

sr<sup>2</sup> (squared semipartial correlation) shows how much each independent variable uniquely contributes to R<sup>2</sup>.

Table 21

*Multiple Regression Results for a 3-Predictor Variable Model (Solution)*

Predictor	B	β	t	p
Ideal Self (F1)	.20	.162	1.80	.076
Ought-to Self (F2)	-.15	-.211	-2.509	.014
Anti-ought to Self (F3)	.50	.510	4.967	< .0001
Learning Experiences (F4)	.37	.274	3.054	.003

The unstandardized regression coefficients (B) of the performed standard multiple regression and their corresponding 95% confidence intervals (CI) are shown in Table 13. Using the B values of the subsystems of L2 motivation, the following regression equation was formulated:

$$\text{Intended Learning Effort} = .33 + .20 \text{ Ideal Self} + -.15 \text{ Ought to Self} + .50 \text{ Anti-ought to Self} + .37 \text{ Learning Experience}$$

Both the 95% confidence intervals in Table 20 and the  $p$  value reported the result of a t-test. This test was performed to examine the null hypothesis that the change in the Intended Learning Effort associated with every unit change in a given independent variable was zero. The  $p$  value associated with the Ideal Self was above the critical value of .05. Thus the t-test failed to reject the null hypothesis. This result suggested that there is a 5% chance that the contribution of the Ideal Self to the regression equation would be zero. In this case, dropping the Ideal Self from the regression equation would not affect the predictive power of the model. However, it was decided to keep the Ideal Self in the equation because it was approaching significance ( $p = .074$ ).

Table 13 showed the squared semipartial correlations ( $sr^2$ ) between Intended Learning Effort and each of the independent variables. Reporting the  $sr^2$  values is highly recommended when running a standard multiple regression because these values reflect the unique contribution of each independent variable to the  $R^2$  (for more details, see Larsen-Hall, 2015, p. 247). The  $sr^2$  values of the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences were 2%, 4%, 14%, and 5% respectively. These values showed that the Anti-ought-to Self alone accounted for more variability in the Intended Learning Effort than the other three factors together. Also, it can be noted that the  $sr^2$  values do not add up to the exact value of the  $R^2$  of 54% because  $sr^2$  values only reflect the unique contributions of each of the independent

variables. In the current regression model, 29% of the variability in the Intended Learning Effort was accounted for by the overlapping effect of independent variables.

The  $R^2$  value is an effect size in itself. It shows the strength of the association between the outcome variable and the explanatory variables. In the current regression model, an effect size of .54 was recorded. According to Cohen's (1988) benchmarks, this effect size is seen as a large effect size. However, Plonsky and Oswald (2014) conducted a met-analysis of second language research and argued for field-specific benchmarks. According to their suggestion, the effect size produced by the current study would be interpreted as a medium effect size. Finally, an effect size of .54 meant that the regression model was able to account for 54% of the variability in the Intended Learning Effort of the participants.

### **Results of the Third Research Question**

3. How would the interviewed participants describe their L2 motivational system?
  - a. Do they describe their L2 motivation in a way comparable to the L2MSS conceptualization of motivation?
  - b. Does their description reflect an awareness of the CDST assumptions of dynamism and openness of L2 motivation?

The questionnaire distributed in the first round of data collection included an item that investigated the participants' willingness to participate in the interview phase. One participant was nominated from each cluster with the priority given to those who were closer to the center of the cluster according to output of the  $k$ -means clustering procedure. However, the recruitment of the participants in this phase was restricted by their willingness to volunteer to be interviewed.

Mostly, the participants who were the closest did not volunteer to the interviews but the next available participants were recruited for the interviews (see Table 14).

Table 22

*Demographic Information of the Interviewees*

Characteristics	Cluster 1 <sup>a</sup> (n = 8)	Cluster 2 <sup>b</sup> (n = 34)	Cluster 3 <sup>c</sup> (n = 24)	Cluster 4 <sup>d</sup> (n = 20)
Pseudonym	Ahmed	Sami	Maher	Nora
Gender	Male	Male	Male	Female
Age (years)	18	36	29	26
Group mean	24.4	26.8	25.8	25.4
Length of stay (months)	18	7	18	9
Group mean	13.4	8.3	9.8	8.5
Self-rated L2 Proficiency (5-point Likert)	3.60	2.80	3.20	2.60
Group mean	3.23	2.94	3.18	2.96
Rank (Closeness to cluster center)	5 <sup>th</sup>	1 <sup>st</sup>	6 <sup>th</sup>	4 <sup>th</sup>

<sup>a</sup> The Passive Nonconformists

<sup>b</sup> The Average Cluster

<sup>c</sup> The Highly-motivated

<sup>d</sup> The Active Nonconformists

Although participants who were eventually interviewed were not the closest to the centers of their clusters (the only exception was Sami from cluster two), their scores in the motivational

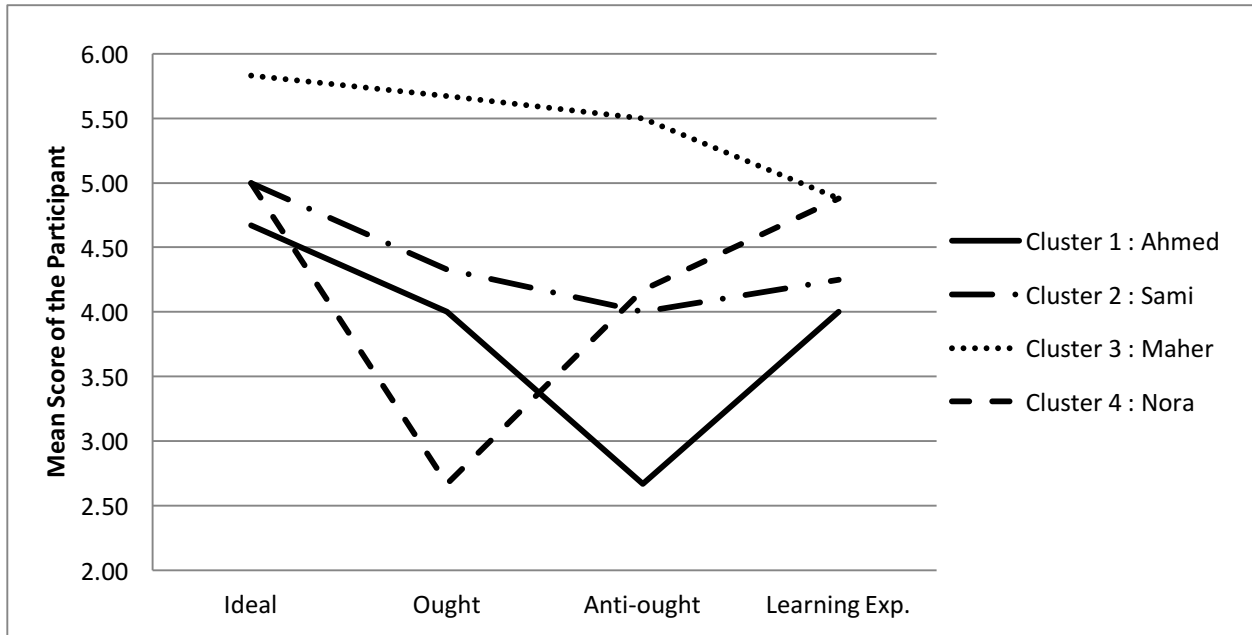


Figure 14. Plotting the mean scores of the interviewees

measures were similar to the mean scores of their clusters. Figure 10 displays the mean scores of each of the four interviewees. The scores of the participants in Figure 10 were compared to those of their respective clusters as shown in Figure 8. The comparison revealed that Ahmed from cluster one has a mean score of Ought-to Self higher than that of his cluster. No other major deviations can be detected from clusters' means in any of the motivational measures.

### Procedure and Analysis

Each participant was interviewed four times on a fortnightly basis to examine their L2 motivation and expose any changes in motivation during the data collection period. The

interviews closely followed the protocols shown in Appendix 3. However, new follow-up questions were presented whenever a participant started addressing a relevant concept and stopped before adequately explaining it. At the beginning of each interview, the participants were told of the purpose of the meeting and encouraged to elaborate on their answers as much as possible. Also, they were reminded that their own personal experiences were the focus of the interviews. Therefore, hypothetical speaking and the description of colleagues' experiences were not encouraged. The interviews were carried out at the campus library.

The interviews were audio-recorded using a password-protected device. The audio files were transferred from the recording device to the personal computer of the researcher. Next, they were played using Windows Media Player, transcribed verbatim, and saved in Rich Text Format. During the transcription, a separate file was devoted to notes and ideas that were developed during the procedure. The transcription only included the features that were deemed relevant to the analysis. Therefore, pauses, stress, intonation, non-lexicalized sounds, and gestures were not included in the transcription. The text files were uploaded to Atlas.ti in preparation for analysis.

As indicated by the third research question, the current study set out to examine how the interviewees would describe their L2 motivational systems. Although the research question used the word "describe", this study did not consider the utterances produced by the interviewees as mere description of the world. Instead, the present study adopted the constructionist view of discourse (Potter, 1996; Paltridge, 2012). Participants were constructing the world in a certain way and situating themselves in this world. While situating themselves in this world, they were indirectly explaining who they were and what their identities and "selves" looked like. The adoption of the constructionist view of discourse proved very helpful, especially when analyzing



the interplay between the uninvited social effect on the future selves and the construction of positive image of an independent future self that exercises free-will and autonomy.

The analysis followed a deductive thematic approach (Strauss & Corbin, 1998, Duff, 2008). The transcript of each interview was read reiteratively to get a general sense of the interview and uncover the main ideas of the speaker. During the reiterative reading, utterances of great analytical importance were highlighted using the quotation feature of Atlas.ti (see Appendix 9). Afterwards, the coding process was carried out in three main cycles: open coding, axial coding, and selective coding as explained in the methodology chapter.

The current study drew on the CDST, the L2MSS, and the Appraisal Theory in developing the coding scheme. This deductive thematic approach was implemented to examine the L2 motivation of the participants and empirically study the changes in their L2 motivation and causes of their changes according to the participants. Although there was pre-conceived idea about the concepts that the researcher was looking for in the data, some liberty was exercised during the open coding cycle allowing for new concepts to emerge from the data. Also, it was during the open coding cycle that most of the codes were developed. Similar codes, however, were combined during later cycles of coding. For examples, the codes “topics of lessons” and “content of lessons” were integrated into one code “content”.

The cyclic nature of the analysis of the data allowed for a close inspection of the consistency of code assignments. The subjective nature of the code assignment was regulated by having a clear definition of the overarching codes. For example, utterances describing future aspirations and linguistic characteristics of the future states of the learners were codes as instances of the Ideal Self if they were developed by the learners themselves. However, if the

social context of the learners was playing a more central role in developing these futures aspirations, then these utterances were coded as instances of the Ought-to Self.

The available data that were produced by the interviewees provided valuable insights on their L2 motivations. However, missing data as well proved to be very helpful in the analysis (Gibbs, 2008). What is meant by missing data is the discourse that interviewees did not create but it was implied during their speeches. For example, some of the interviewees in the current study in a number of instances volunteered to negate an idea or concept in an indication that they believed that what they had mentioned earlier could be taken in a wrong direction. The missing data can be retrieved by closely examining what the participants were saying while taking into consideration the social and discursive context of their speeches. The following section is dedicated to the findings of the analysis of the data that was produced or implied by the participants.

### **In Their Own Words: The L2 Motivation According to the Participants**

This section presents the analysis of the interview data that were collected from the four participants. Each one of them represented a separate case study. The focus of this section would be on exploring the ways in which the participants described their L2 motivation and whether their descriptions reflect an awareness of the components of the L2 Motivational Self System. The analysis is presented below, starting with Ahmed from cluster one and ending with Nora from cluster four.

### *Case Study: Ahmed*

Ahmed (pseudonym) was an eighteen-year old, male student from Saudi Arabia. At the time of the interview, he had been in the United States for eighteen months during which he developed great command of the English language. He self-rated his language abilities in grammar, speaking, and listening as advanced. As for those abilities related to writing and reading, they were rated as intermediate. Ahmed was very eager to start his bachelor program in engineering.

The clustering solution showed that Ahmed was a member of cluster one, the passive nonconformists. Like Ahmed, other members of cluster one tended to be younger and had more advanced language skills when compared to the rest of the sample. In addition, motivational scores of the passive nonconformist were lower than those of other cluster and the magnitude of this difference was highly realized in the areas of the Ought-to Self and the Anti-ought to Self, suggesting that this group was mainly motivated by an assertive Ideal Self.

The assertive nature of Ahmed apparent in the discourse that he created during the interviews. In the interviews, he depicted a picture of a skillful and legitimate speaker of English:

[Excerpt 1]

“I socialize with Americans a lot. It is in my nature, it is in my nature, I mingle with people, I am very social, very social. I go out and laugh with people and have a good time. I went to a theme park and met three Americans; three strangers and I talked with them. I feel that my speaking is much better than that of others and this was evident in the results of the speaking section of IELTS.”

Ahmed was clearly proud of his accomplishments during his time studying English at the United States. He felt that he was not only a good ESL speaker but he was also better than his colleagues in spoken English. He was equipped with speaking skills that enabled him to reinforce his confidence by using this language outside the formal learning context.

Having access to native speakers and producing a ‘spoken English’ comparable to that of native speakers represented a central concept in Ahmed’s responses. Even when he was visualizing his future states, he retrieved the image of the ESL learner who was working in a group with native speakers, discussing assignments and establishing social connections. According to Ahmed, practicing his English in real life situations was the most effective strategy for developing the target language:

[Excerpt 2]

“For sure in the future, I mean, I think I’ll graduate, I’ll graduate from the university program with a satisfying level of English. I won’t be perfect, I mean, I won’t be perfect for sure but I’ll be realistic. One should be somewhat realistic. I’ll be very satisfied with myself to the degree that if you tell me to go immediately work for a company, a company that expects you to give presentations, expects you to communicate with other employees, and expects you to write emails and so on, if you tell me to do that I’ll be able to do these in the future. I might even be able to perform all of these tasks at the present time. I might have some the shortcomings that I mentioned earlier. But these shortcomings will be worked out while studying at the university because the university has a different setting, I mean, you’ll work with Americans. You’ll have a student, I mean, a classmate. You go out together,

study together, and become friends. I mean, it is a great thing that you both have the same goal and you spend time together. Eventually, your situation will be transformed.”

Ahmed, in Excerpt 2, was constructing a future world in which he would be satisfied because he would have reached his future aspirations and materialized his Ideal Self. He would be a graduate of a university where English is the only medium of instruction. He would also be able to speak and write effectively and flourish in his work environment. Ahmed utilized many discursive techniques to show his commitment to achieving his future aspiration and assert the plausibility of the future self. He used lexical elements such as “for sure” and the intensifier “very”. He hypothesized that future aspirations would be discarded as nothing but inflated dreams. So, he counteracted these possible responses by asserting that he was reasonable. He did not expect that he would be perfect because he was a realistic person. His future self was reasonable and definitely achievable.

In addition, Ahmed provided a corroborating evidence for the achievability of his future aspirations. These aspirations were not hard to reach. Instead, they were within the zone of his proximal development (Lantolf, 2007). In fact, he mentioned that there was a probability he could perform those tasks at that time, with an understandable level of imperfection. Not only did Ahmed lay out the details of his future world, but he also had a plan for how to advance his English and overcome the shortcomings. The revealed plan was centered on being exposed to authentic input and producing output. He said that he would be involved in teamwork with other monolingual speakers of English.

Another motivator that kept Ahmed working to improve his English was the Ought-to Self, that is, the expectations of his family, friends and teachers. In the interview, he indicated that his family and friends would expect him to achieve a native-like performance in spoken English by the end of his ESL program. He also described an experience with an ESL teacher who expected him to achieve an advanced level of L2 writing. These expectations had a motivating effect on him because he felt he was obligated to meet them. Nevertheless, the effect of the expectations was later undermined by a new set of beliefs that he acquired during his Learning Experiences:

[Excerpt 3]

“[My family and friend] expect that I will be similar to native speakers. They will expect that I will be perfect in the language, all of it, from A to Z. This is not realistic. It is true this is not realistic. Even if someone works hard during this period, he will not be perfect. There is nothing as perfection but there is some level close to that. That is it. This being said, I don’t think they will say ‘His English is bad’ or ‘He has very little English’. I am sure of that.”

[Excerpt 4]

“Sometimes, I am not sure what the teacher needs from me. Especially that we are taught by PhD holders. ... I got a low grade on my last assignment. I wondered why I was given a low grade. Was the teacher picking on me? Was it only me? I checked with other friends and found that they all got low grades... The next lecture we talked to him. ‘Dr. [name] How are you?’ and we complained to him about our low grades. He replied that we be happy because no one in his class gets a mark above

80. Those who score in the 80s are exceptional students. ... We were not sure whether he expected us to function like PhD students to get full grade.”

Ahmed explained that his family expected his future self (the Ought-to Self) to be that of a native-like speaker. He himself used to believe that he would become that speaker by the end of his first year in the United States. However, Ahmed was engaged in constant assessment of the plausibility of future selves. The assessment was based on the new information acquired from the Learning Experiences during the early months. These assessments resulted in the conclusion that that a native-like performance was not an easy target. Therefore, he updated his future aspirations to reflect this new knowledge. His family, however, did not have access to the new information and their expectations remained unchanged but what they expected from him lost some of its motivating power because these expectations were not considered as feasible future aspirations any more. In the above excerpt, Ahmed indicated that he was not seeking a native-like English that he became somewhat unconcerned with the expectations of his family. It seems that speaking an acceptable English, one that is not too bad would be enough for him right now.

Ahmed also indicated that he experienced some problems while trying to meet his teachers' expectations. He talked about the difficulties he was having in the L2 writing class. To support the credibility of his claim he added that all of his classmates were experiencing a similar problem. Based on his Learning Experiences, Ahmed concluded that what was expected from them in the writing class was beyond their abilities at that stage. Apparently, he started to handle his Ought-to Self differently. He started to filter his Ought-to Selves using the knowledge that he acquired from his Learning Experiences.

Ahmed Also extensively addressed the issue of the Learning Experiences in the interviews. His description was centered on the use of the American History as a subject matter and vehicle for language learning. This topic kept coming up in his description of his classroom experiences:

[Excerpt 5]

“I had been studying history all my life in my country and got bored. You come here and teach the history of America! I’m not interested. I am not interested in American History.”

[Excerpt 6]

“The listening and reading classes are all about American History ... They even sometimes play video clips of battle scenes and we are not interested in watching these things. We left these problems in our regions and came to America to be faced with them again! This is a problem.”

[Excerpt 7]

“There are other things that are more interesting. I am, as a person, more interested in them. For example, teach me how to speak professionally when I go to a restaurant and order something. There are other good things. We sometimes get embarrassed, not knowing what to say, and resort to the translations. Teach us something that benefits us in our life. We are here to learn English not History.”



Ahmed's Learning Experiences during the time of the interview were not ideal. Whenever the topic shifted to classroom experiences, he would bring about the issue of the American History. He was eager to emphasize the point that using American History as a subject matter for language teaching was not the right move. In his language school, more than one course would cover the same topic and in his case it was the American History. Using the same general topic for more than one course was meant to help student develop vocabulary and world knowledge in this topic, and consequently facilitate the writing and speaking about the topic.

Ahmed argued that adopting the American History as one of the general topics in his level had a negative impact on his Learning Experiences. To support his argument, he mentioned that history was over-taught in his country, so he had his share of historical information. Historical information lost its novelty and did not stimulate his interest (see Excerpt 5). Besides, battle descriptions seemed to invoke a type of images he was trying hard to ignore. Some aspects of American History acted as a constant reminder of the violent scenes and political instabilities that were systematically covered in all media outlets in the Middle East (see Excerpt 6). The connection that he created between the American History and the current tensions in the Middle East increased his dislike for the courses that adopted American History as a subject matter. Another last reason that was mentioned by Ahmed to support his argument was that History had little relevance to his daily communicative needs and his future academic goals (see Excerpt 7). He wanted to learn and practice pieces of language that can be used immediately after leaving the classroom. The vocabulary from history topic might not be of use in street conversation. Also, the historical knowledge might not be of interest to the people that he meets outside the class.

### ***Case Study: Sami***

Sami (pseudonym) was a 36-year old male student from Saudi Arabia. He arrived in the United States seven months prior to the interview with intention of improving his English skill and getting an MA degree in Business Administration.

Sami talked about early encounters with English, describing English as a difficult class which was taught by teachers who stood out among other teachers. This eerie atmosphere that surrounded English dissolved later when he got more acquainted with English. Sami arrived in the United States with clear future aspirations as indicated in the following excerpt:

[Excerpt 8]

“The goal is to reach the pronunciation of the native speakers ... and to have a wide collection of vocabulary, to have a rich collection of vocabulary to the degree that you do not need to look up the words [in the dictionary] unless they're very difficult.”

Sami indicated that his Ideal Future Self was that of an L2 speaker with a native-like pronunciation and an extensive collection of vocabulary elements. Although this goal might not be achievable by adult language learners but nevertheless it is expected to have a motivating effect as long as the learners maintain the belief that it is an attainable goal. Sami admitted that acquiring a native-like pronunciation was not an easy future target and his evaluation of the gains from his Learning Experiences was pushing toward this conviction. Therefore, a change in his Ideal Future Self was expected to take place but none happened because the successful examples of English language learners who reached a level comparable to that of native speakers made him retain that future self guide:

[Excerpt 8]

Sami : “There is an Instagram account, I feel like it is motivating me, I think if this girl was able to reach this level, she has major in English, why not then. These things motivate you. It is not that they represent a future image that I want to reach. No. I want to reach the level that I have in mind. This level [The target level] does not reflect an image of another person but these people motivate you every now and then.

Researcher: and this girl is one of them.

Sami : Yes, and she is a student in the uh, the. She has an Instagram account and she uses it to teach. And as far as I am concerned, I see her accent and her pronunciation, to be honest, outstanding.”

Sami described a successful language learner that he came across on Instagram. Judging from the fluency and pronunciation of the language learner, Sami reached a conclusion that achieving a native-like level performance was possible. Therefore, he maintained an Ideal Self image that embodied a successful language learner with a native-like pronunciation. As for the Ought-to Self, Sami mentioned that his family, relatives, and friends did not seem to be concerned about the outcome of his language acquisition:

[Excerpt 10]

“[Your family, relatives and friends] expect that you come back with an academic degree. This is what I feel is important for them. As for language, it

is not a priority for them. And personally, I do not feel there is a pressure on me in this respect ... this thing is not relevant because my goal is, there is a passion for the language. And I do not feel any pressure.”

Sami mentioned that his family, relatives, and friends and their expectations did not occupy a prominent position in his L2 motivational system. According to him, his social circles were not concerned with his English language skills. Rather they were more interested in what he was going to achieve with those language skill. His strive for excellence in the acquisition of English was triggered by internally developed and internally held aspirations.

Sami’s responses to the Ought-to statements in the survey that was administered did match his description of his motivation in the interview. Table 23 shows Sami’s responses (Time 1) to the statements were positive, ranging from Agree to Slightly Agree with no negative responses. The mean score of Sami on the Ought-to scale (Time 1) was 4.33 out of 6.00, and his responses in Time 2 showed a more prominent Ought-to Self with a mean score of 5.50. Sami’s responses to the survey questions were consistent in their expression of an existing Ought-to Self Motivation. However, the interview data did not seem to corroborate the evidence coming from the survey data. The conflict between the interview data and the survey data represents one of common phenomena of discourse.

Table 23

*Sami's Responses (Time 1) to the Ought-to Self Statements*

Statement	Response
I study English because close friends of mine think it is important	Slightly Agree
If I fail to learn English, I will be letting other people down	Agree
I consider learning English important because the people I respect think that I should do it	Slightly Agree
Studying English is important to me in order to gain the approval my peers/ teachers/ family/ boss	Slightly Agree
Learning English is necessary because people surrounding me expect me to do so	Slightly Agree
Studying English is important to me because other people will respect me more if I have a knowledge of English	Agree

Participants might provide the contradicting views on the same issue because they are performing different speech acts (Gibbs, 2015). Thus the origin of what looked like a contradiction in Sami's responses can be traced back to the different speech acts that he was performing. When he was filling in the questionnaire, he was merely giving written answers in a written survey. However, when he was describing his motivation in the interviews, he was constructing an independent identity. When answering a test or filling in a questionnaire, questions of power and influence are not relevant. However, when talking to someone from the same epistemical community, these questions are brought to the front. If Sami was constructing an identity through the discourse that he was using then he was expected also to implement facework strategies (Watts, 2003). The contradiction in Sami's responses suggested that he was using facework strategies to maintain a positive image of an independent language learner who was not subjected to influences from the more powerful players in the immediate social context.

The Ought-to Self construct has a motivating effect because learners with a strong Ought-to Self are expected to fear the negative social consequences associated with failing to meet relatives' expectations. Speakers who cast an unfavorable light on this construct would consider it a face-threatening construct and would mitigate its influence. Also, the relevance of faceworks becomes more prominent when the age of the participant is considered. Sami's age was 36 which is very close to the upper end of age range (maximum reported age was 37). An older participant is more concerned about his/her public image and this is why Sami's mitigation of the effect of the Ought-to Self can be convincingly explained by looking at the facework strategies they employed in the interviews.

Facework strategies are also at play when describing the learning context in a negative light. In such cases learners would emphasize the association the undesirable Learning Experiences with content and syllabi, thus avoiding face-threatening acts that could endanger the perceived social images of self, the teachers and other stakeholders:

[Excerpt 11]

Sami : “um. I definitely feel [my enthusiasm] is changing. Sometimes it goes up and sometimes down ... you go to some of the classes and you do not feel that you are getting any benefits, so you just show up for the attendance. But there are other classes. You go to these classes and you feel that getting benefits on the linguistics level and the personal one.

Researcher: and what are the causes of these changes? Can you think of examples?

Sami : ah because of the teacher and because the very syllable of the class has repetitions. Let's take an example. Cornell Notes. We took it in level four and got to the level of saturation. When you come to level five and repeat the same topic, to be honest, you get bored. Take the American Values as an example. We covered it in level four to the level of saturation in three classes not one. And now in the elective class Culture through Movies, the teacher said that the scope of the class, 'I will use the topic of American Values as a criterion for selecting the movies', and we will discuss the American Values again. [The students did not like this] to the degree that at the beginning of the class a group of them burst into opposition and said 'enough!'."

In Excerpt 11, Sami talked about his Learning Experiences and implied that his semester witnessed some unfavorable events. Sami's description of his formal classroom experiences provided evidence for the Appraisal Theory (Schumann, 2001). His description honored the multi-dimensional nature of the Learning Experiences. In Excerpt 11, Sami attributed the changes in his to three latent factors. His enthusiasm was fluctuating depending on the novelty of the content, pleasantness of the class atmosphere and the goal significance of the formal Learning Experiences. Repeating the classroom topics was mentioned as the major cause of boredom and it was for this reason Sami and his colleagues protested the teacher's decision to include American Values in their syllabus. Also, Sami felt demotivated in those days when he did not achieve any academic gains in his classes. However, there were other classes with

pleasant teacher presence that facilitated the achievements of linguistic and personal developments.

***Case Study: Maher***

Maher (pseudonym) is 29-year old male student who arrived in the United States from Saudi Arabia. He had been studying English as a second language for 18 months at the time of the interview. Maher indicated that his language skills in English ranged from intermediate to advanced skills. Upon fulfilling the language requirement, he had a plan of enrolling in an MA program of Chemistry in the United States.

Maher's reasons for learning English were mainly that English is the lingua franca of the contemporary world and that he was planning to get a graduate degree from the United States. He had a specific future self that he wanted to achieve by working hard every day to close the gap between his present self and the future one:

[Excerpt 12]

“[By the end of my language program,] I will have a good command of the language. Of course, I won't be as good as the people of the language because, no matter how hard we try and no matter how long we live among them, the language will remain our second language, not mother language ... but my ambition is to be like some of my friends who excelled in the spoken and written aspects of the language.”



Maher wanted to develop excellent language skills by the end of his language program. This goal represented his Ideal Self and it worked as a future anchor to guide him and keep his momentum going. All he wanted was to speak and write good English. When describing his future self image, Maher indicated that issue of having a native-like English was not relevant to his future goals. His future self guide did not reflect an image of a native speaker. Rather, it was the image of successful language learners that gained primacy when he was developing his future Ideal Self. However, it was not only the Ideal Self that kept Maher motivated, other components of the L2 Motivational Self System were activated too:

[Excerpt 13]

“To tell you the truth, after I came here the ‘spirit of enthusiasm’ and the motivation to learn was intensified because sometimes you meet people who have less capabilities but they are better than you because the person sometimes becomes negligent and at other times they have real excuses.”

In the above excerpt, Maher he was describing the peer-pressure that he felt when students around him seemed to perform better. Peer-pressure represents an example of the Ought-to Self construct. According Maher description, this pressure apparently made him feel that he was socially required to meet a certain level of performance. He ought to conform to the social guidelines of academic achievement and catch up with his peers. The Ought-to Self was one of the strongest motivators that helped Maher maintain his energy:

[Excerpt 14]

Maher: “Many of my friends got acceptance letters. Many took the [standardized] tests and scored so high that they were able to get

into university. And this really increases your enthusiasm, and makes you feel happy for them. You realize that you must be like them or perform like them ... and this is an issue that keeps you, as a language learner, awake at night, keeps you awake, keeps you awake, I swear to God it keeps you awake...

Researcher: Are there any other reasons that could also increase your enthusiasm?

Mahe: Yes. There are some mischievous colleagues ... they laugh when somebody makes a mistake. They're two. Therefore, before I come to class I try to avoid, I don't care about them, but I try not to be in the place of one of the student at whom they always laugh. So, I review the materials before I go to class".

In the above excerpt, Mahe talked about two motivating situations. In the first situation he mentioned that the success of friends and their transition to the next stage put pressure on him to achieve similar outcomes. Mahe did not want to be left behind, so he was motivated to meet a socially co-constructed level of performance. This social pressure had its toll on Mahe to the degree that he deprived him of his sleeping.

Mahe did not only seek social rewards through his attempts to match the performance of his friends, but he also tried to avoid negative outcomes which is important dimension of the Ought-to Self component of the L2 Motivational Self System (Dörnyei, 2009b). Mahe indicated that he spent some time in preparation for his daily classes so that he would not be exposed to the sharp remarks of some of his classmates. Fearing the negative consequences if the socially

accepted level of performance was not met represents the basis of the Ought-to Self motivation. Not only did Maher feared the negative consequences of not being up to the expectations of his peers, he also felt obligated to succeed in language learning because this was what his supervisors and Saudi colleagues expected him to do. When asked about whether he assigned importance to the expectations of his supervisors and colleagues, he replied:

[Excerpt 15]

“Definitely. Sometimes I think it is not the end of the world [if I do not meet their expectations], but also it is going to be embarrassing, shameful. It will remain as a disgrace.”

Maher expressed a nagging worry about the expectations of his colleagues at work, many of whom already had postgraduate degrees. He felt that he might be harshly judged if he returned without achieving success. Maher’s strong Ought-to Self was apparently representative of cluster three (the highly-motivated cluster), which was by far the cluster with the highest Ought-to Self mean.

### ***Case Study: Nora***

Nora (pseudonym) is a 26-year old female student from Saudi Arabia. She had already finished her ninth month studying English in the United States by the time of the first interview. She was trying to improve her skills in academic English in order to obtain an MA degree in Special Education. Like other participants in cluster four (the active nonconformists), Nora scored above average on the scales of the Ideal Self, the Anti-ought to Self, and the Learning Experiences. However, her score on the Ought-to Self scale was below the sample average. The

participants in cluster four were active nonconformists who wanted to emphasize the independence of their will.

As a member in the active nonconformist cluster, Nora did not react to peer-pressures of social obligations. So, the driving force that moved her L2 learning forward was not the desire to fulfill a socially constructed role or the fear of negative outcomes if that role was not played. Rather, she was mainly motivated by internally-oriented reasons as shown in the following excerpt:

[Excerpt 16]

“What is highly important to me is to be fluent in English to help my children if they need some assistance in their classes. I want to be able to read a whole book and understand it without the need for a dictionary, to be able to go to hospital or go shopping without the need for a translator. I want to speak it [English] like I speak Arabic.”

In the above excerpt, Nora had future snapshots of her Ideal Self, imagining that her fluency in her second language would be comparable to that of her first language. Envisioning such an advanced level of her second language was associated with great developments in three important areas. First, she visualized herself providing assistance for her children. Also, she visualized a future self that read whole books without the need to stop every now and then to look up words in the dictionary. Finally, Nora wanted to achieve her linguistic independence by being able to visit public places such as shopping centers and hospitals without the need for the company of somebody whose sole job would be to facilitate her contact with English speaking people.

Related to the linguistic independence was the idea financial independence. Learning English as well as having an MA degree were viewed as a tool for achieving financial security. Nora emphasized the instrumental motivation when she was asked about her reasons for learning English:

[Excerpt 17]

“One of the main reasons for coming here is that I want to graduate from the university of an MA degree to find a job when I return to my country. Finding a job close to home will be easier when I have a master degree and when I speak English fluently. There are not many jobs in my regions but also there are not many female candidates with English and a master degree from America.”

The instrumental motivation was one of the common themes in Nora’s description. She talked about her ESL education as a medium for securing a foothold in the small job market of her region. She believed that having a degree was not good enough and to have an edge over other applicants she needed a good command of English. Both of the financial independence and the linguistic independence provided glimpses from an activated Ideal Self. However, the Ideal Self is only one component of a complex and dynamic motivational system. It is important to consider other items that seemed to receive attention in Nora’s description of her motivation. Nora put strong emphasis on the dynamics of her classroom experiences:

[Excerpt 18]

“Some of my classes are good. There is one class that I have this semester. The teacher spends a lot of time chatting with the students. He does not focus on the syllabus and does not help us develop our language. And he is always targeting one of my friends because she is reluctant to work with the boys in one group. He always puts her on the spot and picks on her ... We feel his focus on the hijab is more than his focus on teaching us English.”

Nora described a classroom environment that did not provide rewarding Learning Experiences. She believed that what she was getting from this class was not contributing to the development of English and consequently was not helping in achieving linguistic independence. Also, she talked about an incident significant enough to be mentioned in the interview. It was about a member of her social group who received pressure from the teacher to conform the teacher's version of the social norms. The intense environment seemed to shed a negative light on the Learning Experiences of Nora. She concluded that this class was facilitating the achievement of her goals. Nora introduced this conclusion in the last sentence in the excerpt. She also introduced the first person plural pronoun in an indication of her support conclusion. According to her, this was not her opinion alone; others were having the same view. Also, the use this pronoun signals solidarity and collegiality with her friend. So, it was not only her friend who was going through that experience, both of them were going through this experience, side by side.

Nora, along with the other participants, provided descriptions of their L2 motivation. Evidence of the conceptual framework of the L2 Motivational Self System was present in their description. The most salient components of the system were those that had direct connection to

the participants, namely the Ideal Self and the Learning Experiences. The socially-oriented aspects of the self, however, were not readily accessible by the participants. The researcher needed to invoke them by probing questions.

### **CDST Concepts in the Participants' Descriptions**

In addition to demonstrating aspects of the L2 Motivational Self System, the participants exhibited some awareness of the CDST features in their motivation. For example, the openness of the motivational system was evident when they were describing how the social expectations of their relatives were influencing their performance. However, the most salient CDST feature was change over time. The L2 motivational system was very dynamic and the change in this system took many forms. There were the changes related to a specific component of the system e.g. the Ideal Self, and there were those changes that affected the system as a whole. This section presents the CDST themes that appeared in the analysis of the interview data.

As mentioned earlier, change over time was one of the notable CDST features in the data. In the following excerpt, Ahmed described a major change in his motivation that took place sometime before the interview:

[Excerpt 19]

“Boredom is main thing that prevents student from developing their English in America. I am bored with everything, I am bored with my classes. Let me tell you something. I will describe something that is right and painful. Ambition, ambition changed a lot. My ambition before I came to America was that I will be very fluent in English by the end of the first year: speaking fluently like a

philosopher. Now, I am disappointed. ... I still come across a lot of new things that I do not know. How come that I don't know these things?! No! Impossible! Sometimes, I get an email in English, I get bored and copy the whole email, electronically translate it, and start reading it in Arabic”.

Although Ahmed reached an advanced level of English and was able to communicate efficiently using his second language, he was hoping for much greater improvement. Ahmed was very energetic and full of enthusiasm at the time of his arrival at the language school. As he realized that his goal was not realized, he regressed, lost his momentum, and started to experience feelings of boredom and disappointment. This major change represented a phase shift in Ahmed's motivation. This shift seemed to be caused by the realization that he fell short of achieving a native-like level speaking. For him, the learning process seemed a never ending process.

The phase shift in Ahmed's motivation took place as a result of a series of events. He first set a challenging Ideal Self to guide his motivation. He wanted to produce a native-like English by the end of his language program. After enrolling in his language classes in the United States, he was engaged in constant evaluation of the Learning Experiences. Both the Ideal Self and the Learning Experiences are interconnected. So, the evaluation of the learning outcomes provides information about the plausibility of the future targets. The Learning Experiences introduced a change into the Ideal Self. Subsequently, the change that permeated into the Ideal Self affected the motivational system as a whole and resulted in a feeling of disappointment and demotivation. This shift in Ahmed's motivation was caused by series of progress evaluations prior to the start of the timescale of the current study (the academic semester). However, the



negative impact of these evaluations was undoubtedly felt during the current timescale in which the data was collected.

Sami experienced a different kind of phase shift. He mentioned that his first semester at the language school was very rewarding because he was lucky to have good teachers and because he exerted multiplied effort in learning. However, this was not the case in his second semester when the interview was conducted. He was not satisfied with the effort he was investing in acquiring his second language. As his efforts and persistence declined, the rate of his second language improvement slowed down. He touched on these changes in the following excerpt:

[Excerpt 20]

“When I first came here, I felt that there was some development [in my English]. Presently I feel that I reached a stage where I am not developing that much. I don’t know. What are the causes? It could be that a number of reasons are involved here ... First, my family joined me during this semester. Secondly, I missed some classes. Also, I received an offer from another university.”

Apparently, Sami reached a developmental plateau where he managed to satisfy his daily linguistic needs. Satisfying these needs eased the pressure on him and facilitated the development of a more relaxed approach to language learning. In addition, the time he was investing in learning was diminishing after his family joined him in the United States. Also, it seems that one of his strongest motivators was that the improvement of his English was expected to help him in securing an acceptance letter from an American university. During the semester of the interview, he got the acceptance letter and he felt that he reached one of his major future

targets. Consequently, he lost some of his enthusiasm towards learning and started to miss some of the classes.

Another change that was highlighted in the analysis was the change in Nora's instrumental motivation. She indicated that one of her main reasons for learning English was to help her find a job when she returned to her country but this type of motivation was compromised:

[Excerpt 21]

“When I think of my friends [names of three friends] and that they have not found jobs until now I feel disappointed. They have been back for at least a year and a half. This is difficult. The student works very hard for three years and cannot find a job after graduation. And I don't know now if I am going to be like them after graduation.”

Nora was saddened by the news from other female friends who went back home equipped with graduate degrees and English language skills and were not able to get appropriate employment in the competitive job market. This piece of news had a negative impact on the instrumental aspect of her Ideal Self since it was, in part, centered around the achievement of financial independence by securing a stable job.

## **CHAPTER FIVE:**

### **DISCUSSION AND CONCLUSION**

The present study set off to examine the L2 motivation of the participants from a CDST perspective. To facilitate this mission, the study adopted the available theoretical framework and the research tools of the L2 Motivational Self System (Dörnyei & Ryan, 2015) and the Appraisal Theory (Schumann, 2001) to assess the motivation of the participants. The results of the analyses showed that L2 motivation was a complex system that integrated the self and the contextual factors, with the contextual factors involving both personal components (e.g. relatives, friends, classmates, and teachers) and non-personal elements (e.g. the syllabus, the assignments and dynamics of the classroom environment). This chapter will discuss these results in light of the existing research of L2 motivation.

#### **The L2 Motivational Self System**

The current study drew on the theoretical framework of the L2 Motivational Self System (L2MSS), a framework that included three main components: the Ideal Self, the Ought-to Self, and the Learning Experiences (Dörnyei & Ryan, 2015). In addition to the three components, the construct of the Anti-ought-to Self (Thompson, 2015) was added to improve the explanatory power of the framework. With regard to the methodological part that has to do with the use of the L2MSS components (including the Anti-ought to Self) as tools for collecting and analyzing

data, the current study relied on the existing research instruments as indicated in Table 5. However, the existing research tool of the Learning Experiences was modified to reflect complexity of this component. The modification was guided by the Appraisal Theory, a theory of motivation that honors the multidimensional nature of the Learning Experiences (Schumann, 2001). Data related to the multiple dimensions of the Learning Experiences were collected. The dimensions were (1) novelty of the experience, (2) pleasantness of the experience, (3) coping abilities, and (4) goal significance. Finally, different statistical procedures, along with qualitative thematic analyses, were used to analyze the collected data.

The results of the study confirmed that the Ideal Self, the Ought-to Self, and the Learning Experiences represented an integral part of the L2 motivation theory. In addition, the results of the qualitative analysis as well as the results of the regression analysis (see Table 20) provided validating evidence for the components of the theory. They also showed that adding the Anti-ought-to Self contributed to the explanatory power of the L2MSS theory. A piece of evidence that supported the inclusion of the Anti-ought to Self in the theory arose from the results of the Standard Multiple Regression Analysis that looked at relationship between the components of the L2MSS and the Intended Learning Effort as the criterion variable (see Tables 20 & 21). The Anti-ought to Self appeared to be the main contributor to the explained variability in the model, with 14% of the variability explained uniquely by this construct. These results not only confirmed the findings of the previous research studies in the field that incorporated the psychological reactance in the motivation theory, but also showed the strength of the explanatory power of this new component.

The possible explanation for the emergence of the Anti-Ought to Self as a main contributor to the variability in the Intended Learning Effort lies in the fact that the sample of

participants represented a unique segment of the Saudi English language learners. They were provided with a once-in-lifetime chance to study English abroad. They were selected from a large pool of applicants and granted fully-funded scholarships to learn a second language and enroll in academic programs in the United States. Although, family, friends, and supervisory government committees were eager to see these students succeed, they did realize the challenge the students were experiencing and were undoubtedly concerned that some of these students might not be able to achieve their goals. When the participants arrived in the United States, they were aware of how much they put at stake when they enrolled in this study-abroad program. They developed a social reactance towards the concerns of their family, friends and supervisory committees by proving them worthy of being recipients of public funding. They became determined to succeed and overcome the academic challenges and defy the concerns of their social circles. Knowing this information about the participants and how they were able to study abroad provides an explanation to the behavior of the Anti-ought to Self in the results of the Standard Multiple Regression Analysis that was performed in the current study.

The current study also found that the Appraisal Theory provided a solid and consistent framework for approaching the complex and dynamic construct of the Learning Experiences. The Appraisal Theory honored the multidimensional nature of the learners' experiences and added to the construct validity of the Learning Experiences by accounting for different aspects of these experiences. In their examination of the Learning Experiences, Papi and Teimouri (2014) limited this construct to one dimension, that is, the pleasantness of the Learning Experience. However, the results of the analysis of the interview data in the current study proved that learners, when engaging in the assessment of their Learning Experiences, drew on the other dimensions of the Learning Experiences as well. Learners were affected by all of the following

dimensions: (1) novelty of the experience, (2) pleasantness of the experience, (3) coping abilities, and (4) goal significance. For example, Sami (see Excerpt 11) described a situation in which a topic was covered multiple times in more than one course and how eventually the repetition negatively impacted their willingness to approach the content of the course. The Excerpt showed how the absence of the first dimension of the Appraisal Theory (novelty) influenced the L2 motivation of the student. Excerpt 6 was another piece of evidence that confirmed the relevancy of the Appraisal Theory to the Learning Experiences of the language students. In this Excerpt, the participant mentioned that the class content was a demotivating factor because it did not foster pleasant Learning Experiences (dimension 2). According to the participant, this topic was a constant reminder of the grave and deteriorating situation of the Middle East and this was the reason he developed negative attitudes towards this topic. In addition, difficulties in coping with class demands or in coping with classroom policies (dimension 3) proved to be an influential factor. In Excerpt 4, the participant explained how these difficulties were connected to the aversion he was feeling to the classroom environment. As for the last dimension, that is, goal significance, Ahmed described a demotivated present self. He attributed this lack of motivation to a couple of reasons and one of them was that teaching American History was not helping him in satisfying his communicative needs and achieving his future goals. The participant mentioned that he was not interested in American History because he saw little connection between this topic and his daily communicative needs. In short, the results of the thematic analysis confirmed that the four dimensions of the Appraisal Theory provided a valid conceptual framework for studying the Learning Experiences. For this reason, the current study calls for a review of the current approaches implemented for examining the Learning Experiences. A new approach, one that draws on the insights of the Appraisal Theory, is recommended.

Another important issue that needs to be discussed here is that the role of the Ought-to Self was obscured by the results of the regression model (see Tables 20 & 21). The Ought-to Self negatively contributed to the regression model. The Ought-to Self basically refers to the situation in which the learners are motivated to achieve a certain level of language acquisition in order to meet the future expectations of their social circles including family, relatives, friends, classmates, and/or teachers and the possible explanation for the unexpected results could be that the Ought-to Self motivation had little to do with the classmates, teachers, or friends abroad. Rather, the Ought-to Self was connected to family, relatives, and friends back home whose expectations were not in line with the future Ideal Selves of the learners. The Ideal Self, being a stronger motivator, is expected to have an overriding effect on the Ought-to Self. Also, the mismatch between the two constructs could have negative consequences on the model. In fact, Papi and Teimouri (2014) stated that high L2 motivation is only possible when there is a considerable agreement between the Ideal Self and the Ought-to Self i.e. both of them are anchored to the same future self image. In the current study, there is a possibility that this level of agreement was absent. An example of this mismatch was found in Ahmed's description of his motivation. When he arrived first in the United States he himself and also his relatives had the image that he would have a native-like proficiency by the end of his English language program. However, by the time of the interview he already updated his future self to a more plausible one while the expectations of his relatives remained the same (see Excerpts 19 & 3).

### **Change over Time**

One of the distinctive features of L2 motivation was the dynamic nature of this psychological construct. Adult language acquisition is a long process that goes on for an

extended period of time during which the motivation of the learners naturally goes through periods of ups and downs. Also, the L2 motivation is always subjected to the influences of the ever-changing Learning Experiences. The findings of the current study highlighted the dynamic nature of L2 motivation and exposed the different forms of change that were detected in the data e.g. minor changes vs. major one; changes affecting a few individuals vs. ones affecting the whole cluster.

Studying change over time was carried out through a number of stages. First, the initial states of the participants' L2 motivation were identified by collecting data during the first week of their academic semester and using Cluster Analysis to analyze them. The results of the Cluster Analysis procedure showed that the participants exhibited four main motivational states at the beginning of the semester. These four states of the system were identified as the four initial attractors. Recognizing these states as the attractors of the system was based on MacIntyre, Dörnyei, and Henry's view of attractors as term "simply used to describe a possible state of the system" (MacIntyre, Dörnyei & Henry, 2015, p. 422). Afterwards, data from the second round were compared with those of the first round using Repeated Measure ANOVA. The results showed that sweeping changes took place in clusters one and two with significant differences being detected across the four motivational scales of the L2MSS i.e. the Ideal Self, the Ought-to Self, the Anti-ought to Self, and the Learning Experiences. These significant results of clusters one and two were seen as an indication that a phase shift had occurred and that most of participants in those clusters had uniformly shifted to new attractor states with overall improvements in their motivation profiles. As for clusters three and four, most of the participants maintained their high levels of motivation without moving to new attractors.



In an attempt to guard against relying on the central tendencies of the clusters and obscuring the changes among the individual members, the current study conducted a Discriminant Function Analysis to examine the changes among the individual participants. The results indicated that 20% of the participants changed the group memberships which could be seen as an indication of a phase shift. By considering these individual cases, the present study guard against one of criticisms usually directed toward the use of the conventional statistical methods for conducting CDST research.

The detected changes in the future self guides tended to have a positive direction. In other words, the future self guides tended to increase over time, with most of the participants scoring higher in the second round in the scales of the Ideal Self, the Ought-to Self, and Anti-ought to Self. However, the results of the qualitative analysis suggested that there was a tendency towards downgrading the Ideal Self. Ahmed changed his future image from an image of an L2 speaker with a native-like pronunciation to an L2 speaker with an acceptable level of English (see Excerpt 2). Sami and Maher questioned their ability to achieve a native-like level (see Excerpts 8 & 12). This difference between the results of the qualitative and quantitative results does not signal a mismatch between the quantitative and the qualitative findings because each one of them is tapping on a different type of change.

The analysis of the quantitative and qualitative data suggested that there were two types of change in the future self guides. The first type has to do with change in the essence and nature of the future self guides. An example of this type would be the changing of the future Ideal Self from a future self that pictures an accomplished language learner with a native-like pronunciation to one that pictures a successful language learner with an intelligible, yet not native-like, pronunciation. The second type of change has to do with the intensity of the

motivator. This type is concerned with how strongly the participants feel about their future selves. Dörnyei (2009b) stated that “even if a desired self image exists, it may not have a sufficient degree of elaborateness and vividness in some learners to be effective” (Dörnyei, 2009b, p.34). He also added that imagery enhancement has the potential of strengthening the existing self images and adding to their effectiveness.

The increase in the future self guides that was exposed by the survey data had to do with the intensity of these constructs. Students were offered statements that touched on aspects of the future self guides and were asked to respond to them on a six-point Likert scale, starting from Strongly Disagree to Strongly Agree. The degree of their agreement with the statements mirrored the vividness of their future images. Moreover, the statements that accurately expressed their future visions could receive any of the three positive responses i.e. Somewhat Agree, Agree, and Strongly Agree. However, only participants who felt strongly about the future images were expected to choose the response Strongly Agree.

The change in the nature or essence of the future self guides tended to be negative in the current study. As mentioned before, the interview data showed that Ahmed downgraded his Ideal Self from a challenging target to a more realistic one. Sami went through a phase where he questioned the plausibility of his future targets while Maher draw a distinction between his realistic targets and unattainable future images that L2 learners sometimes set for themselves (see Excerpt 12). Henry (2015a) provided a hypothesis that explained this type of change in the future selves. It was proposed that future self guides usually take the form of the best case scenario. In other word, L2 learners tend to take challenging future targets and set them as future targets. However, the daily Learning Experiences of the learners provide them with valuable pieces of information that can be used in assessing the plausibility of their future self guides.

Initial future selves could be unrealistic due to the huge discrepancy that separates them from the present status but as the students develop more understanding of their resources they tend to update their future targets by adopting future self targets that lie within the zone of their proximal development.

### **Interconnected Subsystems**

Openness is one of the salient features of complex dynamic systems. It means that complex systems are open to the influence coming from their surrounding environment. This feature not only applies to the system as a whole but it also applies to its constituent parts. Therefore, the components of the system are expected to be open to the flow of energy and influence from other components. The claim that the components of the L2 motivation are open to the dynamic energy that floats among them (see Figure 3) was tested in the current study by looking at the relationships between the components of L2 motivation.

The relationships between the components were examined using the Pearson correlation analysis. The results of the analysis showed that the constituent parts of the L2 motivation had a certain level of correlation. Complex dynamic systems, in general, are expected to have this kind of interconnectivity (Larsen-Freeman & Cameron, 2008; de Bot, 2011). By having interconnected constituent components, the L2 motivation meets this expectation. However, the analysis of the data in the present study showed that the level of interconnectivity between the constituent parts was not homogeneous. While the Anti-ought to Self was found to be the most related to other constituents, the Ought-to Self did not show a similar results. In fact, the Ought-to self was found to be the least related component (see Table 18). The differences in the level of

the association between the Ought-to Self and the Anti-ought to Self can be traced back their essences.

The Ought-to Self has an external orientation since it entails a passive reception of the waves of change that come from the outside. In contrast, the Ideal Self that has an internal orientation whereas the Anti-ought Self combines aspects of the self and the other. In addition, the Ought-to Self is not directly connected to the daily Learning Experiences. It is within the context of these daily Learning Experiences that future self guides are maintained, reproduced, and modified. Most of the parties that seem to have a say on how the future self of the learners ought to be have no direct access to the daily Learning Experiences, including family, relatives, friends, the job market, and university requirements. The only social parties who have access to the learning context are teachers and peers and their influence on the future images seemed to be superseded by the influence coming from the other parties. Thus, the results of the Pearson correlation showed no significant association between the Ought-to Self and the Learning Experiences (see Table 18) because the main parties who shape the Ought-to Self are acting in isolation of the Learning Experiences. As for the weak correlation between the Ought-to Self and the Ideal Self, it can be explained by suggesting that what people (family, relatives, and friends) expects from the learners is not always incorporated into the system of the future self guides. Also, the Ideal Self and the Learning Experiences were found to have superseding significance in motivating L2 learners to study English (Lamb, 2012). Therefore, it can be concluded that the association between the Ideal Self and the Ought-to Self is limited to the cases when these two constructs seem to be in alignment. The weak positive correlation between the Ideal Self and the Ought-to Self (see Table 18) suggested that these cases were limited in number.

Unlike the Ought-to Self, the Anti-ought to Self was found to have stronger correlations with the other components (see Table 18). To understand these results, one should consider the definitions and the operationalizations of the components of the L2 motivation. The Anti-ought to Self is inherently three-dimensional. In other words, it is inherently related to the three other components. The Anti-ought to Self reflects an internal orientation; an inner determination to challenge difficulties and surprise those who underestimate one's capabilities (see the survey items in Appendix 2). Having such properties made it more likely that this construct was going to correlate with the Ideal Self since both of them have an internal orientation. Also, the Anti-ought to Self is sensitive to the variability in the Ought-to Self. Learners with a strong Anti-ought to Self are likely to react to social expectations and respond to them by asserting an opposite or different future self or by adopting a future image that truly reflects their internalized desires. The aforementioned sensitivity of the Ought-to Self to the changes in the Anti-ought to Self resulted in a positive medium correlation between the two constructs. Finally, the Anti-ought to Self had a positive medium correlation with the Learning Experiences. One could suggest that learners with a strong Anti-ought to Self are likely to have positive Learning Experiences, since they are expected to flourish in good learning environments and not feel intimidated by the challenging ones. This suggestion provides a viable explanation for the found correlation between the two constructs.

### **Limited Variability**

It has been argued that the measures of central tendency and the tests that are based on them (e.g. t-test and ANOVA) tend to obscure the chaotic nature of complex systems and smooth out some of the rich information since they depend on group means and ignore outliers (Larsen-

Freeman & Cameron, 2008). However, Dörnyei (2014) suggested the use of learner types approach to preserve some of the variability of the data. This approach is based on the assumption that although an environment might show a lot of variability, patterns always emerge in these environments. The emerging patterns are always limited in number and rarely exceed six patterns (Dörnyei, 2014). Focusing on these patterns allows for the planning and conducting of manageable research; otherwise the examination of these environments would remain challenging.

Cluster Analysis was proposed as a tool for identifying the patterns in the data. It is a multivariate statistical analysis that allows for preserving some of the variability of the data. SLA studies that looked into learner types using Cluster Analysis found a number of types that ranged from three types to five types (3 types in Yashima & Zenuk-Nishide, 2008 and Rysiewicz, 2008; 4 types in Csizér & Dörnyei, 2005; 5 types in Papi & Teimouri, 2014). These findings support what was proposed by Dörnyei (2014) regarding the usual upper limit of learner types.

In the current study, the motivational profiles of 86 participants were examined. The results showed that number of the discernable groups fell within the expected range. Four distinct groups emerged from the data, each of which was displaying a distinct motivational pattern. The number of the groups was validated using MANOVA and Discriminant Function Analysis. Both of which confirmed that a four-group solution was a valid way of looking at the data.

It should be noted, however, that smoothing out the variations in the data by means of statistical processes and focusing on a few measures may cause the researcher to miss some of the valuable information about the observed systems. Larsen-Freeman (2006) studied the

emergence of fluency, complexity, and accuracy in the oral and written production of five Chinese learners and found that trajectory depicted through group averages did not match any of the specific trajectories of the individual Chinese students. Unlike Larsen-Freeman's (2006) investigation, the current study showed that group averages were representative of the profiles of the individual learners to a certain extent (compare Figure 8 with Figure 14). This being said, there are always those cases that slightly deviate from the mean of group but the use of multiple means allows for preserving as much of the variability as possible.

### **Study-abroad Students and Directed Motivational Currents**

Complex systems are notorious for being highly dynamic and non-linear. These characteristics pose a challenge for researchers planning to study them because they are always in constant flux. To examine the complex system of L2 motivation, Dörnyei, Ibrahim and Muir (2015) proposed that the adverse effects of the constant flux can be mitigated when studying the system when it is going through a phase of directed motivational current. The assumption behind the proposal is that complex systems are relatively stable during the phases that are associated with prolonged surges of motivation as in the study abroad programs. The participants in the current study bear some of the characteristics of study abroad students as they are Saudi students enrolled in an English language program in the United States. The stage in which they were residing was considered ideal since they were expected to be experiencing a surge in the motivation current.

As anticipated, the motivational scores of the participants were relatively high especially on the Ideal Self scale (see Figure 8). Although this surge was expected to stabilize the system, it

posed a problem because the scores of the majority of the participants clustered around the top limit of the Ideal Self scale. The histogram in Appendix 6 showed positively skewed distributions for the Ideal Self in both rounds of data collection. This abnormal distribution limited the role of the Ideal Self in the current study.

The results of the Discriminant Function Analysis indicated that Ideal Self was not among the prominent factors in predicting group membership. In addition, the Ideal Self had little contribution to the regression model that was created to determine how much of the variation in the Intended Learning Effort was explained by the components of the L2 motivation. The limited contribution of the Ideal Self to the regression model contradicted the established prominent position of this construct in previous studies. For example, Kormos and Csizér (2008) conducted multiple stepwise regression analyses, all of which indicated that the Ideal Self was a prominent predictor of the variations in the Intended Learning Effort. The power of Ideal Self was undermined by the limited variability of data in both rounds of data collection. When considering the results of the study, one cannot simply conclude that the Ideal Self contributes less to the explanatory power of the theory of L2 motivation. All that can be inferred from these results is that the participants in the current study did not differ considerably in terms of their Ideal Selves to the degree that these differences can be used as a basis for comparisons between participants.

The limited variability of the Ideal Self of the participants can be explained in light of the contextual information. The students who participated in the presented study all had plans to pursue academic programs in the United States after finishing their language programs. While the statements that were adopted in the present study to measure the Ideal Self were extensively validated in the literature, the results of the study suggested that these statements were not ideal



for study-abroad students who have plans to enroll in academic programs after finishing their language training. The current study found that participants, in such setting, tended to give positive answers to the Ideal Self statements. To clarify this point, items 16 and 24 from the survey can be used as a sample to represents the Ideal Self items:

(16) I can imagine myself writing English e-mails fluently.

(24) I can imagine myself studying in a university where all my courses are taught in English.

Most of the participants strongly agreed with these items. English was the only possible means of communication that the participants could use to email their language teachers or the academic programs they were applying to. Therefore, it is expected that most of the participants had already used English in writing emails and this is why they tended to give positive answers to item 16. Similarly, the participants tended to positively answer item 24 because most of them had plans of studying in American universities where all the courses are taught in English. In short, the participants' responses weighted heavily on the far end of the positive side of the Ideal Self scale, resulting in high means and positively skewed distributions. This is why the current study suggests that the operationalization of this construct should be closely examined before applying it to investigate the motivation of study-abroad students.

### **Anti-ought to Self**

The construct of the Anti-ought to Self was recently proposed as a one of the prominent motivators that drive second language learners into achievement (Thompson, 2015). This construct draws on the theory of the Psychological Reactance which states that individual who

receive some social pressure to act in a certain way might react to this pressure by doing the opposite of what they are expected to do. Instances of the psychological reactance were found in the motivational system of some language learners (Thompson and Vasquez, 2015). The current study examined the participants' Anti-ought to Self along with the other motivational components. The results of the study suggested a prominent presence of this construct.

The Anti-ought to Self was found to be the main explanatory variable in the regression model that was created to find how much of the variance in the Intended Learning Effort was explained by the components of the L2 motivational system. The amount of the variance that was accounted for by the Anti-ought to Self alone exceeded the amount of the variance accounted for by the other explanatory variables put together (see Table 20). The outcome of this regression model suggested that learners with a strong Psychological Reactance to social pressures and academic challenges were more likely to engage in learning activities. Therefore, the independence of the learners' will is of great importance in the L2 motivation. Their independence can be boosted by facilitating the creation of vivid images of future selves that truly represent their personal aspiration. Dörnyei and Ushioda (2013) argued for the importance of developing an internally-oriented motivation and discussed strategies and approaches that can be used to boost this type of motivation. These strategies can be applied to the classroom environment to help students have a clear vision that can guide them in their learning journey.

### **Distinct Population**

The participants are Saudi students who were enrolled in a US language program in preparation for the academic study at American universities. Although the participants might

share some of social characteristics and the academic backgrounds with other Saudi learners who learn English as a foreign language in Saudi Arabia, being in an English-speaking context set them apart from other Saudi learners. Therefore, the findings of the current study might not truly reflect the situation of the majority of the university-level Saudi learners of English in Saudi Arabia.

In an attempt to delineate the characteristics of included sample, the current study used the term study-abroad to describe one the salient features of the language learners who participated in the current study. However, it should be noted that the participants were offered English language classes for a period that could continue for up to 18 months. In contrast, the typical length of study-abroad programs is limited to one academic semester (approximately 3 months) or two academic semesters. This important distinction between the two groups of study abroad students has important implication on the motivation of the learners as explained next.

The findings of the current study suggested that the L2 motivation of learners started to wear off after prolonged enrollments in the language classes. The least motivated learners were the ones grouped in cluster one, the passive nonconformists, (see Figure 8). Background information showed that the mean Length of Stay of this group was 13.4 months while other clusters had means that ranged between 8.3 to 9.8 months. It seemed that as learners passed the one-year threshold their motivation started to decline because they felt that communicative needs already met (cluster one had the highest self-rated proficiency as shown in Table 9). Also, some of them had already achieved their future selves and they felt ready to move to university academic programs. Their continued enrollment in the language school was not motivated by a need to improve the language but by a need to stay in the United States until a university offer was secured. A piece of evidence from the qualitative data supported this explanation. Ahmed

who was a member of cluster one, the least motivated group, expressed his feelings of boredom (see Excerpt 19). He also mentioned that he might have already fulfilled some of his communicative needs and achieved his future targets (see Excerpt 2). In short, he felt he was not supposed to stay in the language program because he was ready to move to the next stage of his academic experience in the United States. Further investigation that focuses primarily on language learners who have spent a considerable time learning a second language is warranted to further validate the explanation provided here.

Another issue related to the population of current study has to do with the socially-oriented future selves, mainly the Ought-to Self. When looking at the explanatory power of the components of the L2 motivation in previous research, L2 motivational research did not reveal any established contributions of the Ought-to Self unlike the Ideal Self which proved to be a strong and prominent contributor (Kormos & Csizér, 2008). Also, Papi and Teimouri (2014) pointed to the inconsistent results of studies that looked at the Ought-to component. In light of unclear position of the Ought-to Self in the L2 motivational theory, Lamb (2012) suggested that this component was more relevant to collective societies, e.g. Asian and Middle Eastern societies, where the individual's projected self image is reviewed by a larger audience, and consequently the stakes are higher when dealing with the Ought-to Self. The present study examined Lamb's (2012) hypothesis to find out if the English language learners from Saudi Arabia represented a distinct population with a distinct motivational profiles.

The results of the MANOVA test revealed that clusters two and three, which accounted for two thirds of the participants, had high Ought-to Self means (see Table 11). Moreover, the Ought-to Self appeared as a significant explanatory variable in the Regression Model that looked at the relationship between the components of L2MSS and the Intended Learning Efforts (see

Table 19). The results of the qualitative data provided corroborating evidence that supported the findings of the quantitative data. Maher's motivational profile involved an augmented Ought-to Self that was clear in the way he handled peer-pressure (see Excerpts 14 & 15). When the evidence from the quantitative and qualitative analyses are taken together, the conclusion that the participants represent a distinct population of language learners seem appealing. However, further research should be conducted to validate this conclusion.

### **Limitations**

Some of the limitations of the current study were thoroughly explained above while discussing some of the key findings of the current study. The limitations included the fact that certain sections of the data violated statistical assumptions (see Table 16). The Ideal Self obviously did not follow the normal distribution in both times, i.e. time one and time two, and the potential reasons behind this were discussed earlier. Also, the Ought-to Self (time two) violated the normality assumption. In addition to the violations of the normality assumption, the data of the Ought-to Self (time one) violated homogeneity assumption and a number of steps were considered to address these violations. First, data transformation techniques were used to deal with the abnormal distribution as recommended by Field (2005) but the transformational techniques did not yield any satisfying results. Also, non-parametric tests, e.g. the Wilcoxon Signed-Rank test, and more rigorous pairwise comparisons tests (Games-Howell test) were utilized to guard against the effect of these violations. However, there was not a non-parametric equivalent of the multiple regression analysis. The regular regression analysis was conducted after noting that the Ideal Self was not normally distributed and it was not known to what extent this violation could undermine the results of the test.

Another limitation of the study was related to the central tendency measures. Group means are known for obscuring the variations within the group. It is at the center of CDST to focus on variations and cease considering any departure from the group mean as error or noise that needs to be dusted off (de Bot, Lowie and Verspoor, 2007; Larsen-Freeman & Cameron, 2008). To preserve some of the variability of the data, the current study resorted to the Cluster Analysis to identify the major profiles of motivation. The result of this statistical procedure was the identification of four main clusters. While having four typical L2 motivational profiles admittedly does not account for every single profile of L2 motivation in the examined sample, it is arguably better than having one or two statistical measures of central tendency and generalizing them to the whole group of participants, or even to the whole population. With four distinctive motivational profiles, one has better chances for accounting for a greater portion of L2 motivational profiles in the examined population.

In addition, the halo effect and the Hawthorne effect posed a potential threat to the internal validity of the study. The halo effect refers to the situation in which the participants modify their responses in an attempt to meet what the researcher expects to find in the study (Mackey & Gass, 2015) The Hawthorne effect happens when participants feel positive for being included in the study (or in the experimental group) and change their responses as a result of their positive thinking. In an attempt to mitigate the effect of the halo effect and Hawthorne effect, the questionnaire instructions and interview introductions included statements that encouraged participants to provide accurate responses as much as possible. Also, Mackey and Gass (2015) noted that these undesirable effects can be marginalized when the presence of the researcher became less obtrusive and the instrument was administered more than once. The design of the current study involved multiple meetings with the interviewees and two rounds of

survey data collection. The meetings facilitated the building of rapport with the participants, and consequently made the conversations less obtrusive.

Finally, the interview data were limited in terms of their coverage of the Anti-ought to Self. The construct of the Anti-ought to Self was not directly and thoroughly expressed by the participants. Although some of the participants expressed their resistance to social pressures (see Excerpt ), their resistance acted as a tool to deactivate the motivating effect of the Ought-to Self. According to the interview data, this was the extent to which their resistance reached; the participants did not go beyond that kind of resistance by developing a social reactance and aspiring to achieve the opposite of what was socially expected from them. Future studies are encouraged to include probing questions that specifically look into the role of the Anti-ought to Self in the L2 Motivational Self System.

## **Implications**

The implications of the current study can be divided into two main types: implications related to the L2 motivation research and implications related to the L2 pedagogy. Starting with the research aspect, the present study confirmed that the CDST theory provides a viable research approach for investigating the complexity and dynamic nature of L2 motivation. Also, it showed that Cluster Analysis can be used as a statistical tool to preserve some of the variability of the data and prepare them for additional analyses.

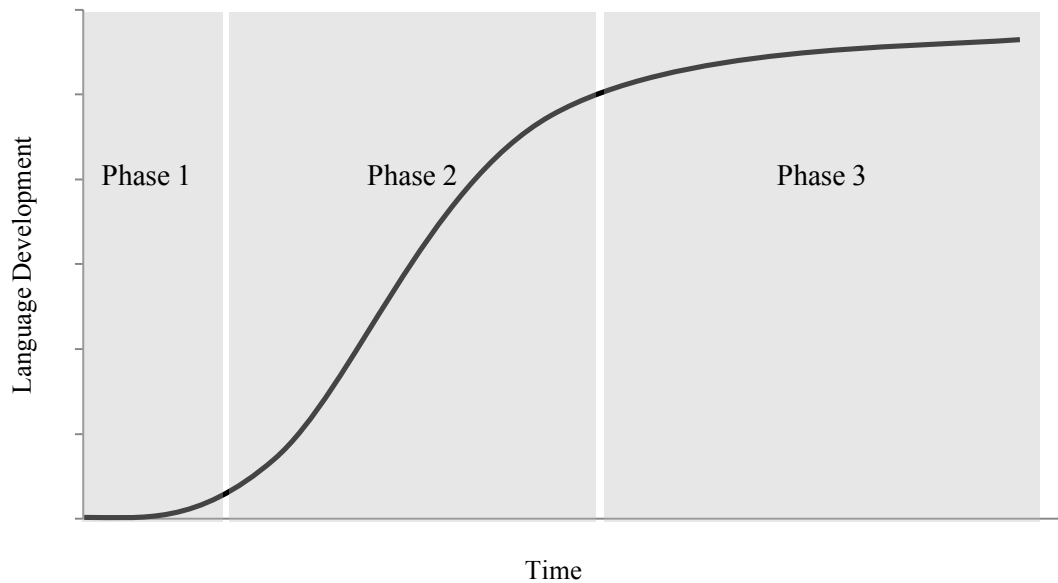
In addition, the present study highly recommends the use of the Appraisal Theory to guide the investigation of the construct of the Learning Experiences. Rather than focusing on one dimension of the Learning Experiences, the Appraisal Theory provides a guide for examining multiple aspects of the learners' experiences as mentioned earlier. In addition, this theory was

found to be compatible with the assumptions the CDST approach since it preserves the complexity of the learners' experiences.

As for the pedagogical implications, the present study found that learners look at their peers in search for aspirations that they can be used to enrich their working selves and future selves. This specific finding can be utilized by language instructors to help their struggling students develop more effective working selves and motivating future selves. This can be achieved by dedicating some of the class time to discuss learners' future aspirations and help them in creating a work plan to achieve their aspirations.

The present study found that L2 learners were engaged in constant evaluation of their Learning Experiences to examine the attainability of their future Ideal Selves. When language learners come to the conclusion that achieving a future ideal self that incorporates speaking a native-like L2 cannot be easily achieved, they become frustrated and lose some of their enthusiasm for language acquisition. Language instructors are encouraged to address issues related to the attainability of the Ideal Selves when talking with their students. Addressing these issues can be achieved by discussing the trajectory of language development (see Figure 15). Language learners normally go through three main phases of language development; and as they move from a phase to another they go through a phase shift in terms of the pace of their language development (Michel, Titzmann, & Silbereisen, 2012).





*Figure 15.* Visualization of the pace of language development over time

The phase shift in language development is also accompanied by a phase shift in L2 motivation. During the first phase, learners normally experience initial difficulties and a slow development. However, as they shift to the second phase their development accelerates and their L2 motivation improves due to the positive evaluations of their Learning Experiences. Finally, the third phase is characterized by slow language development and is conventionally known as the fossilization stage (Gass, Behney & Plonsky, 2013). Students are typically frustrated as they enter this final phase because of the slow language development. Also, those who have a future vision that includes a native-like pronunciation start to question the attainability of their Ideal Selves. Teachers are encouraged to introduce their students to the findings of research studies that looked at the attainability of native-like pronunciation versus native-like syntax among adult language learners. The discussion of these issues is expected to help students develop a more

balanced Ideal Selves and prepare them for the third phase, the one characterized by a slow pace of language development.

### **Future Directions**

The emergence of the Ought-to Self as a key factor in explaining the variability in the Intended Learning Effort was taken as an indication that the sample of the study represented a distinct population of English language learners. However, additional research should be conducted to further validate this conclusion. Future research should also look into the effect of peer-pressure, as a form the Ought-to Self, on the motivation of language learners. Interview data suggested that some language learners were sensitive to peer-pressure. In other words, peer-pressure appeared to have an impact on their future targets. Future research in this area can reveal the nature of the relationship between this social pressure and the self system and deepen our understanding of the control parameters that govern the direction and the intensity of the L2 motivation.

Also, in the current study, some of the participants while responding to the interview questions showed personal affinity to focus on the present forms of the self, rather than the future ones. They described a desire to align their present selves with those of their successful peers. Their focal point was not the linguistic characteristic of their peers since these were still being developed. Rather, they were interested in the persistence of their peers, their strategy use, and learning styles. These participants seemed to be eager to modify their working selves (Henry, 2015) to maximize their chances of achieving their future self guides. Further research that

examines the construct of the working self is needed to explain the relationship between the working selves and the future selves.

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## **APPENDICES**

## Appendix 1: An Overview of the Empirical CDST Studies

Table 24

*An Overview of the Empirical CDST Studies*

Study	Participants	RQs/Research topics	Research design	Analytical procedures	Major findings
Poupore (2013)	38 Korean learners of English	1. What are the elements of the task motivation system?  2. How do these elements interact to influence task motivation?	Mixed methods. Pre and post task questionnaires. Interviews	Multiple comparisons. Thematic analysis.	Elements related to cognition, emotion, social context, and task structure interacted and shaped the motivational patterns
Henry (2015b)	Six L3 learners	Investigating the motivational dynamics of six upper secondary students studying French over the course of two semesters	Retrodictive qualitative modeling. Longitudinal. Interview. Observations	Interpretive approach. Three-stage coding.	Two types of changes in the L3 motivation; changes that have an overall effect, yet fail to cause a phase shift, and changes that succeed in moving the system into a new state.
MacIntyre & Serroul (2015)	12 Canadian learners of French as second language	1. Do participants have a generally positive or negative reaction to the tasks and is there much variability in the idiodynamic ratings of motivation across the tasks? If so, what factors are	Mixed methods. Surveys. Interviews. Idiodynamic data-elicitation tool	Correlation. Deductive coding.	Four main patterns of motivation were identified. Linguistic and affective factors are identified as control parameters.

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		<p>associated with increasing and decreasing motivation?</p> <p>2. Is there a correlation between the self-rated approach/avoidance motivation with the one idiodynamically recoded?</p> <p>3. What are the concepts that appear in the description of the participants when talking about their approach/avoidance motivation?</p>			
Mercer (2015)	Two EFL learners from Austria	Analysis of multiple levels of motivation (speaking self, working self, and academic self) at different timescales (seconds, weeks, and months)	Qualitative design. Longitudinal covering multi-levels of motivation at multiple timescales.	Inductive multi-stage coding	Nested levels of motivation did not show parallel changes
Piniel & Csizér (2015)	21 ESL learners	The dynamic relationship between anxiety, self-efficacy, and motivation	Quantitative. Questionnaire-based. Multiple rounds of data collection.	Cluster analysis. Latent growth curve modelling.	Participants showed different patterns of change. The Ideal Self is less dynamic when compared to the Ought-to Self and the Learning Experiences.
Waninge (2015)	Phase 1: 56 participants	1. What are the main attractor states that make up	Two-stage qualitative design.	Inductive thematic analysis	The four states of interest, boredom,

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	Phase 2: 45 participants	the learning experience? 2. What are the main forces forming the attractor basins?	multiple semi-structured interviews.		neutral attention, and anxiety categorized the L2 experiences of the learners.
Chan, Dörnyei, & Henry (2015)	Stage 1: six teachers.	The identification of learner archetypes.	Retrodictive qualitative modeling.	Interpretive approach. Two-stage coding.	There are a limited number of learner types. Learners shifted back and forth between different sources of motivation.
	Stage 2: seven EFL Chinese students	The identification of a motivational system's signature dynamics			
Gergersen and MacIntyre (2015)	18 L2 Speakers of English, enrolled in an MA Linguistics program	What does a study of the internal dialogues of teachers-as-learners tell us about the L2 self system of teacher-learners, interpreted through a dynamic systems framework?	Qualitative. Triangulation of multiple data sources. Journals. Essays.	Deductive coding. Using CDST-related codes.	The data showed that changes in the self system were not linear while the states of the system were continuous and fluid. Also, opposite states were joined by soft-assembly.
Yashima & Arano (2015)	10 EFL students	How do learners explain the ebbs and flows in their motivation over the eight semesters? How can these experiences be understood within the theoretical framework of DST and Valsiner's theory?	Qualitative, interview-based.	Trajectory Equifinality Model of analysis.  Two-stage coding to develop categories.	Studying the micro-genetic, meso-genetic, and onto-genetic levels of motivation offers a better understanding of the discrepancies between short-term and long-term motivation.

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Irie & Ryan (2015)	19 study abroad English language learners	Exploring the dynamics of change in learner L2 self concept.	Quantitative. Q methodology.	Factor analysis	Study abroad learners showed increased optimism before they self- organized into different states.
Nitta & Baba (2015)	Two L2 users of English	What self-regulatory processes do students equipped with an Ideal Self employ over one year through language learning tasks? How do the Ideal Self, task execution, and self- regulation in individual students interact in an EFL classroom over one year?	Longitudinal mixed methods. Compositions. Reflections.	Times series. Change point analysis	The Ideal Self and L2 writing experiences were engaged in interrelated changes.

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## **Appendix 2: The Statements Used in the Survey**

### **1. Ideal Self**

1. I can imagine myself speaking English as if I were a native speaker of English.
2. I can imagine myself speaking English with international friends or colleagues.
3. Whenever I think of my future career, I imagine myself using English.
4. I can imagine myself studying in a university where all my courses are taught in English.
5. I can imagine myself writing English e-mails fluently.
6. I can imagine myself living abroad and using English effectively for communicating with the locals.

### **2. Ought-to Self**

1. I study English because close friends of mine think it is important.
2. If I fail to learn English, I will be letting other people down.
3. I consider learning English important because the people I respect think that I should do it.
4. Studying English is important to me in order to gain the approval my peers/ teachers/ family/ boss.
5. Learning English is necessary because people surrounding me expect me to do so.
6. Studying English is important to me because other people will respect me more if I have a knowledge of English

### **3. Anti-ought to self**

1. I enjoy a challenge with regards to language learning.
2. I want to prove others wrong by becoming good at the language I am studying.
3. In my English classes, I prefer material that is difficult, even though it will require more effort on my part, as opposed to easier material.
4. I would like to reach a high proficiency in English, despite others telling me that it will be difficult or impossible.
5. I am studying English even though most of my friends and family members don't value foreign language learning.
6. I am studying English because I want to stand out amongst my peers and/or colleagues.

### **4. Learning Experiences (Based on the conceptual framework of the Appraisal Theory)**

#### **Novelty:**

1. I am look forward to my English classes because I learn new language information in those classes.
2. The teacher used new methods of teaching.

#### **Pleasantness:**

3. I find learning English really interesting.
4. I feel that time passes faster while studying English.

#### **Goal Significance:**

5. What I experienced in my English classes will help my achieve goals of learning English.
6. What I am learning in my English classes is relevant to what I need in my daily life.



**Coping Abilities:**

7. I get good feedback on my assignments.
8. I am satisfied with the level of my participation in classroom activities.

**5. Intended Learning Effort**

1. I would like to spend lots of time studying English.
2. I am prepared to expend a lot of effort in learning English.
3. I would like to concentrate on studying English more than any other topic.
4. If an English course was offered in the future, I would like to take it.
5. If my teacher would give the class an optional assignment, I would certainly volunteer to do it.
6. I would like to study English even if I were not required.

### Appendix 3: The Survey Instrument

#### English version of the questionnaire

##### Background Information

1	How old are you? .....				
2	What is your nationality? .....				
3	What is your university email address? .....				
4	What is your current program? (choose one, please)				
	<input type="checkbox"/> Pathway	<input type="checkbox"/> Academic English	<input type="checkbox"/> General English		
5	What is your current level in your language school? .....				
6	What is your gender? (choose one, please) <input type="checkbox"/> Male <input type="checkbox"/> Female				
7	What is the highest level of education that you have?				
	<input type="checkbox"/> High school	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Master	<input type="checkbox"/> PhD	<input type="checkbox"/> Other. Please identify below: .....
8	Have you ever traveled to an English speaking country? (choose one, please) <input type="checkbox"/> Yes <input type="checkbox"/> No				
	For how long did you stay in that country? .....				
9	What is the major that you plan to study? .....				
10	How long have you been studying English in this country? .....				
11	Please rate your grammar ability in English. (Choose one, please)				
	<input type="checkbox"/> Almost nothing	<input type="checkbox"/> Beginner	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Advanced	<input type="checkbox"/> Very advanced
12	Please rate your speaking ability in English. (Choose one, please)				
	<input type="checkbox"/> Almost nothing	<input type="checkbox"/> Beginner	<input type="checkbox"/> Intermediate	<input checked="" type="checkbox"/> Advanced	<input type="checkbox"/> Very advanced
13	Please rate your listening ability in English. (Choose one, please)				
	<input type="checkbox"/> Almost nothing	<input type="checkbox"/> Beginner	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Advanced	<input type="checkbox"/> Very advanced
14	Please rate your writing ability in English. (Choose one, please)				
	<input type="checkbox"/> Almost nothing	<input type="checkbox"/> Beginner	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Advanced	<input type="checkbox"/> Very advanced
15	Please rate your reading ability in English. (Choose one, please)				
	<input type="checkbox"/> Almost nothing	<input type="checkbox"/> Beginner	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Advanced	<input type="checkbox"/> Very advanced

1	I feel that time passes faster while studying English					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
2	If I fail to learn English, I will be letting other people down.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
3	I find learning English really interesting					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
4	I study English because close friends of mine think it is important.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
5	I am look forward to my English classes because I learn new language information in those classes.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
6	I consider learning English important because the people I respect think that I should do it.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
7	The teacher used new methods of teaching					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
8	Studying English is important to me in order to gain the approval my peers/ teachers/ family/ boss.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
9	What I experienced in my English classes will help me achieve my goals of learning English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
10	Studying English is important to me because other people will respect me more if I have a knowledge of English					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
11	What I am learning in my English classes is relevant to what I need in my daily life					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree

12	Learning English is necessary because people surrounding me expect me to do so					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
13	I get good feedback on my assignments.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
14	I can imagine myself speaking English as if I were a native speaker of English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
15	I am satisfied with the level of my participation in classroom activities.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
16	I can imagine myself writing English e-mails fluently.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
17	I want to prove others wrong by becoming good at the language I am studying.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
18	I can imagine myself living abroad and using English effectively for communicating with the locals.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
19	I enjoy a challenge with regards to language learning.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
20	I can imagine myself speaking English with international friends or colleagues.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
21	I would like to spend lots of time studying English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
22	Whenever I think of my future career, I imagine myself using English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree

23	I am prepared to expend a lot of effort in learning English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
24	I can imagine myself studying in a university where all my courses are taught in English.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
25	I would like to concentrate on studying English more than any other topic.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
26	In my English classes, I prefer material that is difficult, even though it will require more effort on my part, as opposed to easier material.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
27	If an English course was offered in the future, I would like to take it.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
28	I would like to reach a high proficiency in English, despite others telling me that it will be difficult or impossible.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
29	If my teacher would give the class an optional assignment, I would certainly volunteer to do it.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
30	I am studying English even though most of my friends and family members don't value foreign language learning.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
31	I would like to study English even if I were not required.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree
32	I am studying English because I want to stand out amongst my peers and/or colleagues.					
	<input type="checkbox"/> Strongly agree	<input type="checkbox"/> Agree	<input type="checkbox"/> Slightly agree	<input type="checkbox"/> Slightly disagree	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly disagree

This research project involves conducting interviews with a small number of participants to discuss the issues addressed in this questionnaire with some detail. If you are selected for the interview part of the study, would you agree to participate?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Maybe
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### Arabic version of the questionnaire

1	كم عمرك؟ .....
2	ما هي جنسيتك؟ .....
3	فضلا قم بكتابة بريدك الجامعي. .....
4	ما هو المسار الذي تدرس فيه؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> General English <input type="checkbox"/> Academic English <input type="checkbox"/> Pathway
5	فضلا حدد المستوى (the level) الذي تدرس فيه. .....
6	ما هو جنسك؟ اختر: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
7	ما هو أعلى مستوى تعليمي وصلت إليه؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> الشهادة الثانوية <input type="checkbox"/> البكالوريوس <input type="checkbox"/> الماجستير <input type="checkbox"/> الدكتوراه <input type="checkbox"/> أخرى. ماهي؟ .....
8	هل سبق وإن سافرت لبلد لغته الرسمية هي اللغة الانجليزية قبل قدومك للدراسة في الولايات المتحدة الأمريكية؟ اختر: <input type="checkbox"/> نعم <input type="checkbox"/> لا ماهي المدة التي قضيتها في ذلك البلد؟ .....
9	ما هو التخصص الذي تنوي دراسته بعد الإنتهاء من فترة دراسة اللغة الإنجليزية؟ .....
10	ما هي المدة التي قضيتها حتى الآن في دراسة اللغة الإنجليزية في الولايات المتحدة الأمريكية؟ .....
11	ما هو تقييمك الشخصي لمستوى قدراتك اللغوية المتعلقة بقواعد اللغة الإنجليزية؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> مستوى معدوم <input type="checkbox"/> مستوى مبتدئ <input type="checkbox"/> مستوى متوسط <input type="checkbox"/> مستوى متقدم <input type="checkbox"/> مستوى متقدم جدا
12	ما هو تقييمك الشخصي لمستوى قدراتك اللغوية فيما يتعلق بمهارة التحدث باللغة الإنجليزية؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> مستوى معدوم <input type="checkbox"/> مستوى مبتدئ <input type="checkbox"/> مستوى متوسط <input type="checkbox"/> مستوى متقدم <input type="checkbox"/> مستوى متقدم جدا
13	ما هو تقييمك الشخصي لمستوى قدراتك اللغوية فيما يتعلق بمهارة الاستماع باللغة الإنجليزية؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> مستوى معدوم <input type="checkbox"/> مستوى مبتدئ <input type="checkbox"/> مستوى متوسط <input type="checkbox"/> مستوى متقدم <input type="checkbox"/> مستوى متقدم جدا
14	ما هو تقييمك الشخصي لمستوى قدراتك اللغوية فيما يتعلق بمهارة الكتابة باللغة الإنجليزية؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> مستوى معدوم <input type="checkbox"/> مستوى مبتدئ <input type="checkbox"/> مستوى متوسط <input type="checkbox"/> مستوى متقدم <input type="checkbox"/> مستوى متقدم جدا
15	ما هو تقييمك الشخصي لمستوى قدراتك اللغوية فيما يتعلق بمهارة القراءة باللغة الإنجليزية؟ (اختر واحدة من الاجابات أدناه) <input type="checkbox"/> مستوى معدوم <input type="checkbox"/> مستوى مبتدئ <input type="checkbox"/> مستوى متوسط <input type="checkbox"/> مستوى متقدم <input type="checkbox"/> مستوى متقدم جدا

فضلاً أجب عن الأسئلة و العبارات التالية عن طريق وضع علامة (✓) أمام الاختيار الأنسب بالرجوع إلى تجاربك الشخصية في الوقت الحالي. علماً بأن الإجابات متدرجة فيما يتعلق بمستوى التوافق مع العبارة المكتوبة حيث يعبر الخيار الذي في أقصى اليمين عن أعلى مستوى من مستويات التأييد للعبارة المكتوبة، بينما يعبر الخيار في أقصى اليسار عن أعلى مستوى من مستويات المعارضة

1	أحس أن الوقت يمر سريعاً في دروس اللغة الإنجليزية.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
2	لو فشلت في تعلم الإنجليزية فإنها ستخيب ظنون الآخرين في.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
3	أعتقد أن تعلم اللغة الإنجليزية ممتع بشكل كبير.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
4	أنا أدرس اللغة الإنجليزية لأنها مهمة من وجهة نظر أصدقائي المقربين .					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
5	أنا أستمتع بدراسة اللغة الإنجليزية لأنني أحصل على معلومات جديدة كل يوم.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
6	دراسة اللغة الإنجليزية ضرورية لأن الناس من حولي يتوقعون مني الإلمام بها.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
7	أنا أستمتع بدراستي لأن المدرس يستخدم أساليب تعليمية متجددة.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
8	دراسة اللغة الإنجليزية مهمة لكي أحظى بقبول أقراني و مدرسي و عائلتي و رؤسائي في وظيفتي المستقبلية					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
9	محاضرات اللغة الإنجليزية الحالية ستساعدني في تحقيق أهدافي المتمثلة بتطوير لغتي الإنجليزية.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
10	بالنسبة لي فإن دراسة اللغة الإنجليزية مهمة لأن الآخرين سيزيد احترامهم لي عندما يكون عندي إلمام باللغة الإنجليزية					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة
11	ما أتعلمه في دروس الإنجليزية سيساعدني في حياتي اليومية.					
	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة	<input type="checkbox"/> لا أوافق بشدة

12	أنا أعتبر تعلم الإنجليزية مهم لأن الناس الذين أحترم رأيهم يعتقدون أن تعلمها مهم .	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
13	أنا دائماً أحصل على تقييم متميز عندما يتابع مدرسي اللغة الإنجليزية واجباتي الدراسية.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
14	كلما استشرفت المستقبل فإني أتخيل نفسي وأنا أتحدث الإنجليزية تماماً مثل المتحدثين الأصليين للغة الإنجليزية.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
15	أنا راضي عن المستوى الحالي لمشاركاتي و تفاعلي في دروس اللغة الإنجليزية.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
16	كلما استشرفت المستقبل فإني أتخيل نفسي قادراً على كتابة إيميل باللغة الإنجليزية بسهولة و وضوح.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
17	سأتميز في دراسة اللغة الإنجليزية لأنني أريد أن أثبت للآخرين أنهم مخطئون في تقييمهم لقدراتي.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
18	كلما استشرفت المستقبل فإني أتخيل نفسي و أنا موجود في بلد أجنبي و استخدم اللغة الإنجليزية للتواصل مع السكان المحليين .	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
19	أنا استمتع بالتحديات التي تواجهني في مجال تعلم اللغة الإنجليزية.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
20	كلما استشرفت المستقبل فإني أتخيل نفسي قادراً على التحدث بالإنجليزية مع أصدقائي وزملائي الأجانب.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
21	أرغب في تسجيل مواد إضافية في مجال دراسة اللغة الإنجليزية.	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
22	كلما فكرت في وظيفتي المستقبلية فإني أتخيل نفسي و أنا أستخدم اللغة الإنجليزية .	<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعاً ما	<input type="checkbox"/> لا أوافق	<input type="checkbox"/> لا أوافق بشدة
23	أنا مستعد لقضاء الكثير من الوقت في تعلم اللغة الإنجليزية.					



<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
24 كلما استشرفت المستقبل فإني أتخيل نفسي أدرّس في جامعة كل موادها تُدرّس باللغة الإنجليزية .					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
25 أحب أن أركز على دراسة اللغة الإنجليزية أكثر من أي مادة تخصصية أخرى.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
26 في دروس اللغة الانجليزية أفضل تلك الدروس التي تحوي مواد تعليمية صعبة على تلك التي تحوي مواد تعليمية سهلة حتى وإن كانت الصعبة تتطلب مني جهدا أكبر.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
27 أيضا، لو أُتيح لي دراسة اللغة الإنجليزية مستقبلا فلن أتردد في دراستها.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
28 أريد أن أصل إلى قدرة لغوية عالية في اللغة الإنجليزية حتى وإن كان الآخرين يقولون لي أن الوصول لهذه القدرة العالية صعب أو مستحيل.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
29 لو كان هناك واجبات اختيارية في إحدى دروس اللغة الإنجليزية فسوف أقوم بتنفيذها مع علمي بأنها ليست إلزامية.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
30 أنا أدرس اللغة الانجليزية بالرغم من أن أهلي و أصدقائي لا يقدرّون تعلم اللغات الاجنبية.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
31 أنا أرغب بتعلم اللغة الأنجليزية حتى وإن كان هذا الشيء غير مطلوب مني.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة
32 أنا أدرس اللغة الإنجليزية لأنني أريد أن أكون متميزا بين أقراني و زملائي.					
<input type="checkbox"/> أوافق بشدة	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق نوعا ما	<input type="checkbox"/> أوافق نوعا ما	<input type="checkbox"/> أوافق	<input type="checkbox"/> لا أوافق بشدة

أخيرا: هذه الدراسة تتضمن إجراء مقابلات مع عدد قليل من دراسي اللغة الإنجليزية لإلقاء الضوء على بعض العوامل المؤثرة في تعلم اللغة الإنجليزية بشيء من التفصيل، هل سترغب في المشاركة في هذه المقابلات إذا تم اختيارك؟		
<input type="checkbox"/> نعم	<input type="checkbox"/> لا	<input type="checkbox"/> ربما

تفضلوا بقبول خالص الشكر والامتنان، مع تمنياتنا لكم بدوام التفوق والنجاح

## **Appendix 4: Interview Questions**

### **The Protocol of the First Interview:**

1. Tell me about your first English language class?
  - a. Probe: How would you describe your feelings in the early days of that class?
2. What are your reasons for learning English?
3. Describe yourself (actual self) as a language learner?
  - a. Probe: Tell me about your current language abilities.
4. I wonder if you envision that you will become someone different with regard to your English language learning by the time of your graduation from this language program. Explain.
  - a. Probe: I wonder if what you want to be by the end of this program reflects an existing model, for example, an ESL learner that you know.
5. Describe the atmosphere of your English classes.
  - a. Probe: Do you look forward to your English classes? Why? Why not?
6. Please rate the efforts that you invested in learning English during the last two weeks in a scale from 1 to 10 with 10 referring to great efforts, and 1 being meager or small effort.
  - a. Probe: Why did you choose this score?
7. Is there anything else you want to add to this conversation?

### **The Protocol of the Second Interview:**

1. Please write two key words that describe your experience with English during the last two weeks.

- a. Elaborate on how these key words represent your L2 experiences during the last two weeks.
2. Talk about your efforts and persistence for learning English during the last few weeks?
  - a. Probe: Generally speaking, did your effort and persistence stay exactly the same? Or witnessed some changes?
  - b. Probe: If changes were experienced, what were the causes of these changes in your opinion?
3. Talk about the factors that could possibly increase the level of your efforts and persistence in learning English?
  - a. Probe: Have you been through a situation in which one of these factors was at play?
  - b. Follow-up: If so, describe that situation.
4. Talk about the factors that could possibly prevent you from doing your best in language learning?
  - a. Probe: Have you been through a situation in which one of these factors was at play?
  - b. Follow-up: If so, describe that situation.
5. What do you expect yourself to be as an L2 user by the end of your second language education at this language school?
6. Tell me about the expectations of your family, friends and relatives with regard to the outcome of your English language experiences.
  - a. Probe: Do you think their expectations would be the same if you studied English in your home country?

- b. Probe: I wonder if these expectations have any effect on your language learning.  
Can you think of some examples?
  - c. Probe: Do you think you are obligated to meet their expectations? Explain your answer.
7. At the end of this session, is there anything you want to add?

**The Protocol of the Third Interview:**

1. Reflect on your L2 experiences during the past two weeks.
  - a. Talk about any major incidents.
  - b. Talk about things that achieved.
  - c. Talk about classroom experiences that you liked, and those that you did not like.
2. How relevant are your English classes to your everyday life? Explain.
3. How relevant are your English classes to what you think you need to succeed at American universities? Explain.
4. How relevant are your English classes to your (future) career? Explain.
5. Talk about the demands and expectations of your English language classes.
  - a. Probe: How well do you think you are coping with the demands of your classes? Explain.
  - b. Probe: Are you satisfied with your performance in your ESL classes? Why? Why not?
6. What is the probability of you taking an optional ESL class in the future in a scale from 1 to 10 with ten being most likely and one least likely?
7. Is there anything else you would like to share?

### **The Protocol of the Fourth Interview:**

1. How was school in the last two weeks?
  - a. Probe: What made you feel this way?
  
2. Please rate the persistence and the effort that made in the last two weeks in a scale from 1 to 10 with 10 referring to great efforts, and 1 being meager or small effort.
  - a. Probe: Why did you choose this number?
  
  - b. Probe: Would you assign the same number to the different English classes that you have? Why/why not?
  
  - c. Probe: Would make the same effort to learn English had you been studying it at your home country?
  
3. Describe yourself (actual self) as a language learner?
  - a. Probe: Tell me about your current language abilities.
  
4. I wonder if you envision that you will become someone different with regard to your English language learning by the time of your graduation from this language program. Explain.
  - a. Probe: How much confidence do you have that you will become what you want to be in terms of your English abilities?
  
5. Is there anything else you would like to share?

## Appendix 5: Descriptive Results

### Descriptives

			Statistic	Std. Error
Mean of Ideal self Round 1	Mean		5.2260	.06392
	95% Confidence Interval for Mean	Lower Bound	5.0989	
		Upper Bound	5.3531	
	5% Trimmed Mean		5.2504	
	Median		5.1833	
	Variance		.351	
	Std. Deviation		.59280	
	Minimum		3.83	
	Maximum		6.00	
	Range		2.17	
	Interquartile Range		1.00	
	Skewness		-.373	.260
	Kurtosis		-.845	.514

### Descriptives

			Statistic	Std. Error
Mean of Ought to self Round 1	Mean		4.0969	.11335
	95% Confidence Interval for Mean	Lower Bound	3.8715	
		Upper Bound	4.3223	
	5% Trimmed Mean		4.1227	
	Median		4.1667	
	Variance		1.105	
	Std. Deviation		1.05113	
	Minimum		1.50	
	Maximum		6.00	
	Range		4.50	
	Interquartile Range		1.37	
	Skewness		-.348	.260
	Kurtosis		-.246	.514

**Descriptives**

			Statistic	Std. Error
Mean of Anti-Ought to self Round 1	Mean		4.4880	.08237
	95% Confidence Interval for Mean	Lower Bound	4.3242	
		Upper Bound	4.6518	
	5% Trimmed Mean		4.5084	
	Median		4.5833	
	Variance		.584	
	Std. Deviation		.76389	
	Minimum		2.67	
	Maximum		6.00	
	Range		3.33	
	Interquartile Range		1.00	
	Skewness		-.428	.260
	Kurtosis		-.030	.514

**Descriptives**

			Statistic	Std. Error
Mean of Learning Exp. Round 1	Mean		4.7500	.05957
	95% Confidence Interval for Mean	Lower Bound	4.6316	
		Upper Bound	4.8684	
	5% Trimmed Mean		4.7699	
	Median		4.7500	
	Variance		.305	
	Std. Deviation		.55240	
	Minimum		2.88	
	Maximum		5.75	
	Range		2.88	
	Interquartile Range		.66	
	Skewness		-.570	.260
	Kurtosis		.705	.514

## Appendix 6: Histograms Showing the Abnormally Distributed Data

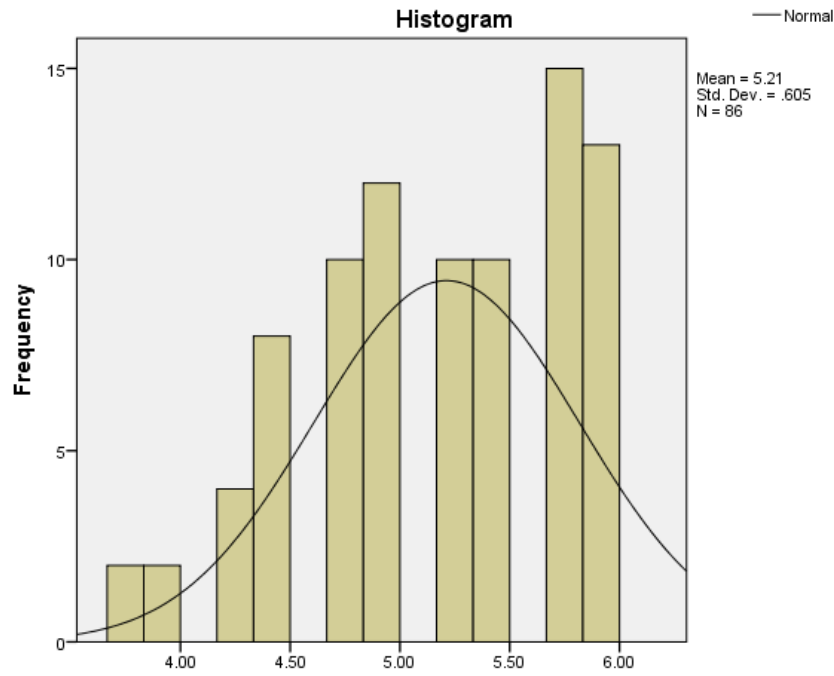


Figure 16. Ideal Self – Round 1

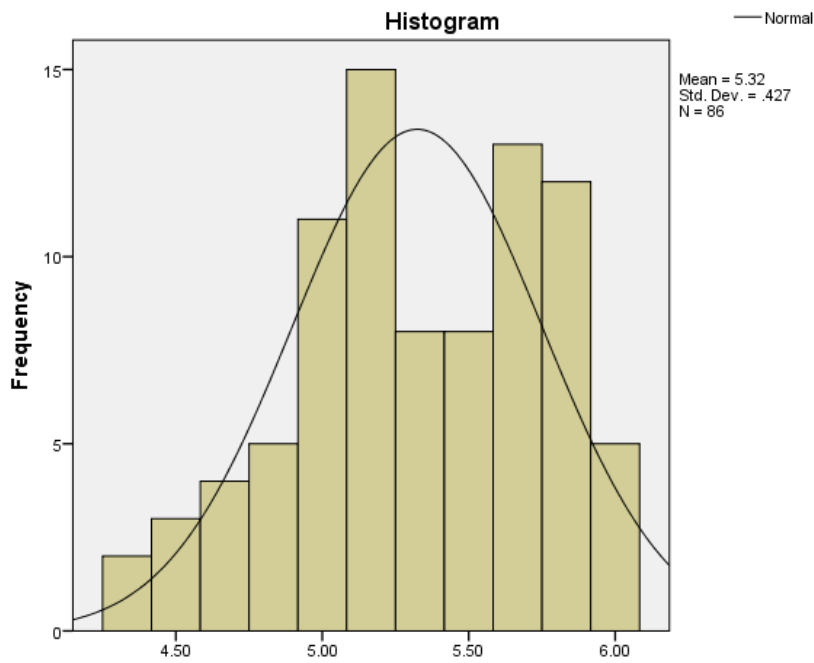


Figure 17. Ideal Self – Round 2



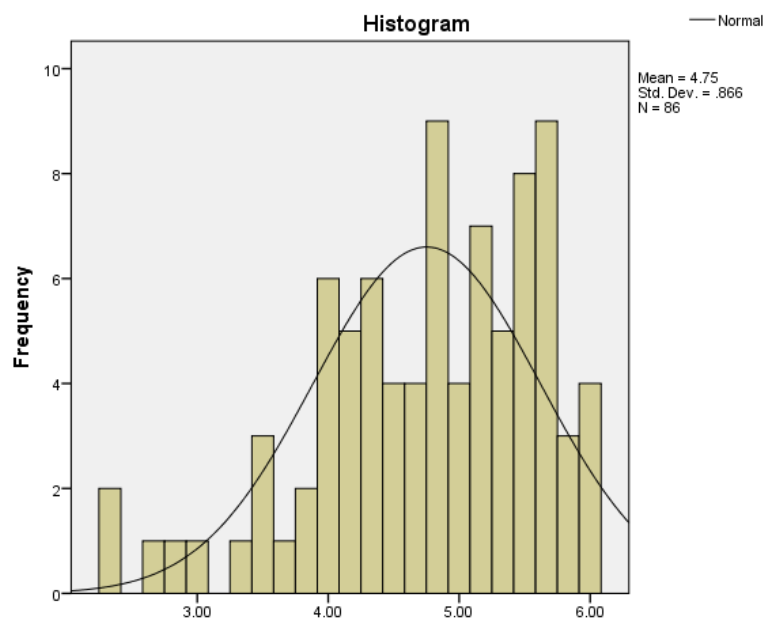


Figure 18. Ought-to Self – Round 2

## Appendix 7: The Results of the Discriminant Function Analysis

**Eigenvalues**

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	3.680 <sup>a</sup>	76.8	76.8	.887
2	1.069 <sup>a</sup>	22.3	99.1	.719
3	.045 <sup>a</sup>	.9	100.0	.208

a. First 3 canonical discriminant functions were used in the analysis.

**Structure Matrix**

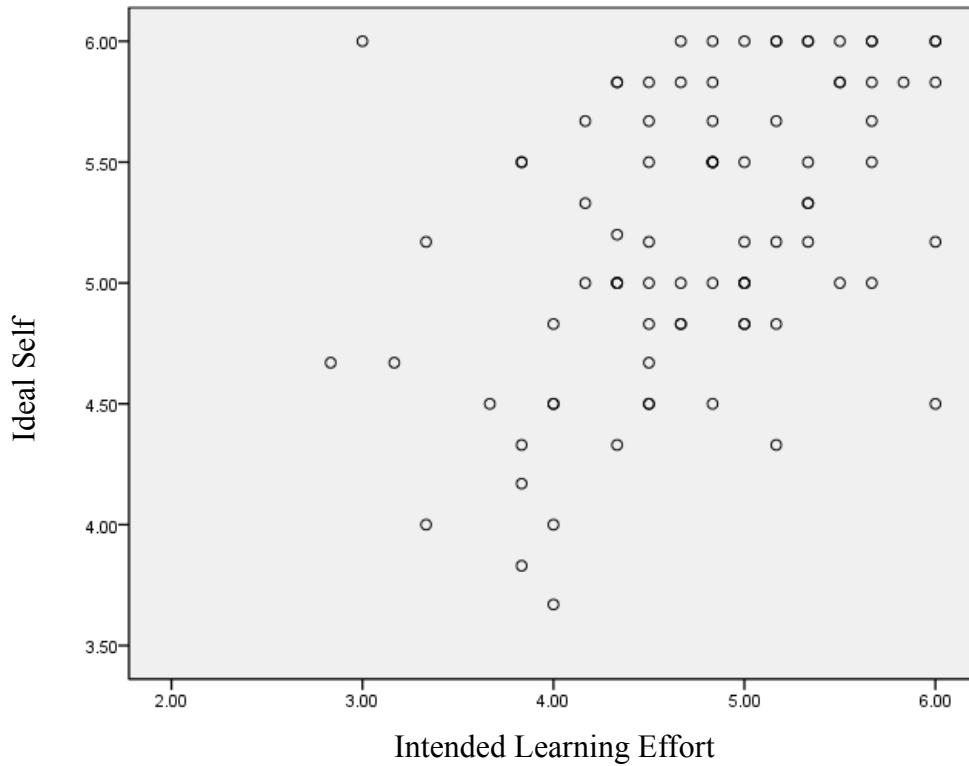
	Function		
	1	2	3
Mean Value of Ought to Self	.851*	-.476	-.219
Mean Value of Anti-ought to	.455	.669*	-.587
Mean Value of Learning Exp.	.260	.441*	.338
Mean Value of Ideal Self	.302	.500	.604*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

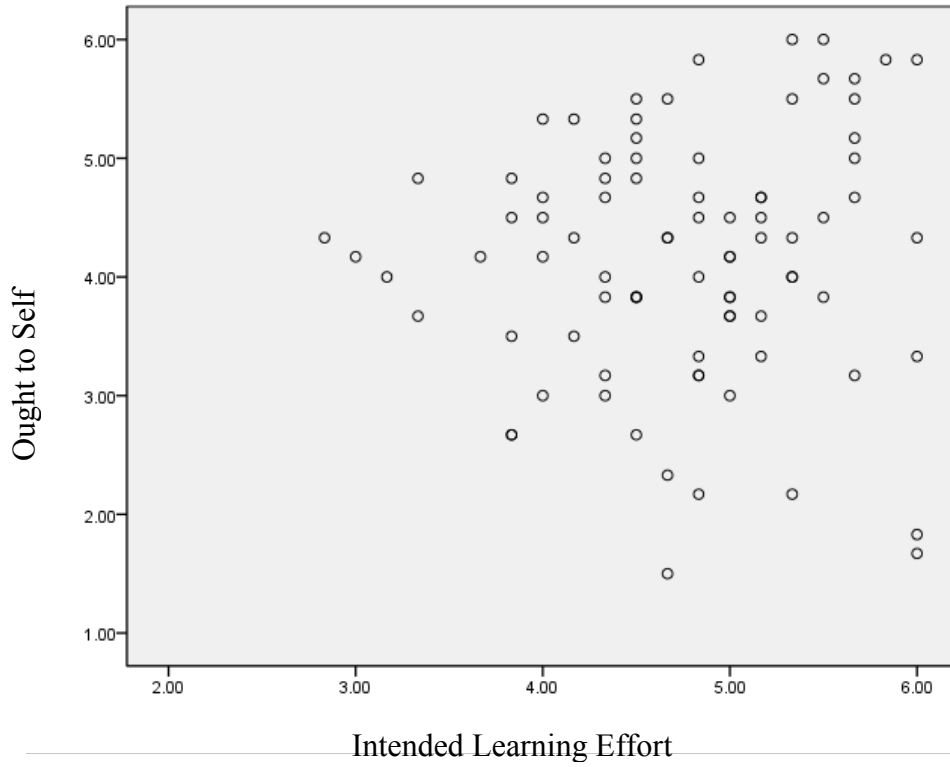
Variables ordered by absolute size of correlation within function.

\*. Largest absolute correlation between each variable and any discriminant function

**Appendix 8: Scatter Plots Depicting the Relationships between the Variables in the Regression Model**



*Figure 19.* A scatter plot showing the relationship between the Ideal Self and Intended Learning Effort



*Figure 20.* A scatter plot showing the relationship between the Ought-to Self and Intended Learning Effort

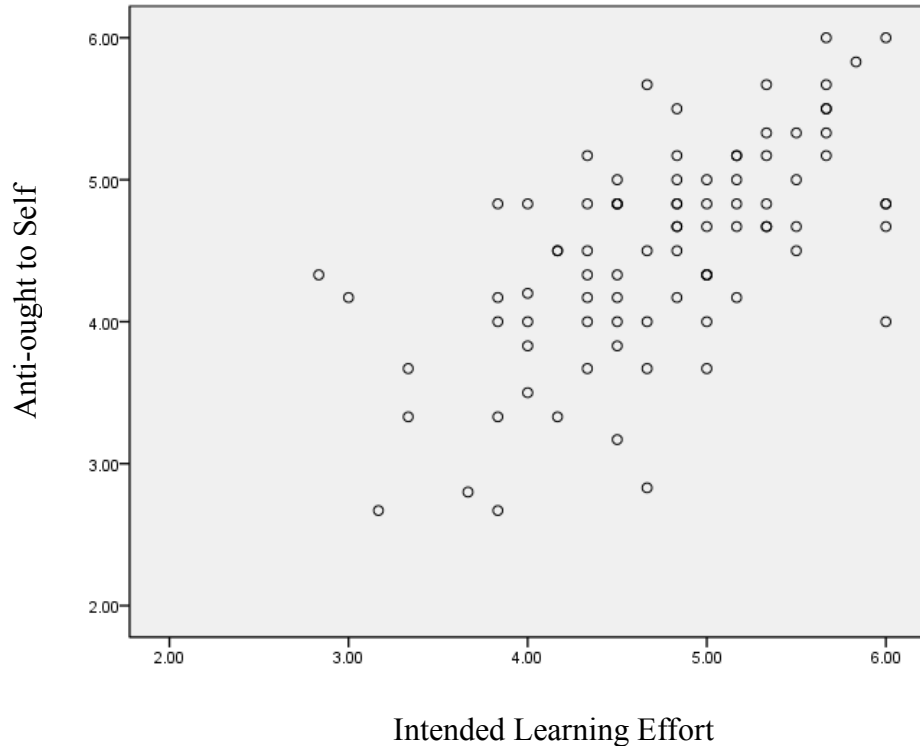


Figure 21. A scatter plot showing the relationship between the Anti-ought to Self and Intended Learning Effort

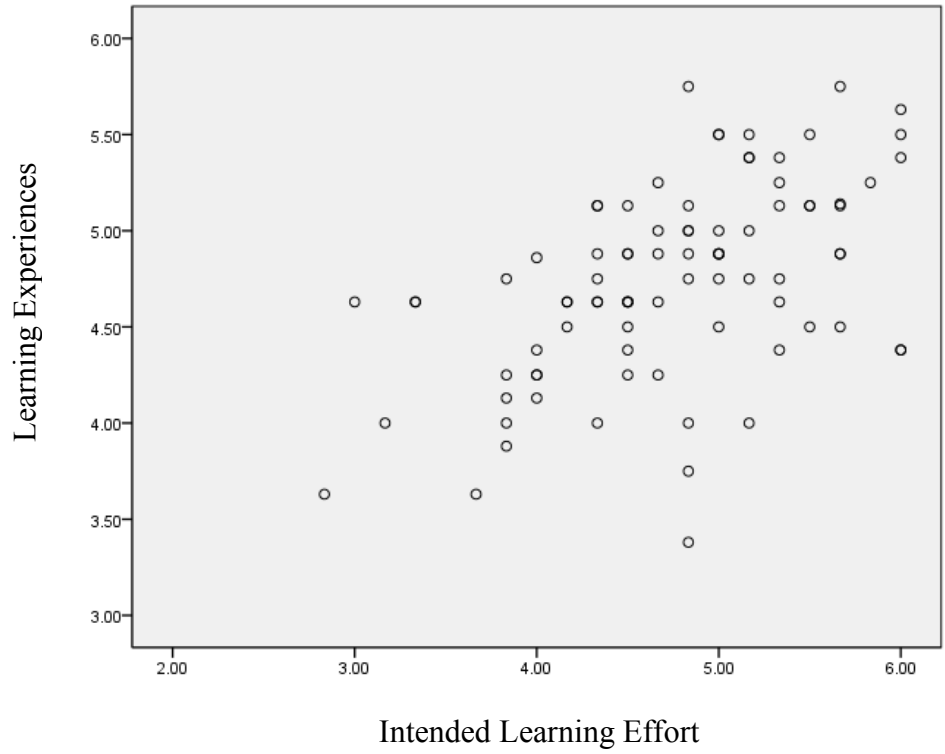


Figure 22. A scatter plot showing the relationship between the Learning Experiences and Intended Learning Effort

## Appendix 9: A Screenshot Showing Part of the Coding Process

