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*Georgia State University*

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WORDS OF EXPERIENCE: SEMANTIC CONTENT ANALYSIS  
AND INDIVIDUAL DIFFERENCES  
AMONG SUCCESSFUL SECOND LANGUAGE LEARNERS

by

BRITTANY POLAT

Under the Direction of Sara C. Weigle

ABSTRACT

Individual differences (IDs) in second language (L2) learning have traditionally been studied as separate, isolated variables (Dörnyei, 2005), but this reductionist approach has led to a fragmented and inconclusive understanding of how IDs influence L2 learning. The present study takes a different approach to IDs by starting at the level of L2 learning experience and identifying the most basic differences between learners. To do this, a new L2 experience methodology is introduced. Participants are 123 matriculated non-native English speaking students at two urban universities in the South. First, learners were interviewed following a strict interview protocol which ensured that all learners received the same input in the same setting.

Next, the interviews were analyzed using the Linguistic Inquiry and Word Count software (Pennebaker, Booth, & Francis, 2007), which provides quantitative output showing the types and frequency of psychosocial words each learner produced. These psychosocial semantic categories then formed the basis of a cluster analysis that identified groups of learners who use similar semantic categories. Learners who tend to use similar psychosocial words to describe their L2 learning experience are assumed to share a similar approach to L2 learning and are grouped together into L2 learning profiles.

Results show that these participants can be grouped into three types of successful L2 experiences: Doing, Thinking, and Feeling. An ANOVA and follow-up ad hoc statistical tests reveal significant differences in admissions TOEFL scores among these groups of students, suggesting that learners who describe their L2 experience differently do in fact show significant differential performance. Qualitative analysis of interview transcripts further suggests that the influence of family plays an important role in differential TOEFL scores, and that L2 learning experience may change in important ways over time. Based on the results of the study, a L2 Experience Model of Individual and Social Differences is proposed that accounts for life importance, effort, ability, and L2 experience. Implications of this new methodology and model are discussed, along with suggestions for future research, teaching, and L2 learning.

**INDEX WORDS:** Second language acquisition; English language learners; Individual differences; L2 experience interview; TOEFL; Semantic content analysis

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BRITTANY POLAT

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2014

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2014

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AMONG SUCCESSFUL SECOND LANGUAGE LEARNERS

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May 2014

## **DEDICATION**

To Ali, who more than anything inspired this dissertation

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## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS</b>	<b>.....</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>.....</b>	<b>x</b>
<b>LIST OF FIGURES</b>	<b>.....</b>	<b>xii</b>
<b>1 INTRODUCTION</b>	<b>.....</b>	<b>1</b>
<b>1.1 Purpose of the Study</b>	<b>.....</b>	<b>1</b>
<b>1.2 Significance of the Study</b>	<b>.....</b>	<b>3</b>
<b>1.3 Overview of the Study</b>	<b>.....</b>	<b>3</b>
<b>2 LITERATURE REVIEW</b>	<b>.....</b>	<b>5</b>
<b>2.1 Background on Individual Differences in SLA</b>	<b>.....</b>	<b>5</b>
<i>2.1.1 Motivation</i>	<i>.....</i>	<i>8</i>
<i>2.1.2 Language learning strategies</i>	<i>.....</i>	<i>12</i>
<i>2.1.3 Language learner beliefs</i>	<i>.....</i>	<i>14</i>
<i>2.1.4 Affect</i>	<i>.....</i>	<i>16</i>
<i>2.1.5 Anxiety</i>	<i>.....</i>	<i>16</i>
<i>2.1.6 Willingness to communicate (WTC)</i>	<i>.....</i>	<i>18</i>
<i>2.1.7 Metacognition</i>	<i>.....</i>	<i>21</i>
<i>2.1.8 Personality, cognitive style, and learning style</i>	<i>.....</i>	<i>23</i>
<i>2.1.9 Self constructs: Self-efficacy, self-concept, and identity</i>	<i>.....</i>	<i>26</i>
<b>2.2 Summary of Existing ID Research</b>	<b>.....</b>	<b>29</b>

2.3 Complexity Theory.....	31
2.4 L2 Experience Interviews.....	34
2.5 Semantic Content Analysis.....	42
2.6 Linguistic Inquiry and Word Count (LIWC).....	44
<b>3 METHODOLOGY .....</b>	<b>52</b>
3.1 Research Questions and Hypotheses.....	53
3.1.1 <i>Research Questions</i> .....	53
3.1.2 <i>Hypotheses</i> .....	54
3.2 Participants and Recruitment.....	54
3.3 Data Collection.....	56
3.4 Measurement Instruments.....	57
3.4.1 <i>Linguistic Inquiry and Word Count (LIWC)</i> .....	57
3.4.2 <i>Test of English as a Foreign Language (TOEFL)</i> .....	59
3.5 Corpus.....	60
3.6 Transcription and Data Processing.....	60
3.7 Statistical Analysis.....	61
3.7.1 <i>Cluster analysis</i> .....	62
3.7.2 <i>Pearson Product-Moment Correlation</i> .....	63
3.7.3 <i>One-Way Analysis of Variance (ANOVA)</i> .....	64
3.8 Qualitative Analysis.....	64

<b>4</b>	<b>RESULTS .....</b>	<b>66</b>
	<b>4.1 General Corpus Information .....</b>	<b>66</b>
	<b>4.2 Profiles of L2 Learning Experience.....</b>	<b>68</b>
	<i>4.2.1 Cluster analysis.....</i>	<i>68</i>
	<i>4.2.2 Cluster 1: Doing .....</i>	<i>73</i>
	<i>4.2.3 Cluster 2: Thinking .....</i>	<i>76</i>
	<i>4.2.4 Cluster 3: Feeling.....</i>	<i>82</i>
	<i>4.2.5 Summary of successful L2 experience profiles .....</i>	<i>86</i>
	<b>4.3 Relationship of TOEFL Scores to Psychosocial Categories and L2 Experience Profiles .....</b>	<b>87</b>
	<i>4.3.1 Pearson correlations.....</i>	<i>87</i>
	<i>4.3.2 One-way analysis of variance (ANOVA) and Kruskal-Wallis testing .....</i>	<i>89</i>
	<b>4.4 Qualitative Observations: Individual and Social Differences Among L2 Learners.....</b>	<b>91</b>
	<i>4.4.1 Family influence.....</i>	<i>91</i>
	<i>4.4.2 Teaching methods.....</i>	<i>93</i>
	<i>4.4.3 Dynamic nature of L2 learning experience.....</i>	<i>95</i>
<b>5</b>	<b>DISCUSSION.....</b>	<b>100</b>
	<b>5.1 L2 Learning Experience as a Methodology .....</b>	<b>102</b>

<b>5.2 L2 Learning Experience as a Measure of IDs .....</b>	<b>105</b>
<b>5.3 SCA as an Analytical Tool with NNSs.....</b>	<b>110</b>
<b>5.4 L2 Experience Profiles as a Description of IDs .....</b>	<b>120</b>
<b>5.5 A L2 Experience Model of Individual and Social Differences in L2 Learning.....</b>	<b>131</b>
<b>5.6 Implications for L2 Teachers and Learners .....</b>	<b>139</b>
<b>5.7 Limitations and Future Research .....</b>	<b>142</b>
<b>6 CONCLUSION .....</b>	<b>148</b>
<b>REFERENCES.....</b>	<b>151</b>
<b>APPENDICES .....</b>	<b>174</b>
<b>Appendix A: Participant Information Sheet.....</b>	<b>174</b>
<b>Appendix B: Example of LIWC Output .....</b>	<b>175</b>
<b>Appendix C: Sample Interview Texts for Each Cluster .....</b>	<b>175</b>

## LIST OF TABLES

Table 1	Interview Questions Used in Polat (2013).....	40
Table 2	LIWC Categories and Examples .....	45
Table 3	Home Countries or Regions Represented by Participants.....	55
Table 4	Native Languages Spoken by Participants .....	55
Table 5	Academic Disciplines of Participants.....	56
Table 6	Interview Protocol .....	57
Table 7	LIWC Dictionaries Used in the Study.....	58
Table 8	Interview Transcription Guidelines.....	61
Table 9	Average Percentage for LIWC Categories in Interview Corpus .....	66
Table 10	Most Frequent Key Words in Interview Corpus .....	67
Table 11	Comparison of Clusters by Geographic Region.....	70
Table 12	Comparison of Clusters by Nationality .....	71
Table 13	Comparison of Clusters by Academic Discipline.....	72
Table 14	Comparison of Clusters by General Academic Area .....	73
Table 15	Positive Psychosocial Features of Cluster 1 .....	75
Table 16	Positive Psychosocial Features of Cluster 2.....	78
Table 17	Positive Psychosocial Features of Cluster 3.....	84
Table 18	Profiles of L2 Learning Experience.....	86
Table 19	Descriptive Statistics for TOEFL Scores.....	87
Table 20	Correlations of Psychosocial Categories with TOEFL Scores.....	88
Table 21	Means and Standard Deviations of TOEFL Score by Cluster.....	89

Table 22	ANOVA Summary Table for Analysis of TOEFL Scores by Cluster .....	89
Table 23	Average TOEFL Score, Family Mentions vs. No Family Mentions.....	92
Table 24	Comments on Grammar-Translation Teaching Methods .....	94
Table 25	Comments Reflecting Changing L2 Learning Experience over Time .....	96
Table 26	Comments Reflecting Love of English Learning .....	98
Table 27	Interview Length by Cluster .....	114
Table 28	ANOVA Summary Table for Interview Length by Cluster .....	115

**LIST OF FIGURES**

<b>Figure 1. Comparison of Psychosocial Features in the Three Clusters.....</b>	<b>69</b>
<b>Figure 2. Significant Features of Cluster 1.....</b>	<b>74</b>
<b>Figure 3. Significant Features of Cluster 2.....</b>	<b>77</b>
<b>Figure 4. Significant Features of Cluster 3.....</b>	<b>83</b>
<b>Figure 5. Success Threshold Based on Effort and Ability.....</b>	<b>136</b>
<b>Figure 6. Layers of Individual and Social Differences.....</b>	<b>138</b>

## 1 INTRODUCTION

### 1.1 Purpose of the Study

At the heart of research on second language acquisition (SLA) is the question of why and how people learn their second (or third, or fourth) languages differently from each other. Not only do language learners acquire new languages in widely different contexts and with widely different motivations for learning, but they also move at different speeds, have different strengths and preferences, reach different levels of success, and follow widely divergent paths to ultimate attainment. Research on the causes and outcomes of these differences—known collectively as individual differences, or IDs—has resulted in a significant body of literature on learner characteristics such as aptitude, motivation, anxiety, and beliefs (Dörnyei, 2005). However, because most of these traits have been investigated as separate, isolated variables, researchers have not yet found a way to assemble the various IDs into a coherent, cohesive picture to explain differential learning outcomes (Dewaele, 2009). What is still missing is a suitable theoretical and methodological framework for examining individual differences as they overlap and conjoin in the complex reality of language learning.

The purpose of this dissertation study is to explore one possible framework for investigating individual differences among successful learners as a comprehensive, holistic construct. Based on the tenets of complexity theory (e.g., Larsen-Freeman, 2012), this perspective holds that learners are greater than the sum of their individual parts, and that the most meaningful unit with which to measure differences is the L2 learning experience itself (Polat, 2013). In seeking to capture differences at the level of experience, the study embraces the phenomenographic perspective (Marton, 1981) that each learner's unique approach to learning



can be expressed in a L2 experience interview, and that these interviews provide the basis for identifying distinct profiles of experience.

In order to measure L2 learning experience, the study introduces a technique from natural language processing known as semantic content analysis, which uses computer software to identify and categorize differences between texts. Semantic content analysis (SCA) allows researchers to quantify and study the words that speakers use to express themselves (Roberts, 1997; West, 1997). Because semantic choices have been shown to reflect speakers' underlying cognitive and affective processes, psychologists have used SCA to identify individual differences between speakers along psychological dimensions (Durlau, Reger, & Pfarrer, 2007). The program used in this study identifies frequency of word use in 22 psychosocial categories, thus providing information about what percentage of a participant's interview falls into certain cognitive and affective categories. This new technique, therefore, opens up new possibilities for measuring L2 experience in a quantitative way that can be compared across large numbers of learners.

Once the psychosocial semantic content of the interviews is known, it can form the basis of a cluster analysis that places students into groups based on which word categories are used in their interviews. The clusters can then be interpreted based on a thorough examination of the specific words favored by learners in each cluster, which includes using text analysis tools to examine context. The L2 experience of learners in each cluster can then be interpreted based on psychosocial word use. Group differences can also be studied, as the TOEFL scores of students in each cluster are compared to see if significant differences exist in mean scores.

The L2 experience interviews also constitute a rich source of qualitative information, and the interviews are also studied for broad trends across learners. When all of these findings are

considered together, they provide a foundation for considering L2 learning experience as a valuable new way of looking at IDs.

## **1.2 Significance of the Study**

The research approach implemented in this project aims to offer a way forward to greater theoretical and methodological coherence in the study of individual differences. This perspective is based on the idea that because learners are complex systems composed of multifaceted and highly interconnected processes, we should seek a higher-level, experiential explanation of how learners differ from one another (Dörnyei, 2009a, 2010). Such an approach may be very different from the traditional approach to IDs, but it may also more accurately reflect the complex realities of language learning. The goals of the study are (1) an understanding of the semantic content features of L2 experience interviews conducted with advanced second language (L2) learners; (2) a set of L2 experience profiles for these successful L2 learners; (3) an examination of the relationship of these profiles to differential performance on a standardized proficiency test; and (4) a consideration of qualitative trends present in the interviews. By breaking with the tradition in L2 studies which views individual differences as discrete constructs, this research may provide a new way to understand IDs that is potentially more accurate and useful than the traditional modular approach.

## **1.3 Overview of the Study**

In this dissertation I begin by reviewing existing research on IDs in SLA, including the historical development and operationalization of the most influential traditional IDs. I then consider the recent shift in perspective to a complexity-inspired approach, which has led to my development of a L2 experience perspective on IDs (Polat, 2012, 2013) based on the principles of phenomenography (Marton & Booth, 1997). I next describe the innovative methodology used

in this study, followed by the study itself, including research questions, hypotheses, participant information, data collection methods, measurement instruments, and analytical methods. This is followed by a presentation of results for each research question, then a discussion that examines the validity and implications of the results. At the end of the discussion, I present a tentative L2 experience model of individual and social differences. I conclude by considering limitations and future directions for this research, as well as some final thoughts on its significance for the study of IDs in SLA.

## 2 LITERATURE REVIEW

### 2.1 Background on Individual Differences in SLA

Given its rather broad and all-encompassing nature, the construct of individual differences (IDs) is difficult to capture in its full complexity and vitality. Macaro, Vanderplank, and Murphy (2010) call IDs “the personal characteristics that, it is hypothesized, all learners have but which may measurably differ from learner to learner” (p. 74), while Dörnyei (2005) adds that they are “dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people are assumed to differ by degree” (p. 4). Derived originally from the study of individual differences in cognitive and educational psychology (see Dörnyei, 2005, for an overview), the study of IDs in SLA owes much of its development to three separate strands of inquiry that paralleled the general development of SLA itself in the mid-20<sup>th</sup> century. The first of these is the language aptitude studies conducted by Carroll (e.g., Carroll, 1967) and Pimsleur (1966), which sought to explain language learning success based on specific aptitudes such as phonetic coding ability, grammatical sensitivity, and rote learning ability. While these inquiries typified the concerns of that era for separating more capable from less capable students, they also constituted an important first step in identifying psychological components that might lead to more or less successful language learning. And though the field has since moved on from Carroll’s Modern Language Ability Test (MLAT; Carroll & Sapon, 1959) and Pimsleur’s Language Aptitude Battery (PLAB; Pimsleur, 1966), these early instruments and the research they generated were fundamental in establishing an empirical mindset for individual differences research in SLA.

A second important strand of interest developed in the 1970s through research by Gardner and colleagues on the sources and implications of motivation in L2 learning (e.g.,

Gardner & Lambert, 1972; Gardner, Smythe, & Clément, 1979). Their social-psychological perspective introduced influential concepts into mainstream SLA theory (e.g., integrative vs. instrumental motivation, attitudes toward language learning) and brought with it an emphasis on the social aspects of language learning in addition to the psychological skills emphasized by Carroll's and Pimsleur's aptitude research (Dörnyei & Ushioda, 2011). Though Gardner's motivational theories have in recent years faded from the prominence they held throughout the 1980s and 1990s, such research paved the way for important social-psychological constructs such as identity, self-efficacy, and willingness to communicate, which later became significant areas of SLA-ID research in their own right (Dörnyei & Ushioda, 2011).

Around the same time, another group of researchers led by Rubin (1975) began investigating “what the ‘good language learner’ can teach us”; that is, what are the characteristics of good language learners, and what strategies do they use that make them more successful than poor language learners? This perspective spawned a huge research tradition in language learning strategies, which has remained a flourishing, if unresolved, area of ID research for the past 30 years (Cohen & Macaro, 2007; Griffiths, 2008). While the place of strategy research in mainstream SLA is today hotly disputed (Macaro, 2010), it has undeniably influenced aspects of SLA pedagogy and instruction, as well as other areas of individual differences such as self-regulation, learner autonomy, and metacognition (Griffiths, 2008).

In addition to these three major influences, SLA-ID variables have consistently been impacted by developments in psychology, education, and L2 pedagogy, as well as the wider field of applied linguistics. Interest in L2 metacognition, for example, arose after metacognition became a popular theme in mainstream educational research (Wenden, 1998, 1999), and psychological constructs such as cognitive style and learner self-concept have made their way

into SLA research by way of psychology and educational psychology. Perhaps most important in the maturity of ID research is the so-called “social turn” in applied linguistics (Zuengler & Miller, 2006), which has significantly expanded the scope of ID research from primarily learner-internal characteristics such as aptitude and personality traits to the more socially-situated dimensions of motivation, affect, and learning context (Dewaele, 2009).

In fact, the number of variables that could be considered individual differences has proliferated so dramatically in recent years that it is no longer clear what criteria are used in constructing definitions of IDs, or what the boundaries are between conceptually-related or distinct IDs. Motivation, for instance, which is considered by almost everyone connected with SLA research to be an important aspect of language learning, can now be defined in many different ways: as a trait inherent in individual learners as a result of their personality or life experiences (Gardner, 1985); as a learner-external property that changes depending on the immediate context (Ushioda, 2009, 2011); or as an aspect of identity that shapes and is shaped by a learner’s vision of him or herself (Dörnyei, 2010), among other definitions. The new perspective in applied linguistics that allows researchers to see language learning as both cognitive and social has expanded our vision of what individual differences can be but has simultaneously created a maelstrom of complementary and competing ID dimensions, each of which may be researched separately by separate researchers using different methods and based on different theoretical perspectives.

In this study, the ID factors under consideration are those aspects of language learning that can be seen as psychosocial, or “related to the interrelation of social factors and individual thought and behavior” (Psychosocial, n.d.). This puts the focus on constructs that reflect the admixture of cognitive and social (or learner-internal and learner-external) influences on the

language learning process, all of which are important in individual differences (Dewaele, 2009; Larsen-Freeman, 2012). While this focus excludes several significant IDs such as age, gender, and first language background—all of which are beyond the learner's control and cannot be psychologically influenced—it captures IDs such as motivation, strategy use, language learning beliefs, affect (including anxiety and willingness to communicate), personality, learning style, metacognition, self-efficacy, self-concept, and identity. These psychosocial dimensions of learning are at the heart of the experiential approach to individual differences, and it is therefore important to briefly consider each one before describing a new perspective on IDs.

### *2.1.1 Motivation*

Not only is motivation one of the most important elements of language learning, but because it is also one of the most established and widely-researched phenomena in L2 studies, it has been the subject of continuous evolution and re-definition. As mentioned briefly above, SLA motivation studies were ignited by Gardner, Lambert, Clément, and their colleagues during what Dörnyei and Ushioda (2011) call the social-psychological period of motivation research (1959-1990). Influenced by the French-English bilingual Canadian context, Gardner's (1985) theory of motivation comprised motivational intensity (or effort), desire to learn, and attitudes toward the language, and introduced the idea of instrumental and integrative motivation. Though highly influential in SLA for many years, this socio-educational model was gradually replaced by cognitive models, which were heavily based in psychological theory, and then process models, which emphasized the time-situatedness of learner motivation (Dörnyei & Ushioda, 2011). More recently, motivation studies have been re-energized by Dörnyei's L2 Motivational Self System, which includes learners' vision of themselves as a primary motivating factor (Dörnyei & Ushioda, 2009, 2011). Due to this constant updating, motivation as a construct has been

frequently revised to suit the needs of current research, but for obvious reasons of brevity, only the most recent construct definitions are discussed here.

The L2 Motivational Self System incorporates the idea of “possible selves” proposed by psychologists Markus and Nurius (1986), which posits that people are motivated to act in certain ways by their vision of what they might become, would like to become, or are afraid of becoming in the future. Dörnyei adapted this into a language learning motivational system in which learners are driven by a combination of their ideal L2 self, their ought-to L2 self, and their L2 learning experience (Dörnyei & Ushioda, 2009, 2011). Together, these three components represent both internal and external aspects of a learner’s experience: the ideal L2 self is an internal vision, the ought-to self captures sociocultural influences of the learner’s situation, and learning experience corresponds to other external aspects of the learning environment.

A number of studies presented in Dörnyei and Ushioda (2009) provide empirical support for the construct validity of the L2 Motivational Self System. Perhaps the most interesting of these is Macintyre, Mackinnon, and Clément (2009), which aims both to develop a quantitative measure of the system and to reconcile it with Gardner’s older definition of integrative motivation. The authors claim success on both counts, suggesting that the possible selves construct taps into the same aspects of motivation as integrative motivation, but goes beyond it by also incorporating a future timescale. Studies conducted in Hungary (Csizér & Kormos, 2009), Indonesia (Lamb, 2009), Japan (Ryan, 2009; Yashima, 2009), Korea (Kim, 2009), Saudi Arabia (Al-Shehri, 2009), and various other contexts (Taguchi, Magid, & Papi, 2009) confirmed the usefulness of the motivational self system in explaining L2 learner motivation.

Motivation research both in general psychology and in L2 studies has traditionally relied on surveys and questionnaires to assess motivation, so it is no surprise that many of the above



studies also collected data through questionnaires. Interestingly, though, each group of researchers designed or adapted their own questionnaire to suit their particular research context and research questions, resulting in similar but not identical views on how the L2 Motivational Self System might be operationalized. Macintyre, Mackinnon, and Clément, for instance, adapted 18 items from Gardner's (1985) Attitude/Motivation Test Battery (AMTB) in order to measure possible selves; these questions prompted English-speaking Canadian students to say whether a particular item described them in the present, in the future, or not at all. Items included topics such as students' understanding of French literature, comfort level conversing with French Canadians, and their desire to be a cultured person

In contrast, Csizér and Kormos' (2009) Hungarian study adapted questionnaires used previously by Dörnyei et al. (2006) and Ryan (2005), with subsections including parental encouragement, L2 learning experience, knowledge orientation, international posture, ideal L2 self, ought-to L2 self, and motivated learning behavior. Similarly, the questionnaires used by Taguchi et al. (2009) drew on multiple sources (Dörnyei, Csizér, & Németh, 2006; Gardner, 1985; Ryan, 2009) and included sections that were analyzed as ideal L2 self, ought-to L2 self, family influence, instrumentality, attitudes to learning English, attitudes to L2 community, integrativeness, and cultural interest. Ryan's (2009) questionnaire was also culled from previous motivation questionnaires and looked at 18 motivational variables (including attitudes to learning English, ideal L2 self, interest in foreign languages, international empathy, international contact, cultural interest, travel orientation, and others).

It seems clear, even from such a brief overview, that researchers may mean very different things when they discuss motivation, even in the context of just one theoretical perspective, the L2 Motivational Self System. Researchers who take different theoretical views of motivation, or

even those whose research is based on the motivational self system but who choose to do qualitative instead of quantitative studies, have yet other ways of operationalizing the same construct. For instance, Kim (2009) and Allen (2010) both analyzed motivation in very different contexts (Korean ESL learners in Canada versus Americans studying abroad in France) from a Vygotskian sociocultural theory and activity theory perspective, using interviews, classroom observations, and language learning autobiographies (Kim) or questionnaires, interviews, and learning blogs (Allen). While Kim approached the analysis from an L2 Motivational Self System perspective and found interview data to support the validity of ideal and ought-to L2 selves, Allen's focus on language learning motives led to her finding that self-regulation and agency played a large part in determining students' cognitive and social motives for learning French. It seems reasonable to believe that all these research findings might have been more similar or more different simply based on the ways the researchers chose to frame their studies and operationalize the construct of motivation.

Overall, motivation is an important area of research that has undergone considerable revision over time, and as a construct it is neither defined nor operationalized consistently, even by researchers who claim to hold the same theoretical viewpoint. As the current leaders in the field, Dörnyei and his colleagues have rallied a fair amount of empirical support for their L2 Motivational Self System, but much research is still being conducted from alternative perspectives, and as we saw above, multiple operationalizations abound even within one edited volume (Dörnyei & Ushioda, 2009). This lack of consistency could certainly be an obstacle if SLA-ID researchers hope to determine what language learning motivation actually is and how to measure it. This problem is not unique to motivation research but seems to be the Achilles' heel of most ID constructs, as we will see below in discussing other areas of ID research.

### 2.1.2 *Language learning strategies*

In contrast to motivation research, which tends to be highly theorized and less well operationalized, language learning strategy (LLS) research has often been more grounded in practicality than theory (Grenfell & Macaro, 2007; Tseng, Dörnyei, & Schmitt, 2006). It is also somewhat different from other areas of ID research in that strategies themselves are not an inherent trait or characteristic of learners, but rather something that learners can be taught to manipulate (Macaro et al., 2010), although they may have a natural tendency toward being more effective or less effective strategy users (Chamot, 2005). In fact, Dörnyei (2005) suggests that LLSs are not IDs at all, since “actions and thoughts are not individual differences” (p. 162). However, because they have traditionally been part of the ID taxonomy, and because they are so closely linked with other IDs such as learning style and metacognition, I will consider language learning strategies here.

Although LLSs can be somewhat easily defined at their most basic level—for instance, as “the specific mental and communicative procedures that learners employ in order to learn and use language” (Wong & Nunan, 2011, p. 145)—they are much more difficult to define in a theoretically consistent and defensible way (Cohen & Macaro, 2007; Griffiths, 2008; Macaro, 2010). This is perhaps surprising, given that they have been the subject of intense study since Rubin (1975), but “LLS research has often proceeded in an ad hoc style with researchers providing their own particular definitions” (Grenfell & Macaro, 2007, p. 28). Difficulties lie in establishing psychological validity, developing explicit criteria for what constitutes a strategy, and explaining the nature of the relationship between strategy use and language achievement, as well as more mundane issues like determining whether strategies are internal/external or specific/abstract (Grenfell & Macaro, 2007; Macaro et al., 2010). With these challenges

confronting strategy researchers, Griffiths (2008) suggests that the best way forward is focusing on areas of agreement: LLSs are conscious, are chosen by learners, are goal-oriented and purposeful, and are employed to regulate and facilitate learning.

Because defining language learning strategies is so problematic, adopting valid and reliable measurement instruments also presents a challenge, although there has been no shortage of attempts. Most strategy studies rely on self-report questionnaires, asking learners to say what kinds of strategies they use (and when, where, why, and how they use them). Perhaps the most well-known operationalization of LLSs is Oxford's (1990) Strategic Inventory for Language Learning (SILL), which classifies strategies as memory, cognitive, compensation, metacognitive, affective, or social. A very similar taxonomy proposed by O'Malley and Chamot (1990) includes cognitive, metacognitive, and social/affective strategies. Other inventories include Cohen, Oxford, and Chi's (2003) Language Strategies Survey (LSS), which takes a skills-based approach to strategy use by asking learners about their strategies for listening, speaking, reading, writing, vocabulary, and translation; and Vandergrift, Goh, Mareschal, and Tafaghodtari's (2006) Metacognitive Awareness Listening Questionnaire (MALQ), developed to assess metacognitive strategies used while listening. In addition, several other strategy inventories exist, and researchers may create their own questionnaires for use in particular research contexts (e.g., Erler & Macaro, 2011; Wong & Nunan, 2011).

Just as LLS research in general has been criticized as incoherent and unreliable, strategy inventories have been faulted for a lack of psychometric validity and reliability (Dörnyei, 2005; Tseng et al., 2006). And while qualitative LLS studies do exist (White, Schramm, & Chamot, 2007), they are relatively rare and do not necessarily correct for the theoretical ambiguity that afflicts LLS questionnaire studies. For all of these reasons, as well as the criticisms discussed

above, strategy research seems to have waned in popularity in the past decade, and researchers are increasingly looking to other ID dimensions to explain strategic behavior and differential learning among students. One potential replacement construct, which is not yet researched or established enough to be considered a separate ID in this review, is self-regulation, discussed briefly below.

Tseng, Dörnyei, and Schmitt (2006) have proposed self-regulation as a replacement for language learning strategies, arguing that it is much better suited to measuring the individual differences underlying strategic behavior: “this conceptual approach highlights the importance of the learners’ innate self-regulatory capacity that fuels their efforts to search for and then apply personalized strategic learning mechanisms” (p. 79). They have also devised and tested a self-regulation measurement instrument, designed to measure what they see as five sub-areas of self-regulation (commitment control, metacognitive control, satiation control, emotion control, and environment control). However, the idea has not caught on in the same way that Dörnyei’s L2 Motivational Self System has, and though self-regulation was received as a potentially appealing idea by strategy researchers (Griffiths, 2008; Macaro et al., 2010), it does not seem to have revolutionized or overhauled LLS research. This may be because “self-regulation is an interesting concept which integrates a number of interrelated factors, including strategy use. The self-regulation concept, therefore, does not remove the need for a strategy concept” (Griffiths, 2008, p. 85).

### 2.1.3 *Language learner beliefs*

Language learner beliefs (LLBs) have been an important subject of SLA study since Horwitz’s (1988) seminal work, and unsurprisingly, the construct is more controversial than it may at first appear. Ferreira Barcelos (2003) lists 11 different terms that are used in the language

learning literature to refer to beliefs (among them are *learner representations*, *conceptions about language learning*, *philosophy of language learning*, and *folklinguistic theories of learning*), while Bernat and Gvozenko (2005) call them “personal ‘myths’ about learning” (p. 1), White (1999) likens them to “expectations” (p. 443), and Mercer and Ryan (2010) describe them as “implicit theories” or “mindsets” (p. 436). Also at issue is exactly which beliefs are worthy of inclusion as language learner beliefs: learners’ beliefs about themselves, language, language learning, and learning contexts (White, 2008); beliefs about “the nature of the language under study, its difficulty, the process of its acquisition, the success of certain learning strategies, the existence of aptitude, their own expectations about achievement and teaching methodologies” (Bernat & Gvozenko, 2005, p. 1); beliefs about “the role of feedback, opportunities to practise and knowledge of language learning strategies” (Cotterall, 1999, p. 498); the list goes on. In short, while most applied linguists feel that they know intuitively what learner beliefs are, there seems to be no consensus in the literature as to how they should be defined, approached, or classified (Amuzie & Winke, 2009; Ferreira Barcelos, 2003).

Although this theoretical ambiguity suggests inconsistent empirical operationalization, LLB research in fact enjoys a rather standard instrumentation, thanks to Horwitz’s (1988) widely-used Beliefs About Language Learning Inventory (BALLI). Interestingly, even researchers with widely divergent conceptions of what beliefs are and which beliefs should be measured (e.g., Bernat, Carter, & Hall, 2009; Manzanares & Murphy, 2010; Yang, 1999) often use the BALLI, which measures beliefs in five areas: difficulty of language learning, foreign language aptitude, the nature of language learning, learning and communication strategies, and motivations and expectations (Horwitz, 1988, p. 284). However, Horwitz (1999) suggests that the BALLI inventory is not exhaustive but is dependent on the research context and contains

“merely examples of the kinds of beliefs that teachers might encounter in their own classrooms” (p. 558).

With this caveat in mind, it is perhaps questionable that so many different researchers, working in different contexts and holding very different views on the nature and definition of LLBs, choose to use the same instrument. This also raises questions about how closely linked theory and research are, if the same questionnaire can be applied to so many different theoretical orientations. On the other hand, researchers who develop their own questionnaires (e.g., Benson & Lor, 1999; Mori, 1999; Murphey & Arao, 2001) may enable a tighter relationship between theory and research, but risk tapping into a completely different construct from what other beliefs researchers are measuring. Thus, it seems that when construct definition is inconsistent, construct operationalization is necessarily problematic.

#### 2.1.4 *Affect*

While affect in and of itself is not an individual difference—in the same way that motivation in and of itself is not an ID—the ways that learners regulate their emotions, as well as the type and degree of emotions they experience in connection with language learning, make up a rapidly expanding area of ID inquiry. Because general theories of affect in L2 learning are unfortunately rare (Aragão, 2011; Bown & White, 2010a, b; Garrett & Young, 2009), this review will focus on two IDs related to affect, both of which have received significant attention: language anxiety and willingness to communicate (WTC).

#### 2.1.5 *Anxiety*

Language anxiety, first identified by Horwitz, Horwitz, and Cope (1986) as a potentially debilitating factor in language acquisition, is usually conceptualized as a separate construct from generalized trait or state anxiety, one that it is often brought on by specific anxiety-inducing

situations (such as taking a test or speaking in front of the class; Sheen, 2008). However, because research has consistently shown that some learners are more susceptible to language anxiety than others, it has been studied as an ID variable in relation to language performance (Horwitz, 2001; Macintyre & Gardner, 1989, 1994) and to many other ID factors including age, gender, and education level (Dewaele, Petrides, & Furnham, 2008), willingness to communicate (Koga, 2010; Liu & Jackson, 2008), motivation (Papi, 2010), and self-efficacy (Woodrow, 2011).

Once again, defining a supposedly common-sense construct is not clear-cut, since language anxiety involves “highly complex constellations of interacting variables” (Dewaele et al., 2008, p. 914). Although anxiety is almost always associated with negative affect and negative linguistic performance, some researchers consider it benign or possibly even facilitative (Dörnyei, 2005; Sheen, 2008). Early work by Horwitz et al. (1986) and especially Macintyre and Gardner (1989, 1994) drew heavily on research from psychology and education to provide the theoretical basis for language anxiety, and researchers in the past 25 years have seemed mostly content to accept the basic conceptualization proposed by Horwitz et al. (1986). Their model suggests that foreign language anxiety can be broken down into three parts: communication apprehension (frustration from not being able to express oneself clearly in the L2); fear of negative social evaluation; and test anxiety. This tripartite construct definition formed the basis of the Foreign Language Classroom Anxiety Scale (FLCAS; Horwitz et al., 1986), which has since been used in many studies on language anxiety (Woodrow, 2006).

Just as with Horwitz’s (1988) influential BALLI in the case of language learning beliefs, Horwitz et al.’s (1986) FLCAS has seemed to dictate the content of much language anxiety research (e.g., Aida, 1994; Mak, 2011; Matsuda & Gobel, 2004). The questionnaire consists of 33 items, such as “I am usually at ease during tests in my language class” or “I get nervous when



the language teacher asks questions which I haven't prepared in advance." Recently, however, researchers have raised questions about the universal applicability of the FLCAS (Woodrow, 2006), and other instruments have been designed to test specific skills or aspects of anxiety, such as writing (Woodrow, 2011), or the relationship of anxiety to other variables such as motivation (e.g., Koga, 2010; Papi, 2010).

Interestingly, Horwitz herself (Yan & Horwitz, 2008) has produced one of the few non-questionnaire-based studies on language anxiety, using interviews and a grounded-theory approach to investigate learners' own perceptions of anxiety (although the FLCAS was administered to students first!). While the study confirmed several findings from previous FLCAS research, it also introduced a new perspective to how anxiety interacts with other factors in a classroom setting. Unfortunately, this study has not been followed up with any further qualitative inquiry, and almost all anxiety research produced since then continues to be strictly questionnaire-based.

### *2.1.6 Willingness to communicate (WTC)*

Willingness to communicate, which was introduced into SLA and has been championed primarily by Macintyre and colleagues, is similar to anxiety (and other affective factors) in that it is highly influenced by the learner's environment (Yashima, 2002) and is closely related to many other ID dimensions (Macintyre, Baker, Clément, & Donovan, 2002). This makes it predictably difficult to define: "WTC is a composite ID variable that draws together a host of learner variables that have been well established as influences on L2 acquisition and use, resulting in a construct in which psychological and linguistic factors are integrated" (Dörnyei, 2005, p. 210). One positive result of this difficulty, however, is that WTC has been something of a moving

target for researchers to define and operationalize, and consequently has seen much more recent innovation than some other ID variables such as strategies and beliefs.

As Macintyre, Dörnyei, Clément, and Noels (1998) established, although first language WTC indicates a person's "readiness to enter into discourse at a particular time with a specific person or persons" (p. 547), L2 WTC is much more complex because it involves L2 communicative competence, linguistic confidence, situational factors, and other "layers" (p. 547). Their pyramid model of willingness to communicate, which has been validated by other researchers (e.g., Yashima, 2002) and remains in use, describes six layers that contribute to a learner's L2 use. In this model, social and individual context form the bottom level of the pyramid, followed by affective-cognitive context, then motivational propensities, situated antecedents, behavioral intention, and communication behavior at the top (Macintyre et al., 1998). More recently, the concept of unwillingness to communicate (UnWTC) has been picked up from L1 studies as a useful complementary construct by Liu and Jackson (2008), Macintyre, Burns, and Jessome (2011), and others.

Although originally conceived by Macintyre and colleagues as stable enough within a learner to be considered an ID characteristic, recent research has questioned the status of WTC as a stable ID factor. Kang (2005), for example, proposes a situational model of WTC, an idea further supported by Cao and Philp (2006), Cao (2011), and Peng (2012). Cao (2011) and Peng (2012) take an ecological perspective on WTC, with Peng proposing a nested ecosystems model of WTC that comprises four levels. Even Macintyre has begun to reframe WTC from a situational perspective, seeing it as a "volitional process" (Macintyre, 2007, p. 564), as a part of the action-control process (Macintyre & Doucette, 2010), and as an idiodynamic part of the dynamic system of L2 communication (Macintyre & Legatto, 2011).

With the conceptualization of WTC in flux over the past 10 years, it is not surprising that it has been operationalized in different ways, reflecting the range of theoretical perspectives and models with which it has been framed. Early on, researchers relied on short questionnaires developed to assess first language WTC, with questions such as “I would NEVER start speaking in French” and “I would ALWAYS start speaking in French” (Macintyre et al., 2002, pp. 544-545) or asking students how likely they would be to begin speaking in certain contexts (Yashima, 2002). These types of questionnaires are still frequently used to operationalize WTC, although Macintyre has also expanded them to include questions about trait-like WTC (used in Macintyre & Legatto, 2011), perceived communicative competence, and WTC inside and outside the classroom (Macintyre & Doucette, 2010).

As situational frameworks have become more important in WTC research, qualitative research has become more prominent, leading to more interpretive operationalizations of the construct. Kang (2005) videotaped ESL students speaking with native English speakers, then used stimulated recalls and semi-structured interviews to prompt the students on their perceptions; Peng (2012) also used semi-structured interviews and learning journals, asking students to report on their perceived willingness to communicate. In both of these studies, WTC seems to be whatever affective responses students had to their learning environment. Cao (2011) similarly used stimulated recalls and writing journals to obtain student reports on WTC, but she also added a classroom observation component: using a classroom observation scheme to code different actions as evidence of WTC, total WTC was calculated as a ratio for each learner based on WTC tokens and time. Macintyre, Burns, and Jessome (2011) asked students to write down six situations in which they would be most and least willing to communicate in French, and the situations were then coded and counted. In their new idiodynamic approach to WTC, Macintyre

and Legatto (2011) first videorecorded learners participating in a communicative task, then played the video and asked each learner to rate her WTC from moment to moment. These ratings produced a graph of the fluctuations in WTC, which the learners were then asked to discuss.

### *2.1.7 Metacognition*

At its most basic level, metacognition is defined as “thinking about thinking” (Wang, Spencer, & Xing, 2009, p. 47). While metacognition has long been on the radar of SLA researchers as either a brand of language learning strategy or type of language learner belief, it has recently come into its own as an independent dimension that differs among learners (Zhang, 2010). This is due mainly to the work of Anita Wenden (e.g., 1986, 1998, 1999, 2002), who has been instrumental in introducing the concept into SLA from the general education and educational psychology literature, where it was first established by Flavell (1979, 1987). Flavell’s (1979) original model of cognitive monitoring describes four separate but related components of metacognition: metacognitive knowledge, metacognitive experience, metacognitive goals or tasks, and metacognitive actions or strategies. These four components interact to enable thinking about thinking, or “knowledge and cognition about cognitive objects” (Flavell, 1987, p. 21). This model has been adopted wholesale into applied linguistics research on metacognition, although SLA researchers overwhelmingly focus only on the first component, metacognitive knowledge, which Flavell (1979) further subdivided into person knowledge, strategy knowledge, and task knowledge.

In fact, there remains considerable confusion surrounding metacognitive constructs, and the field has yet to establish firm distinctions between metacognitive awareness, metacognitive beliefs, metacognitive knowledge, and metacognitive strategies (Carrell, 1989; Cotterall & Murray, 2009; Goh, 1997; Victori & Lockhart, 1995; Wang, Spencer, & Xing, 2009; Wenden,

1999; Zhang, 2010). Even more confusingly, several significant studies on metacognition from the 1980s and 1990s do not actually use the term metacognition (e.g., Matsumoto, 1996; Wenden, 1986; Williams & Burden, 1999), and recently the concept has become entangled with related constructs such as self-regulation and autonomy (e.g., Rivers, 2001; see Cotterall & Murray, 2009, for a discussion). The most realistic solution to this confusion of overlapping terms may be offered by Zhang (2010), who frames metacognition as “a set of dynamic systems” (p. 320) that reflect important individual differences among learners. However, no one conceptualization of metacognition as an ID is yet accepted, and this remains a major weakness for both construct definition and operationalization in metacognition research.

Given the theoretical confusion surrounding the term, operationalization of metacognition must be discussed with caution, since different researchers may have very different constructs in mind. Some researchers—especially those that see metacognition as primarily related to learner strategies—have used questionnaires to assess different aspects of metacognition. This is typically true for investigations of skill-related metacognition like reading (Carrell, 1989; Karbalaeei, 2010; Zhang, 2002) and listening (Vandergrift et al., 2006; Vandergrift & Tafaghodtari, 2010), which have tended to focus mainly on the metacognitive strategies that learners use. Wang, Spencer, and Xing (2009) adapted existing questionnaires from various sources to separately analyze metacognitive knowledge/beliefs (e.g., “I believe I have the ability to learn a foreign language well”) and metacognitive strategies (e.g., “I find it helpful for the teacher to give me regular feedback”). Cotterall and Murray (2009) took a different questionnaire-based approach: they asked students to complete a 100-item questionnaire on language learning beliefs, then used factor analysis to identify six questions as indicating

metacognition (e.g., “I have my own ways of measuring how much I have learned”; “I know how to plan my English language learning,” p. 39).

Metacognition has also been investigated through qualitative methods, especially semi-structured interviews, with metacognition being extrapolated according to the researcher’s purpose and definition. Thus, Wenden (1986) asked learners about their participation in recurring communicative events, such as “how they dealt with their errors” and “whether they felt that the situation contributed to their language learning, and why” (p. 188). In contrast, Zhang (2010) interviewed students about their “perceptions or evaluations of themselves as readers (including motivation, self-efficacy, emotions, and attitude) of the texts that they had read, their strategy-use and problem-solving processes in reading the two texts, and their reactions to the texts” (p. 332). Many researchers, including Matsumoto (1996) and Cotterall and Murray (2009) have blended several different research methods and aspects of metacognition, further blurring the lines between what may or may not be considered metacognition in SLA.

### *2.1.8 Personality, cognitive style, and learning style*

Although the related constructs of personality, cognitive style, and learning style constitute a major research area in psychology and educational psychology, their application in SLA has been rather scattered and unconvincing, or as Dörnyei (2005) calls the area, “a real quagmire” (p. 120). Each of these concepts can be defined and considered individually, but because they have not contributed a great deal to SLA and are not researched as often today (although they were frequently researched in the past; see Wong & Nunan, 2011), I will consider them together and only briefly.

Personality, a construct familiar to everyone but surprisingly difficult to define and operationalize, seems to be frequently defined by whatever scale is used to measure it, and a

number of these scales have been imported from psychology to SLA. Two of the most well-known are the Big Five, which characterizes people based on five dimensions (openness to experience, conscientiousness, introversion/extroversion, agreeableness, and neuroticism/emotional stability; Bernat, Carter, & Hall, 2009), and the Myers-Briggs Type Indicator (MBTI), which fits learners into one of 16 profiles based on four dichotomous dimensions (introversion/extroversion, intuitive/sensing, thinking/feeling, judging/perceiving; Ehrman, 2008). Interestingly, Ehrman and Oxford (1995) use the MBTI to measure learning style rather than personality, but Ehrman (2008) uses it to measure personality, further demonstrating the permeability of boundaries between these highly related constructs (Ehrman, Leaver, & Oxford, 2003).

Although Dörnyei (2005) insists that cognitive styles and learning styles are separate and distinct, in practice, it is difficult to distinguish between the two in SLA literature. Language learning styles can be thought of as “the general approaches students are predominantly disposed to use in order to learn a new language” (Ehrman & Oxford, 1995, p. 69), and are frequently confounded with learning strategies, which are thought to be manifestations of a learner’s style preferences (Wong & Nunan, 2009). Confusingly, though, the Ehrman and Leaver (or E&L) Learning Styles Questionnaire, which provides information about learners based on 10 style dimensions, is used by Ehrman and Leaver (2003) to describe cognitive styles, which the authors do not seem to really distinguish from learning styles. In Ehrman, Leaver, and Oxford (2003), they suggest that cognitive styles are “preferred forms of brain activity associated with information acquisition and processing,” adding that “the literature on learning styles uses the terms *learning style*, *cognitive style*, *personality type*, *sensory preference*, *modality*, and others

rather loosely and often interchangeably.” (p. 314). At this point we may all be inclined to agree with Dörnyei (2005) that this area of research is indeed a quagmire!

Without question, the primary mode of research on personality and style preferences involves questionnaires; there are very few, if any, SLA studies in this area that do not rely on questionnaires. These are usually simply taken from psychology (e.g., Bernat, Carter, & Hall, 2009; Ehrman, 2008), which certainly raises questions about the validity of assessing non-native English speakers of varying proficiency levels with instruments designed for monocultural, monolingual English speakers in the United States. However, some measurement instruments have been designed specifically for English learners (Nel, 2008), including the Ehrman and Leaver (E&L) Learning Styles Questionnaire (Ehrman & Leaver, 2003). These instruments generally ask learners to respond to a series of questions about what they do or prefer to do in given situations, which may be related to language learning (in the case of the E&L questionnaire) or to life in general (as in the MBTI and most other general psychology questionnaires). Based on their answers, students are classified into personality or style types on whatever scale the instrument uses. The E&L questionnaire, for example, classifies learners on one overall dimension, synopsis/ectasis (which is similar but not identical to global/analytic), and 10 subscales (including random/sequential, global/particular, inductive/deductive, concrete/abstract, leveling/sharpening, and others; Ehrman & Leaver, 2003).

Just as we have seen with several other ID constructs that are inconsistently defined and primarily questionnaire-based, it seems that personality, learning style, and cognitive style in SLA are operationalized—and results are analyzed and interpreted—based on instruments that have often not been psychometrically validated, may or may not be reliable with non-native English speakers, and may or may not represent the construct they purportedly measure. It is



perhaps not surprising, then, that this area of ID research has declined over the past decade due to ambiguous and conflicting findings, conceptual confusion, and a lack of clarity over what these IDs represent and how they can be applied to language learning.

### *2.1.9 Self constructs: Self-efficacy, self-concept, and identity*

While self-related constructs such as self-efficacy, self-concept, and identity have not traditionally figured into reviews of individual differences in SLA (e.g., Dörnyei, 2005; Segalowitz, 1997; Skehan, 1989), the increasing interest and abundance of research in these areas in the past decade points toward their importance in the language learning process. Continuing the trend from other areas of ID research, defining and distinguishing between these concepts is not at all straightforward, particularly since they represent expanding and changing areas of inquiry (Mercer, 2011). Not only do self-related constructs overlap with each other, but they also play significant roles in motivation, beliefs, affect, self-regulation, personality, metacognition, and most other individual differences, thus making it impossible to draw conclusive boundaries between each of these areas (Woodrow, 2011). What follows is simply a general description of how they have so far been defined and operationalized.

As fairly new adoptions into the SLA literature from psychology, self-efficacy and self-concept have not yet figured into many major SLA studies and are still vying for a place in the pantheon of SLA-IDs. While self-efficacy refers to “whether a learner feels that he/she can do a particular task” (Erler & Macaro, 2011, p. 500), self-concept is not only about “what one believes about oneself and one’s abilities in a certain domain” but also “how one evaluates these beliefs and consequently how one feels about oneself in evaluative, affective terms” (Mercer, 2011, p. 13). The two constructs are therefore closely related—though self-efficacy has so far been researched more in SLA studies than self-concept—and it will be interesting to see how

SLA researchers distinguish between them as they become more well-known and more central to understanding individual differences.

Like many of the other ID constructs reviewed above, SLA research in this area leans heavily toward quantitative, questionnaire-based investigations. While some researchers (e.g., Du, 2012; Mills, Pajares, & Herron, 2007; Su & Duo, 2012) use existing instruments from educational psychology, others (e.g., Erler & Macaro, 2011; Hsieh & Schallert, 2008; Woodrow, 2011) adapt materials for L2 learners. In investigating writing self-efficacy, (Woodrow, 2011) presented learners with various writing tasks such as “write a sentence without mistakes” and “write an essay of argument or discussion,” asking learners to rate themselves for each activity on a Likert scale from “certain can do” to “certain cannot do” (p. 512-513). Erler and Macaro (2011), who looked specifically at self-efficacy in relation to phonological decoding, used a similar scale (“like me” to “not like me”) with questions such as “I can read French words out loud correctly” and “when I say French words in my head I know I am saying them correctly” (p. 507). Hsieh and Schallert (2008), on the other hand, took a very different approach to self-efficacy. They gave learners a list of seven possible test scores, ranging from 70 to 100, and asked the learners how capable they were of achieving each score on their next foreign language test. Mills, Pajares, and Herron (2007) also used a similar measure of French grade self-efficacy but added another self-efficacy scale “to evaluate students’ perceptions of competence in using various self-regulated learning strategies” (p. 428).

In contrast to these questionnaire studies, Mercer’s (2011) qualitative investigation of self-concept consisted primarily of a series of in-depth interviews with a university-level English learner in Austria. This approach, which is quite unique for its case study format, grounded theory approach, and open acknowledgement of the indeterminate nature of mental constructs

such as self-concept, resulted in a model of L2 self-concept formation that includes factors both internal (belief systems, affect, domain-specific internal comparisons) and external (social comparison, perceived experiences of success/failure, past experiences of using or learning the language) to the learner. While this operationalization of self-concept has yet to be replicated in other contexts, it provides an interesting precedent for this new branch of ID research.

Despite the fact that language learning identity has traditionally been thought of in terms of its social and cultural dimensions rather than as an ID dimension (e.g., Norton, 2000), it is increasingly being cited in individual differences research as closely intertwined with motivation, beliefs, metacognition, and other ID factors (Duff, 2012). Of all the difficult-to-define individual differences, identity may be the most slippery and amorphous; indeed, two recent volumes (“Motivation, Language Identity and the L2 Self,” Dörnyei & Ushioda, 2009; and “Identity, Motivation and Autonomy in Language Learning,” Murray, Gao, & Lamb, 2011) provide book-length illustrations of the myriad ways that identity can be defined in relation to, or as part of, other IDs.

In the research context of differential learning experiences, identity is seldom defined, although several authors offer hints of how they view identity in connection with individual differences. Ushioda (2011) discusses three aspects of identity—situated identity, discourse identity, and transportable identity—and sees identity as molded by a learner’s culture, peers, and significant others. Noels (2009) connects identity to self-determination theory, maintaining that “the development of the self is characterized by the simultaneous processes of, on the one hand, becoming increasingly differentiated and refined as a result of new experiences, and, on the other hand, becoming more and more coordinated and cohesive” (p. 296). Menezes de

Oliveira e Paiva (2011) describes identity as “a complex system that displays a fractalized process of expansion as it is open to new experiences” (p. 62).

Not surprisingly for such a nebulous construct, identity has been theorized and discussed in the ID literature more than it has been operationalized. In contrast to most other individual differences research, the few ID-related identity studies (Huang, 2011; Menezes de Oliveira e Paiva, 2011) are almost exclusively qualitative, usually conducted through interviews or journal writing. In the thick description elicited through longitudinal investigations, identity is seen to emerge organically from each learner’s individual comments. For instance, in interviews with Japanese and Brazilian learners of English, Menezes de Oliveira e Paiva (2011) found that one student was inspired to learn English because of her identity as a Michael Jackson fan, while another was completely demotivated to learn English in school but later became highly motivated due to her identity as mother of an English-learning child. Huang (2011), in a four-year study of English majors at a Chinese university, discovered students whose “identity shifts from ‘lost-at-sea’ aimless first-year students to more confident future teachers” (p. 241). As these examples show, without an explicit and widely-accepted definition for this dimension of individual differences, a great many different constructs might be interpreted and analyzed as identity.

## **2.2 Summary of Existing ID Research**

Though the above overview provides only an abbreviated description of ID research in SLA, it does allow us to see a few trends in the way that IDs have been addressed over the past 30 years. First, this research area is vast, complex, and not really even a coherent body of research; ID researchers working in specific areas such as anxiety or metacognition may not necessarily see themselves as contributing to a broader field of inquiry known as individual

differences. Second, even within specific strands of ID research, there often are no agreed-upon construct definitions or ways of operationalizing a given construct, leading not only to theoretical confusion, but also to conflicting and inconsistent findings.

It is easy to imagine how researchers could be at cross-purposes when, for example, one defines metacognition as primarily the use of metacognitive strategies, while another sees it as the beliefs learners hold about their language learning. The confusion is only multiplied when researchers employ very different types of measurements for what is supposedly the same construct (as we saw in the case of willingness to communicate), or when they use the same instrument for a construct they have defined in very different ways (as for language learning beliefs), or even when they use the same instrument for two supposedly different constructs (e.g., the Ehrman & Leaver Learning Styles Questionnaire).

A closely related issue that has emerged from examining ID research as a body is the extent to which individual differences overlap, blur together, impact each other, and at some point become entangled with one another. It is extremely difficult to establish with any certainty where motivation ends and willingness to communicate (WTC) begins, or how to separate language learning beliefs and self-efficacy, or how strategy use and learning style are truly distinct. These areas of overlap are increasingly noticeable as researchers often examine multiple IDs in a single study (e.g., Gao & Zhang, 2011; Murray, 2011; Reinders & Lazarou, 2011).

There is clearly an awareness among ID researchers that it no longer makes sense to investigate isolated individual differences as if they existed in a vacuum. As has been well established by now in SLA, language learning and the language learner are complex systems with myriad interacting factors both internal and external to the learner (Dörnyei, 2009a, 2009b, 2010, 2014; Larsen-Freeman, 2012). This approach, known as complexity theory, may have

much to offer the study of individual differences, and it is this perspective that is taken in the dissertation study. In order to explore the benefits of approaching IDs through a complexity theory framework, the following sections discuss how this perspective on language learning might be integrated into the search for a more comprehensive understanding of learner IDs.

### **2.3 Complexity Theory**

One of the most important ideas to emerge in ID studies in recent years is the realization that IDs are unlikely to be isolated and distinct traits but are instead dynamic and connected within each learner (Dewaele, 2009; Dörnyei, 2009, 2010). Complexity theory holds that a language learner is a unique system that develops according to an individualized learning trajectory (Larsen-Freeman, 2012; Larsen-Freeman & Cameron, 2008a, 2008b), resulting from an amalgamation of complex internal and external processes (Dörnyei, 2009a, 2009b). In other words, according to Larsen-Freeman (2012):

Each individual is unique because he or she has developed his or her physical, affective, and cognitive self from a different starting point and through different experience and history. Each individual thus acts as a unique learning context, bringing a different set of systems to a learning event, responding differently to it, and therefore, learning differently as a result of participating in it. (pp. 78-79)

From this perspective, even though we may not be able to identify the separate contributions of traditional ID variables within a person, we can still find ways to meaningfully study the differences between learners. This is because “even though each individual charts his/her own path uniquely, the variety among the paths is not infinite” (Larsen,-Freeman, 2012, p. 83). Complexity researchers are increasingly suggesting that a useful way to study the complex dynamics of language learners may be to identify “a few well-recognisable outcomes or

behavioural patterns” (Dörnyei, 2014, p. 6). The same approach is taken by phenomenographers, who attempt to uncover a limited number of categories of experience (discussed in detail below), and it is this approach that informs the goals of this dissertation project.

The complexity-based approach to IDs, though theoretically supported by leading applied linguists in a variety of SLA subfields (Beckner et al., 2009), has consistently proven difficult to study in practice. Although complexity theory has been used to study the development of linguistic features among L2 learners (e.g., Spoelman & Verspoor, 2010; Verspoor, de Bot, & Lowie, 2011; Verspoor, Lowie, & van Dijk, 2008), L2 researchers have yet to identify the most productive ways to apply this new perspective to IDs. As described above, researchers such as Dörnyei and Ushioda (2011) and Macintyre and Legatto (2011) have introduced methodologies that aim to capture the complex behavior of specific IDs, but so far very few studies have succeeded in finding a methodology that suits a complexity theory perspective.

In fact, the only solution explicitly offered as a way of looking at more than one individual difference simultaneously is retrodictive qualitative modeling (RQM; Dörnyei, 2014), which uses a variety of research methods (classroom observation, questionnaires, interviews with students and teachers) to discover a limited number of salient learner types. These learner profiles include observed characteristics such as “intrinsic interest, serious about learning, organized, autonomous, well-behaved” or “not motivated, not hardworking, withdrawn, problematic in teacher’s eyes” (p. 7). In terms of the ongoing search for a methodology that can unite a complexity theory perspective and individual differences, the basic foundations of this approach are sound: the idea that learners should be researched as complete, sentient, and unique individuals, not as isolated parts; that they can reflect meaningfully on their own experiences; that IDs are best considered at the level of the whole person, not fragments of the person; that

learner types or profiles can be identified; and that these profiles can contribute essential insights for ID research.

These important ideas represent a shift from the traditional modular perspective of IDs that has become increasingly untenable in the past few years, and they provide a desirable framework for adopting a more all-encompassing perspective of individual differences in language learning. However, RQM does have several drawbacks for use as an ID methodology that can realistically replace traditional questionnaire-based ID studies. One of the major strengths of traditional ID studies is their inclusion of large sample sizes, which allows researchers to consider many different learners in many different learning contexts. But RQM is essentially the same type of qualitative inquiry that many researchers in applied linguistics have been doing for decades (e.g., classroom observation, teacher and learner interviews), and it is therefore subject to limitations in reliability, comparability, practicality that can intimidate researchers and restrict its widespread use. RQM may be implemented in quite different ways by different researchers, and the results of qualitative analyses will necessarily vary from researcher to researcher. While the key tenets presented in Dörnyei (2014), therefore, constitute an important theoretical shift in the approach to IDs, the methodological answer to how to research IDs may lie elsewhere.

A different, more standardized methodology that identifies learner profiles is offered by L2 experience interviews (Polat, 2013). Similar to RQM, my L2 experience approach upholds the tenets of complexity theory by taking “a systemic approach by identifying higher level amalgams or constellations of cognition, affect, and motivation that act as ‘wholes’” (Dörnyei, 2009a, p. 235). In L2 experience interviews, students are asked to discuss their own perspective on language learning, which provides ample opportunity for researchers to capture and explore



the unique learning trajectory of each learner. In contrast to other proposed qualitative methods, however, the interviews are initially analyzed using new natural language processing software that is capable of quickly and objectively analyzing learners' words. This allows researchers to capture the richness of in-depth interviews but to also analyze it in a standardized way that can be implemented practically by many researchers across many research contexts. Such a mixed-methodological combination of L2 experience interviews and automated content analysis could address existing difficulties of finding an appropriate complexity-influenced methodology for the study of IDs. These interviews are described in the following section.

## **2.4 L2 Experience Interviews**

While ID research has traditionally been dominated by quantitative methods such as survey and questionnaire studies, qualitative methodologies have contributed important insights in almost every branch of ID research (Polat, 2013). Interviews, in particular, have played an instrumental role in establishing our understanding of the learning process and the factors that influence it (Duff, 2008; Pavlenko, 2007). Because researchers cannot see directly into the minds of learners to explore their thoughts, feelings, and motivations, interviews provide a vital window into how learners see their own L2 acquisition. In fact, Dewaele (2009) notes that “the value of a combination of etic and emic perspectives is increasingly being recognized, with data from learners' personal experiences being collected through interviews, autobiographies, diaries” (p. 640). Dörnyei (2009a) considers that qualitative approaches are especially suited to complexity-framed theories of individual differences because of their thick description, emergent analyses, potential for longitudinal design, and focus on individual learners rather than group averages.

Even with the flexibility and learner-centered perspective that qualitative approaches offer, the challenge for ID research is to capture the higher-level amalgams suggested by Dörnyei (2009a) in ways that will be both distinguishing and meaningful. The study described here takes a broader perspective, focusing on interviews that probe students' holistic experiences of language learning, in the hope that this may be one route to discovering why some students are more successful language learners than others.

The aim of L2 experience interviews is to see language learning the way students are seeing it, or to get a sense of the student's overall experience of L2 learning. The ambiguous term "experience" has multiple, related definitions, of which the following are the most applicable:

1. (a) direct observation of or participation in events as a basis of knowledge  
(b) the fact or state of having been affected by or gained knowledge through direct observation or participation
  3. (a) The conscious events that make up an individual life
  4. Something personally encountered, undergone, or lived through
  5. The act or process of directly perceiving events or reality
- (Experience, n.d.)

From these definitions we get the sense that experience is a subjective process that occurs inside a person's mind and contributes to her or his knowledge, emotions, or identity on a conscious or subconscious level. Even though experience is certainly affected by external events and information, it is each person's internalization of these events and information that makes experience meaningful, both in a general sense and also specifically for L2 learning. External

experiences in themselves may not be significant until they are translated into each learner's internal reality (Polkinghorne, 2005).

Several researchers in applied linguistics have argued for an experiential perspective on language learning using terms such as affordances (van Lier, 2004), embodied cognition (Atkinson, 2010), and phenomenology (Dörnyei, 2010; Kramsch, 2002). The common theme behind each of these approaches is the recognition that in order to fully grasp the complexities of L2 learning, we must understand the L2 learner's internal responses to the environment, or the ways in which she appropriates external experiences as her own experiences. This stance calls for not just a consideration of the interaction of learner and context, but of a deliberate effort to understand the learner's experience of the context. It is this window into the learner's mind that is sought in the L2 experience interview.

When I developed the L2 experience interview, one of my primary considerations was being able to elicit the student's reflections on her or his own internalized experience of L2 learning. While it may be difficult to put an abstraction like "L2 experience" into words, I found in Polat (2012) that language learners are able to verbalize specific aspects of their experience, such as their thought processes, study habits, and perceptions of themselves in comparison to other language learners. Other researchers have also found learners quite capable of discussing their beliefs (e.g., Mercer, 2011a; Wenden, 1986), strategy use (e.g., Gao, 2006), motivation (Ushioda, 2001), and other variables considered in L2 studies. These studies have shown that learners can answer questions about their experience, so long as the questions fall within their frame of reference.

The L2 experience interview used in this study grew out of my interest in phenomenography, a qualitative research technique that has been popular for several decades in

European and Australian educational psychology. The aim of phenomenography is “to find and systematize forms of thought in terms of which people interpret aspects of reality” (Marton, 1981, p. 180) by discovering the spectrum of ways in which people can experience a given learning situation. Although it is not possible to know or categorize every individual’s understanding, phenomenography assumes a limited number of ways of experiencing, which allows the researcher to categorize the variation in experiences (Marton, 1992; Åkerlind, 2005). The idea is that once this variation is known, researchers will have a deeper understanding of what goes into learning and thinking about the phenomenon, not from the researcher’s perspective, but from the learner’s perspective (Polat, 2012). Learners are therefore encouraged to talk about their own experience so that the researcher can “enter into the student’s lifeworld” (Ashworth & Lucas, 2000, p. 296) to achieve greater understanding.

The outcome of phenomenographic studies is a limited number (usually three to five) of categories of experience, which describe the different ways that learners experience the learning situation. While there are no predetermined expectations for what the categories of experience may be, many past studies have found a relationship to the level of abstraction or meaning that students assign to learning. Early studies suggested a distinction between a deep and surface level approach to learning (Marton & Säljö, 1976), or rote and meaningful learning (Biggs, 1979), and these basic themes have continued to inform phenomenographic research in many areas. For example, Vermunt (1996) conducted a phenomenographic study with 36 Dutch university students to investigate their styles of learning their various major subjects. He identified four different styles based on learning orientations, mental models of learning, and students’ cognitive and affective processes. Students with an undirected learning style had the most difficulty learning and seemed unable to recognize which parts of the material were

important or how to prioritize learning. Students with a reproduction directed learning style spent a lot of time memorizing facts but very little time synthesizing information or understanding its importance, while those with a meaning directed learning style analyzed the subject matter to understand its importance for the bigger picture of their learning. Learners with an application directed learning style consistently tried to connect their abstract course learning with the practical realities of life in order to use it in their careers or for personal fulfillment. Although Vermunt did not study the relationship of learning style and achievement, he suggests that that certain styles facilitate learning more than others.

While phenomenography has been influential in educational psychology, it has not caught on in L2 research. Applied linguists have used similar qualitative techniques to study issues connected with L2 learning, but the specific goals, perspective, and categories of experience unique to phenomenography have not been generally implemented in our field. Prior to my investigations, only one small-scale study (Benson & Lor, 1999) applied phenomenographic principles to look at conceptions of learning among high school students in Hong Kong, but the researchers stopped short of providing distinct categories of experience to describe learners' approach. For this reason, I began to explore the usefulness of this technique in applied linguistics. In a phenomenographic study with four upper-level university students about their L2 learning (Polat, 2012), I found that distinct categories of experience—i.e., different ways of experiencing L2 learning—can be identified among L2 learners. These four categories were based on how students perceived the context of L2 learning as well as their internal or external orientation. Although the study was very exploratory, it provided grounds to believe that research with L2 learners can produce distinct categories of experience that might describe differences in their experiences.

After this initial pilot study, I began to explore whether phenomenographic principles might be used to identify higher-level amalgams of IDs among L2 learners. Some aspects of the methodology appeared very useful for studying IDs, but its demanding and subjective analytical process limit its scope and generalizability. I therefore experimented with adapting the phenomenographic interview—keeping its aims and perspective—but using a slightly different interview technique and different analytical methods. True phenomenographic interviews are open-ended, meaning that the researcher asks probing questions based on a participant’s answers to previous questions. While this is a useful technique in small-scale studies, it means that the interview is different for every participant. Not only does this require intensive and highly individualized analysis from the researcher, but it means that the researcher may inadvertently prime or suggest participant answers as she responds and asks follow-up questions. If each participant has different interview questions, the results of each interview may not actually be comparable across participants. I therefore moved away from “pure” phenomenographic techniques and focused on how I could achieve the results of phenomenography—categories of experience—in a more structured and practical way.

In Polat (2013), I refined the L2 experience interview technique with beginning French learners and tested the methodology’s usefulness in analyzing differential L2 performance. First, I asked 27 French 1002 and 2001 learners to describe two picture strips, once verbally and once in writing, and then I analyzed their performance for fluency (number of words produced) and complexity (words per AS-unit or t-unit). I also recorded L2 experience interviews with each student. These interviews used questions similar to the phenomenographic questions from Polat (2012), but focused more on specific L2 skills than on general learning (as shown in Table 1). In order to ensure that all students were asked the same questions in the same way, I strictly

adhered to the interview protocol so that all students receive the same input from me. I then looked at the highest performers (top 33%) and lowest performers (bottom 33%) in the group and qualitatively analyzed differences in their L2 experience interviews. The goal of the analysis was not to identify high and low performers based on their interviews, but the opposite: to see whether L2 experience interviews could tell us about the learning experience of students already identified as high or low performing.

Table 1 Interview Questions Used in Polat (2013)

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<p>Tell me about your experiences learning French.</p> <p>What does it mean to actually understand something in French?</p> <p>Do you learn French in the same way that you learn other things, like math, or is it different?</p> <p>How does the learning process occur inside your mind? For instance, what do you say to yourself or think about when learning and practicing French?</p> <p>Do you feel that most people learn in the same way or differently than you do?</p> <p>What are the most important things you do to help you learn, remember, and speak French?</p> <p>When you learn a new grammatical feature, how do you actually learn it so that you can remember it later? What about when you learn a new vocabulary word?</p> <p>Is there anything else I haven't asked you that you think would be helpful for me to understand your experience of French?</p>
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The results showed that high-performing and low-performing learners discuss their L2 learning experience in quite different terms. My qualitative analysis of the interviews suggested that high performers consistently expressed their love or enjoyment of French, and they discussed their improvement over the semester in concrete and specific terms. In contrast, low-performers tended to avoid positive emotion words, believed that they did not improve much over the semester, and generally described their learning experience in vague or general terms. While the high-performing learners focused on grammatical meaning and communicating with others, the lower-performing learners seemed to focus on word memorization. A comparison of the students' fluency and accuracy at the beginning and end of the semester showed that the high

performers had indeed improved a great deal, while the low performers had generally stayed at the same level or even performed worse.

Based on these studies, I concluded that the L2 experience interview could be a useful basis for tapping into students' underlying perspective on L2 learning, and that this in turn could be linked to differential performance. These promising results suggested that L2 experience might be a valid way of identifying higher-level IDs among learners, and this possibility should be explored. However, the challenge remained that analyzing interviews, both in phenomenography and in applied linguistics, had always (and for obvious reasons) been done qualitatively. This type of analysis provides a wealth of important information about learner experience, but it is not easily applied to the domain of ID research, which looks for patterns across large numbers of individuals. In order to develop the L2 experience construct as a legitimate replacement for traditional ID questionnaires and surveys, it would have to be measurable across many learners and it would need to be implemented in a practical way by many researchers.

To achieve this type of comparability, L2 experience would also need to be analyzed in the same (or similar) way across all research contexts, so that a study conducted in one context by one researcher with a certain population of learners could be reasonably compared to a study conducted by a different researcher in a different context with a different population of learners. In other words, using the phenomenographically-based, complexity-influenced construct of L2 experience to study IDs would require analyzing qualitative interview data in a standardized, quantitative way. Fortunately, I found a possible solution in semantic content analysis, which does provide a quantitative way of analyzing the psychological and social content of qualitative data. This technique will be described in detail below.



## 2.5 Semantic Content Analysis

Semantic content analysis (SCA) is an automated form of text analysis that allows a researcher to automatically and objectively compare the content of any text along given parameters. It is similar to traditional text analysis studies, which are well-established in applied linguistics research, in that it uses computer programs to analyze texts and the words that are contained in those texts. Discourse analysis and corpus studies have been used for many years to investigate the phenomena of written and spoken language. For example, large-scale learner corpora such as the International Corpus of Learner English (Granger, Dagneaux, & Meunier, 2002) and the Louvain International Database of Spoken English Interlanguage (De Cock, Granger, & Petch-Tyson, 2003) have allowed researchers to study developmental phenomena among L2 learners from many L1 backgrounds. Corpus studies often use text analysis tools such as taggers (e.g., Biber tagger; Biber, 1988), concordancers (e.g., AntConc; Anthony, 2011), or specially developed software (e.g., Coh-Metrix; Graesser, McNamara, Louwerse, & Cai, 2004) to analyze lexico-grammatical patterns.

SCA is similar to traditional corpus research in that it uses computer programs to examine the properties of many texts from many speakers or writers. However, SCA differs from traditional corpus studies in one important way: in most corpus research, the ultimate object of analysis is language itself, so all texts are considered together for what they can tell us about language use; but in SCA research, the object is to investigate people, so texts are considered individually for what language use can tell us about the specific people using the language. This means that SCA researchers use participants' own words to learn more about their psychological state, personal characteristics, beliefs, intentions, or other psychological information.

SCA, which has been widely used in branches of psychology and education research, relies on the grammatical and/or lexical relationships among words to detect themes that may be manifest or latent in a single text or throughout a corpus (Roberts, 1997; West, 1997). The value of using words to analyze the meaning behind texts is based on the assumption that words reflect the speaker's or writer's "cognitive schema" and that this type of content analysis "provides a replicable methodology to access deep individual or collective structures such as values, intentions, attitudes, and cognitions" (Duriau, Reger, & Pfarrer, 2007, p. 6). By detecting meaningful semantic patterns in naturally occurring language, SCA allows researchers to probe affect and cognition underlying the content of communication.

This type of analysis is based on the premise that speakers "have scant ability to monitor individual language decisions" and "no ability to monitor their *patterns* of language choice [italics in original]" (Hart, 2001, p. 44). Looking at patterns in language use, therefore, enables researchers to capture authentic psychological experience, in contrast to the rehearsed, inauthentic answers that participants might provide on a questionnaire. Furthermore, as Tausczik and Pennebaker (2010) point out:

Language is the most common and reliable way for people to translate their internal thoughts and emotions into a form that others can understand... The words we use in daily life reflect what we are paying attention to, what we are thinking about, what we are trying to avoid, how we are feeling, and how we are organizing and analyzing our worlds.  
(p. 25, 30)

Psychologists dating back to Freud (1933) have studied the particular words that people use to draw inferences about their cognition and affect, and automated SCA provides an objective, standardized, and methodical way to do this.

SCA has been used in psychology to identify individual differences because linguistic features reflect the degree of self-focus, emotional tone, and cognitive complexity that underlie language use (Tausczik & Pennebaker, 2010). Furthermore, “psychologists have documented the existence of [linguistic] cues by discovering correlations between a range of linguistic variables and personality traits, across a wide range of linguistic levels” (Mairesse, Walker, Mehl, & Moore, 2007). In practice, SCA studies have been used to study individuals’ personal characteristics (Fast & Funder, 2008; Mehl, Gosling, & Pennebaker, 2006), mental health (Chung & Pennebaker, 2011; Margola, Facchin, Molgora, & Revenson, 2010), and even the cognitive processes that characterize creativity (Zurlo & Riva, 2009).

More specifically, by looking at patterns in the number, type, and category of words that speakers use in a given context, SCA enables researchers to extrapolate underlying cognitions that distinguish people from each other and form the basis of IDs. The program used in the present study, Linguistic Inquiry and Word Count (LIWC), was selected because it detects words that underlie psychological processes so important to language learning (Pennebaker, Booth, & Francis, 2007). Among these psychological processes are cognition and affect, which also seem to play a major role in language learning (Dörnyei, 2009). Since previous psychology research has indicated that LIWC can help identify speakers’ latent cognition and affect, it is an appropriate tool for analyzing the psychosocial processes at the heart of L2 experience. The following section will provide details about the LIWC software.

## **2.6 Linguistic Inquiry and Word Count (LIWC)**

LIWC (Pennebaker, Booth, & Francis, 2007) is a dictionary-based semantic program developed by experimental psychologists “to identify a group of words that tapped basic emotional and cognitive dimensions often studied in social, health, and personality psychology”

(p. 6). The program counts psychology-related words in 80 categories, which are broadly classified into various “processes”: grammatical (such as pronouns and prepositions), psychological (social, affective, cognitive, or perceptual), or content words and personal concerns (including leisure, work, religion, home, achievement; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). A complete list of LIWC’s categories, along with examples of the words in each category, is shown in Table 2.

Table 2 LIWC Categories and Examples

<b>Category</b>	<b>Examples</b>	<b># of Words</b>
<i>Linguistic Processes</i>		
Word count		
Words/sentence		
Dictionary words		
Words > 6 letters		
Total function words		464
Total pronouns	I, them, itself	116
Personal pronouns	I, them, her	70
1st pers singular	I, me, mine	12
1st pers plural	We, us, our	12
2nd person	You, your, thou	20
3rd pers singular	She, her, him	17
3rd pers plural	They, their, they’d	10
Impersonal pronouns	It, it’s, those	46
Articles	A, an, the	3
Common verbs	Walk, went, see	383
Auxiliary verbs	Am, will, have	144
Past tense	Went, ran, had	145
Present tense	Is, does, hear	169
Future tense	Will, gonna	48
Adverbs	Very, really, quickly	69
Prepositions	To, with, above	60
Conjunctions	And, but, whereas	28
Negations	No, not, never	57
Quantifiers	Few, many, much	89
Numbers	Second, thousand	34
Swear words	Damn, piss	53
<i>Psychological Processes</i>		
Social processes	Mate, talk, they, child	455

Family	Daughter, husband, aunt	64
Friends	Buddy, friend, neighbor	37
Humans	Adult, baby, boy	61
Affective processes	Happy, cried, abandon	915
Positive emotion	Love, nice, sweet	406
Negative emotion	Hurt, ugly, nasty	499
Anxiety	Worried, fearful, nervous	91
Anger	Hate, kill, annoyed	184
Sadness	Crying, grief, sad	101
Cognitive processes	Cause, know, ought	730
Insight	Think, know, consider	195
Causation	Because, effect, hence	108
Discrepancy	Should, would, could	76
Tentative	Maybe, perhaps, guess	155
Certainty	Certain, always, never	83
Inhibition	Block, constrain, stop	111
Inclusive	And, with, include	18
Exclusive	But, without, exclude	17
Perceptual processes	Observing, heard, feeling	273
See	View, saw, seen	72
Hear	Listen, hearing	51
Feel	Feels, touch	75
Biological processes	Eat, blood, pain	567
Body	Cheek, hands, spit	180
Health	Clinic, flu, pill	236
Sexual	Horny, love	96
Ingestion	Dish, eat, pizza	111
Relativity	Area, bend, exit, stop	638
Motion	Arrive, car, go	168
Space	Down, in, thin	220
Time	End, until, season	239
<i>Personal Concerns</i>		
Work	Job, majors	327
Achievement	Earn, hero, win	186
Leisure	Cook, chat, movie	229
Home	Apartment, kitchen, family	
Money	Audit, cash, owe	173
Religion	Altar, church, mosque	159
Death	Bury, coffin, kill	62
<i>Spoken Categories</i>		
Assent	Agree, OK, yes	30
Nonfluencies	Er, hm, umm	8

According to Pennebaker et al. (2007), word lists for each potential psychological category were generated from existing emotion rating scales, dictionaries, Roget's Thesaurus, and brainstorming sessions with three to six judges. Words in the psychological categories were then rated for suitability by at least three judges, following strict guidelines. Updated categories and word lists were then judged again, resulting in the first version of LIWC. This early program was then psychometrically evaluated using an eight million word corpus and compared against Francis and Kucera (1982). LIWC was again updated and modified in 2007 based on an expanded corpus of hundreds of millions of words (spoken and written), and categories were again independently judged by four judges. The program has also been extensively tested for internal reliability and external validity (Pennebaker et al., 2007; Tausczik & Pennebaker, 2010), so users can be fairly confident of its validity and reliability for psychological research.

LIWC operates by analyzing the individual texts within a corpus and producing quantitative output with information about the specific words used in each text. For each of its dictionary categories, LIWC provides a percentage describing how much of each text falls into that category. For example, in the category Positive Emotion, Text 1 might contain 1.57% and Text 2 might contain 3.20%, meaning that 1.57% of the total words in Text 1 fall within the Positive Emotion category and 3.20% of the total words in Text 2 are contained in that category. (See Appendix B for a sample of LIWC's quantitative output.) This can be interpreted to mean that the speaker in Text 2 uses more positive emotion words than the speaker in Text 1 in the interview. LIWC provides this type of information in all 80 linguistic and psychological categories for each speaker.

Since its development, LIWC has been used in hundreds of studies in the social sciences, ranging from the conversations of online support groups (Kramer, Fussell, & Setlock, 2004) to the psychological content of Twitter messages around the world (Golder & Macy, 2011). It has also been used specifically to study IDs by identifying patterns of language usage in people of different ages (Pennebaker & Stone, 2003), genders (Newman, Groom, Handelman, & Pennebaker, 2008), and personalities (Fast & Funder, 2008). These studies have consistently found that the dictionary categories of LIWC are correlated with differences among people, which further suggests that word use is a stable indicator of core personal features.

For example, Robinson, Navea, and Ickes (2013) analyzed the differential performance of university psychology students based on their written self-introductions at the beginning of the semester. They found that students' final grades can (to some extent) be predicted by their word use in these self-introductions. Specifically, students who used many first-person singular pronouns, present tense, details about home and social life, attained lower grades than students whose language did not contain these features. This connection between word use and academic performance suggests that LIWC is an appropriate instrument for capturing differences between people, since "language features can be used to make predictions about individuals and also may underlie causal processes that create some individual differences" (Tausczik & Pennebaker, 2010, p. 36).

While SCA programs such as LIWC have not, to my knowledge, been used in published studies about second language learning, LIWC has been adapted to 12 languages and is used in many studies of cross-cultural differences. Ramirez-Esparza, Chung, Kacewicz, and Pennebaker (2008), for example, compared the writing of depressed and non-depressed participants in English and Spanish, and Maass, Karasawa, Politi, and Suga (2006) looked at differences in

descriptive information provided by Italian and Japanese speakers. LIWC has also been used in psychology studies with speakers of Arabic, Chinese, Dutch, French, German, Portuguese, Russian, Serbian, and Turkish.

In my search for a quantitative way of analyzing the psychosocial content of L2 experience interviews, LIWC's ability to identify the psychological content behind language seemed to offer a solution. Because it has been used extensively in psychological research, including studies of IDs, it seemed logical that LIWC could be applied to analyze differences in the ways that learners talked about their L2 experiences. I therefore conducted a pilot LIWC study using the data from my French learner study. In this study, 27 high-beginner and low-intermediate French learners were interviewed about their experience learning French and were also asked to complete two narrative tasks in French, which were analyzed for complexity and fluency. When we (Polat & Crossley, 2011) analyzed the L2 experience interviews using LIWC, we found certain semantic categories correlated strongly with high performance, while other semantic categories correlated strongly with low performance. The most predictive of these categories were Family, Inhibition, and Inclusivity (for positive performance) and Friend, Adverb, and Hearing (for negative performance). A multiple regression analysis revealed that not only did the semantic categories of L2 experience interviews correlate with performance, but they also explained over 50% of the total variation in students' French language performance.

These very encouraging results seemed to strongly suggest that analyzing L2 experience interviews with LIWC can offer important information about how learners differ in their experiences of learning. However, this study was conducted mostly with native speakers (only three of the 27 students were NNSs), and the question remained as to whether it was a viable methodology to use with NNSs. I therefore tested LIWC with L2 interviews from 11 high-



intermediate English language learners enrolled in Georgia State's Intensive English Program. These interviews were conducted in the same way as with the French learners above, but in this case language proficiency was measured by test grades in the students' oral communication class. In this study, semantic categories from interviews predicted over 63% of the variance in students' test scores. Despite the small sample size in this pilot, and the different measure of linguistic proficiency used, I decided that the results were encouraging enough to warrant further investigation with non-native English speakers.

On the other hand, in deciding to conduct a study in English with English language learners, I necessarily excluded learners who are not proficient enough to participate in lengthy interviews in their L2. This automatically excludes beginners and unsuccessful learners who have, for whatever reason, not reached advanced proficiency. While this exclusion was a practical necessity in the present study, it means that this dissertation focuses primarily on successful L2 learners who are proficient enough to be matriculated at an American university. Future studies might incorporate beginners or less successful L2 learners by interviewing participants in their L1s, which could be English or any of the other 11 languages that LIWC accommodates. In the present study, it is important to keep in mind that the findings relate to IDs among successful L2 learners.

Due to its reliance on LIWC, the L2 experience methodology also defines social, affective, and cognitive categories in a different way from much previous SLA research. Traditionally, a cognitive approach to SLA has been seen as the study of mental or neurological processes that drive L2 acquisition, such as the role of memory or attention in L2 learning, or the contributions of implicit or explicit knowledge during the learning process. For many years, a social or interactional approach was considered the de facto opposite of a cognitive approach, so

that when Firth and Wagner (1997) delivered their famous critique of SLA as predominantly “individualistic and mechanistic” (p. 285), there was little middle ground between the two approaches. Fortunately, this artificial dichotomy has been changing over the past two decades with the adoption of alternative approaches such as complexity and sociocognitive perspectives on L2 learning. The L2 experience methodology is a further attempt to bridge the divide between so-called cognitive and social views of SLA, since the experiential approach holds that there is no actual divide between social and cognitive factors in the L2 learner’s experience. Because I have no wish to preserve this distinction, I have simply adopted the terms cognitive, social, and affective as they are used in conjunction with the LIWC program. Cognitive categories are still strongly associated with mental processes, but they do not necessarily imply the types of processes typically studied by SLA cognitivist researchers, and social categories are very straightforwardly connected with people, family, and friends. By adopting the terms used with LIWC, rather than preserving the traditional social/cognitive distinction, I hope to emphasize that the L2 experience approach is a way of looking at both angles at once.

### 3 METHODOLOGY

The conceptual principle guiding this project is the idea that learner IDs should be studied as a unified construct that considers the learner's whole experience rather than as isolated variables. This perspective on IDs is quite different from the traditional, modular view that examines discrete characteristics such as aptitude, motivation, and self-efficacy. Instead, the experiential view on IDs derives from phenomenography and a complexity-influenced perspective on language learning. It attempts to identify differences at a deeper, experiential level as they work together to influence the complex cognition and behavior of successful L2learners. Although the variation among learners is theoretically infinite, "there may well be configurations that capture generalizations among groups of learners or certain combinations of individual differences that act as integrated wholes" (Larsen-Freeman, 2012, p. 83). These "integrated wholes" are currently being sought in ID research that takes a complexity perspective on L2 learning, using methods such as Dörnyei's (2014) retrodictive qualitative modeling. But they have figured for several decades in phenomenographic research, where they are called categories of experience and are derived from iterative, inductive analysis of learner interviews. The present study therefore combines several important research traditions into a new, exploratory methodology. The key components of this methodology are:

- 1) L2 experience interviews (derived from phenomenography, a technique used in educational psychology)
- 2) Semantic content analysis (adapted from clinical and differential psychology)
- 3) Cluster analysis (places learners into clusters based on similarities and differences of word use in their interviews)

- 4) Interpretation of clusters (based on z-scores of LIWC categories; assisted by text analysis tools and contextual exploration of student comments)
- 5) Differential performance analysis (analyzes differences in cluster group performance on the TOEFL)
- 6) Supplemental qualitative analysis of L2 experience interviews

While the methodology used in this study has never been applied to the study of L2 learning, previous research suggests that this approach can detect higher-level patterns underlying learners' experiences of L2 learning. The experiential approach, therefore, seeks to explain differences in terms of higher-level amalgams, while at the same time providing a practical methodology for future ID investigations.

### **3.1 Research Questions and Hypotheses**

#### *3.1.1 Research Questions*

The following questions guided the dissertation project:

1. Do selected categories of LIWC (Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007) suggest discernable psychosocial differences in the L2 experience interviews of advanced English learners? Do these differences correspond to larger patterns that could be considered learner profiles? This question uses cluster analysis to identify clusters of learners who describe their L2 learning experience in similar ways.
2. If cluster analysis yields learner profiles, do these profiles and individual semantic categories from LIWC correspond to differential outcomes on a standardized proficiency test? This question uses correlation and one-way analysis of variance to relate individual differences to performance.

3. What qualitative observations about L2 learning experience are possible based on an inductive analysis of the interviews? This question uses recursive qualitative analysis to identify salient themes in the L2 learning experience.

### *3.1.2 Hypotheses*

Results of the two pilot studies suggest the following hypotheses: the categories from LIWC will indicate consistent differences among learners, and these differences will form clusters of learner profiles (RQ1); these learner profiles and individual LIWC categories will correspond to differential learner performance on the TOEFL (RQ2); qualitative analysis will reveal systematic similarities and differences between the learners in this study (RQ3).

## **3.2 Participants and Recruitment**

One hundred twenty four advanced English language learners were recruited from Georgia State University and Georgia Institute of Technology over a nine-month period. Participants were all currently enrolled graduate or undergraduate students and had lived in the United States (or another English-speaking country) for no more than one year. Participants came from 23 countries (see Table 3), spoke 27 native languages (see Table 4), and represented 43 academic majors (see Table 5). This diversity ensures a representative sample of university-level English language learners. Sixty-five (52.85%) of the participants were female and 58 (47.15%) were male. Ninety-five (77.23%) participants were graduate students and 28 (22.76%) were undergraduate students. The average age of participants was 26.

Participants were recruited through a newsletter distributed to international students by the international services offices at the respective universities. The short recruitment article provided information about the purpose of the project, eligibility, compensation offered (\$30 per

participant), and contact information. Students were informed in advance that the interviews would be audio recorded and that they would be asked to provide their TOEFL scores.

Table 3 Home Countries or Regions Represented by Participants

Country or Region	# of Students
China	33
Indonesia	16
France	15
Korea	13
Italy	11
Central Asia and Middle East	11
India	9
Other Western Europe	4
Latin America and Caribbean	4
Eastern Europe	3
Japan	2
Africa	1
Total	123

Table 4 Native Languages Spoken by Participants

Language	Number	Language	Number	Language	Number
Mandarin	33	Spanish	3	Catalan	1
French	18	Hindi	2	Crimean Tatar	1
Indonesian	17	Japanese	2	Dari	1
Korean	12	Pashto	2	Georgian	1
Italian	11	Portuguese	2	Haitian Creole	1
Telugu	5	Turkish	2	Hungarian	1
Dutch	3	Arabic	1	Kyrgyz	1
Farsi	3	Armenian	1	Malayalam	1
Russian	3	Bengali	1	Romanian	1
Total		27 languages	130		

*Note. When participants listed multiple native languages, each language was listed separately in the table above, resulting in a higher number of languages than participants.*

Table 5 Academic Disciplines of Participants

Major	# of Students	Major	# of Students
Economics	26	Epidemiology	1
Biology	11	Financial Engineering	1
Business Administration	8	Information Systems	1
Computer Science	8	International Business	1
Chemistry	7	Law	1
Public Health	7	Management of Technology	1
Education	6	Materials Engineering	1
Political Science	6	Math	1
Actuarial Science	5	Mechanical Engineering	1
English	4	Philosophy	1
Finance	4	Piano Performance	1
Applied Linguistics	3	Prosthesis and Orthosis	1
Industrial Engineering	3	Public Administration	1
Risk Management	3	Public Financial Policy	1
Communication	2	Public Policy	1
Marketing	2	Screenwriting	1
Anthropology	1	Social Work	1
Biochemistry	1	Spanish	1
Biomedical Engineering	1	Statistics	1
Biomolecular Engineering	1	Taxation	1
Chemical Engineering	1	Undeclared	1
Criminal Justice	1		
		Total	43 majors

*Note.* When participants listed multiple majors, each major was listed separately in the table above, resulting in a higher number of majors than participants.

### 3.3 Data Collection

Structured interviews were held with each student in a study room on campus and were all conducted by the researcher. Interviews ranged in duration from five minutes to 27 minutes. Prior to each interview, the researcher explained the purpose of the project, reviewed the informed consent document, and allowed students to ask questions before signing the informed consent form. Students also filled out a short background information sheet which asked for their major, native language(s), years studying English, months in the U.S., and TOEFL score (see Appendix A).

Each interview strictly followed the interview protocol shown in Table 6, which was developed from previous L2 experience interviews (e.g., Polat, 2013). Students were allowed to speak for up to four minutes in response to each question. The interviewer did not ask follow-up questions or interrupt students, except to enforce the time limit. Limited backchanneling cues such as “Oh,” or “I see” were provided to set students more at ease and more closely resemble authentic conversation. This procedure ensured that all students received the same input before answering questions and were not inadvertently primed to produce different types of language.

Table 6 Interview Protocol

- 
1. Tell me about your experience learning English.
  2. Do you like learning English? Why or why not?
  3. Why do you want to learn English?
  4. What are the most important things you do to help you learn English?
  5. What do you do to improve your speaking and listening ability?
  6. What do you do to improve your reading and writing ability?
  7. How do you learn grammar?
  8. How do you learn vocabulary?
  9. Do you feel that most people learn in the same way that you do, or in a different way?
  10. How do you feel when you use English?
  11. Is there anything you want to change about your English learning experience?
  12. Is there anything else you want to discuss about your English learning experience?
- 

### 3.4 Measurement Instruments

#### 3.4.1 *Linguistic Inquiry and Word Count (LIWC)*

Linguistic Inquiry and Word Count (LIWC) operates by counting the words from each category that occur in each interview (Pennebaker et al., 2007). In this study, 22 of LIWC’s categories were used (shown in Table 7). These categories were selected because they fall under the heading Psychological Processes and are therefore relevant to examining psychosocial



correlates of language learning. Because the focus of this study is at the experiential level, the affective, cognitive, and perceptual processes captured by LIWC's dictionaries may provide a semantic window into the thoughts, feelings, motivations, and perspectives of learners toward language learning. One psychological process has been removed: Biological Processes will not be considered in this study because in my opinion its dictionaries (Health, Ingestion, Body) seem more closely related to physical rather than psychological experience.

Table 7 LIWC Dictionaries Used in the Study

<b>Process</b>	<b>Categories</b>
Social processes	Family, Friends, Humans
Affective processes	Positive Emotion, Negative Emotion, Anxiety, Anger, Sadness
Cognitive processes	Insight, Causation, Discrepancy, Tentativeness, Certainty, Inhibition, Inclusivity, Exclusivity
Perceptual processes	Seeing, Hearing, Feeling
Relativity	Motion, Space, Time

*Note. For ease of reference, all category names are referred to in noun form. The LIWC software uses both noun and adjective forms in category names.*

Several notes about the methods used in LIWC may help clarify the results section below. First, words in several categories overlap, such as *feel\** in the Positive Emotion, Negative Emotion, and Feeling categories. (Asterisks are used throughout the paper to identify lemmas rather than simple words.) These are typically words that are very important to the psychosocial processes, and it means that these words are counted more than once and are therefore more powerful or central to the analysis. It was very important in the present study to distinguish between polysemes such as *like* and *well* because such words can fall into different semantic categories. For this reason, any usage of *like*, *well*, and *you know* as discourse markers was removed from the data. This was done at my discretion, based on the same methods used in Polat (2011) to identify discourse marker usage in non-native speaker data. In addition, adverbial *like*

was marked as *rrlike* (following instructions for LIWC provided by Pennebaker et al., 2007) in order to distinguish it from the important verb *like*.

Second, the names of categories are indicative rather than definitive, particularly for the Cognitive and Relativity processes. For example, the category Space contains spatial prepositions (*across, near, over*), adjectives that are applied to spatial descriptions (*big, broad, remote*), nouns that relate to geography (*land, town, world*), and other words that are used by people describing spatial actions or metaphors. While some words are more relevant and others less relevant to L2 learning experience, it is important to remember that LIWC has been successfully used to measure psychosocial processes in a wide variety of contexts (Tausczik & Pennebaker, 2010).

#### 3.4.2 *Test of English as a Foreign Language (TOEFL)*

Scores on the Test of English as a Foreign Language (TOEFL) was selected as the performance measure in this study because it is well-established, well-validated, and widely used as a measure of academic English proficiency for non-native English speakers. The TOEFL has been used since the 1960s and has been extensively studied as a valid measure of English proficiency at the university level (Chapelle, Enright, & Jamieson, 2007). Many universities that require non-native English speakers to demonstrate academic English proficiency before admission require or accept TOEFL scores as evidence of English ability. For this reason, the majority of the international students in this study completed the TOEFL test in the year before studying abroad. The wide availability of the TOEFL is important not only for comparability among students in the present study, but also to extend comparability to other university contexts in future studies.

The TOEFL consists of four sections (Reading, Listening, Speaking, and Writing) that are each given a score between 0 and 30. While ETS does not formally classify composite scores, information provided on the ETS TOEFL website (<http://www.ets.org/toefl/ibt/scores/understand/>) suggests that a composite score of 94 to 120 can be considered High or Good, a composite score of 65 to 93 is in the Intermediate or Fair range, and a composite score of 0 to 64 is in the Low or Limited range. Only composite scores were reported and analyzed in the present study. TOEFL scores were self-reported and, due to privacy constraints, could not be verified as accurate.

### **3.5 Corpus**

Of the 124 interviews conducted, one interview was eliminated from the study because the participant did not meet eligibility requirements. This resulted in a final sample size of 123 interview texts, with a total participant word count of 143,115 in the interview corpus. Texts ranged in length from 379 words to 3,334 words, with an average length of 1,164 words.

### **3.6 Transcription and Data Processing**

The interviews were orthographically transcribed by the researcher and one paid assistant following the transcription guidelines shown in Table 8. (All transcriptions were reviewed in full by the researcher to ensure that guidelines were followed.) After transcription, all 123 interview texts were run through the LIWC software, resulting in quantitative output for each of the 22 psychosocial categories specified above. Output is in the form of a spreadsheet with percentages, i.e., the percent of the interview text that belongs to a given index. An example of this output is shown in Appendix B.

Table 8 Interview Transcription Guidelines

- 
- Hesitation words (*uh, um*) are not transcribed
  - Repetition and reformulation are not transcribed
    - If the speaker clearly meant to repeat a word or phrase, the repetition is included
  - Discourse markers *like, well, and you know* are not transcribed because these cause confusion within LIWC categories
  - “*How do you say...*” or similar phrases that indicate the participant is unsure of the words they are using are not transcribed
  - Numbers are written out in words (including years)
    - Except for course numbers (*English Composition 1101* is changed to *English Composition XYZ*)
  - Teachers’ names are changed to *Ms. XYZ*
  - Question restatements are not included
    - This includes when the participant says something while reflecting, such as saying “*Writing...*” while thinking about how to answer the question about writing.
    - This is somewhat up to the discretion of the transcriber. If the person says “*Writing*” and then continues with the sentence, the word “*writing*” can be left if it is necessary to understand the meaning of the utterance.
  - ‘*Cause* and variations of *because* are written out as *because*
  - All instances of *mother tongue* or similar are changed to *native tongue* to prevent this from being counted as a family word
  - If a participant concludes an answer with a wrap-up phrase such as “*That’s it*” or “*That’s all,*” it is not transcribed (because it is assumed this is merely an indication to the interviewer that they are finished, not part of the response itself). If these phrases are used as part of the response itself, they are transcribed. This is somewhat up to the discretion of the transcriber, but usually it is clear in the context of the response.
  - *U.S.* is written *USA* to avoid confusion with periods
  - Adverbial *like* is marked as *rrlike* to distinguish it from the verb *like*
  - When the speaker’s intention is clear, words have been changed to standard spelling
- 

### 3.7 Statistical Analysis

Prior to statistical analysis, the data was checked for outliers, normality and multicollinearity. No outliers or multicollinearity were found; however, the data showed considerable skewness and kurtosis, suggesting that the data was not normally distributed. This

may be a result of the type of linguistic data used rather than a signal of non-normality in the population. Normal distribution is not a required assumption of cluster analysis (Burns & Burns, 2008), so non-normality is not a problem for examining RQ1. The data's non-normality was taken into account in comparing group means (RQ2), so that the one-way analysis of variance and post-hoc tests was supplemented with non-parametric testing. All statistical analyses in this study were performed using SPSS 20.

### *3.7.1 Cluster analysis*

To answer Research Question 1 and identify potential L2 experience profiles, cluster analysis was performed following procedures outlined in Friginal, Li, and Weigle (2014). Cluster analysis uses statistical grouping to identify which texts are most like each other based on co-occurrence of LIWC categories across texts. Interviews that share similar category scores are considered to be more alike and are therefore grouped into a cluster. The first step in this procedure was to normalize frequency counts for all 22 psychosocial features in each text, which meant converting the LIWC percentages into z-scores. These normalized counts were then entered into an agglomerative hierarchical cluster analysis in SPSS that used furthest neighbor clustering. Hierarchical cluster analysis is a specific type of analysis that develops a sequence of clusters organized like a tree; it starts by considering each text as an individual cluster and then merges data together until it derives an optimal number of clusters (Tan, Steinbach, & Kumar, 2005). This type of analysis is “the major statistical method for finding relatively homogeneous clusters of cases based on measured characteristics,” (Burns & Burns, 2008, p. 555) and in the present study it was deemed the most appropriate type of cluster analysis for the research questions. The distance measure selected was squared Euclidean distance, which is the most

commonly used and widely accepted method in SPSS, one that is frequently used with hierarchical clustering (Burns & Burns, 2008).

A group of three clusters was found to be optimal for this dataset after a series of test runs involving three to five groups. Determining the optimal number of clusters is subjective and there is no single accepted procedures for making this determination (Burns & Burns, 2008; Dolnicar, 2002), so researchers often rely on heuristics, subjective opinions, and criteria relevant to the data (Dolnicar, 2002). Because the goal of a cluster analysis is to produce clusters that have identifiable different characteristics, the present study performed test runs of three to five clusters, then considered two main factors in optimizing the number of clusters. First, the clusters should contain enough students to be representative and relatively proportional; the five-cluster solution was eliminated because only a few of the 123 students were classified in some clusters while others had many students. Second, the clusters should provide information about the psychosocial features, so correlations were compared for both the three- and four-cluster solutions and the LIWC features. The three-cluster solution was found to correlate more highly with LIWC features, which meant that it was more informative. To explore which experiential features were most important across the three clusters, two types of information were considered: mean Z scores per cluster and a qualitative analysis of psychosocial words as they appeared in the interview context. Both types of information are discussed at length below.

### *3.7.2 Pearson Product-Moment Correlation*

To assess whether the L2 experience profiles and individual LIWC categories are related to self-reported TOEFL scores (and answer Research Question 2), Pearson Product-Moment Correlations were conducted on these measures. Because not all students had taken the TOEFL, not all participants were included in this analysis. Ninety-six students reported admissions

TOEFL scores. Of these, three students had taken a computer-based version of the test, and one student had taken the paper-based version. These computer- and paper-based scores were converted to TOEFL iBT scores based on the score comparison tables provided by ETS at [http://www.ets.org/Media/Tests/TOEFL/pdf/TOEFL\\_iBT\\_Score\\_Comparison\\_Tables.pdf](http://www.ets.org/Media/Tests/TOEFL/pdf/TOEFL_iBT_Score_Comparison_Tables.pdf).

### 3.7.3 *One-Way Analysis of Variance (ANOVA)*

To further answer Research Question 2, a one-way analysis of variance (ANOVA) was conducted to compare the mean TOEFL score of students in each cluster. Mean TOEFL scores of each cluster were compared for significant differences, and post-hoc tests were used to examine group differences. Since the data did not meet the assumption of equal variances, an Independent Samples Kruskal-Wallis test was also performed.

## 3.8 **Qualitative Analysis**

To answer Research Question 3, the interview transcripts were also considered qualitatively during the intensive recording, transcribing, and proofreading process. The purpose of this qualitative analysis was to identify salient psychosocial themes within or across interview texts that might not emerge from the LIWC analysis. Throughout the process of conducting, transcribing, and analyzing interviews, I began to notice recurrent themes in what learners talked about. I first noted these patterns and impressions informally, then later confirmed these themes by rereading the interview transcripts, exploring students' words with the AntConc text analysis program (Anthony, 2011), and referencing LIWC categories. While this recursive, inductive process is similar to that conducted in Polat (2012, 2013) and other qualitative studies on IDs (e.g., White, 2003), the present study differs in its large number of participants. Few, if any, qualitative analyses have been attempted with so many learners, mainly because of the difficulty of becoming intimately familiar with each participant's case when so many are included. For this

reason, the present qualitative analysis looks for broad trends rather than in-depth analysis of particular cases, and it is used primarily as a means of drawing attention to salient themes that would otherwise be undetected in the data.



## 4 RESULTS

The present chapter is organized into three sections, corresponding to the study's three research questions. The first section reports general information about the interview corpus as a whole. The second section describes findings from the cluster analysis and describes the resulting L2 learning experience profiles. The third section examines results of the Pearson Product-Moment Correlations and ANOVA that relate self-reported TOEFL scores to psychosocial categories and L2 experience profiles. The fourth section reports major themes from the qualitative analysis.

### 4.1 General Corpus Information

Before examining the results of the cluster analysis, it may be instructive to consider the LIWC results for the interview corpus as a whole. Table 9 shows the average percentage for each LIWC category for all 123 texts considered together.

Table 9 Average Percentage for LIWC Categories in Interview Corpus

Category	Average Percentage	Category	Average Percentage
Family	0.085	Tentativeness	4.288
Friend	0.240	Certainty	1.028
Humans	0.643	Inhibition	0.168
Positive Emotion	2.843	Inclusiveness	4.666
Negative Emotion	0.670	Exclusiveness	4.464
Anxiety	0.171	Seeing	0.423
Anger	0.039	Hearing	1.915
Sadness	0.051	Feeling	0.410
Insight	4.608	Motion	0.909
Cause	2.325	Space	4.354
Discrepancy	1.592	Time	5.073

An additional key word analysis of the corpus was performed using the text analysis tool T-Lab (Lancia, 2004). This program identifies important content words that occur frequently in

the interview corpus but which are not necessarily the psychosocial words detected by LIWC.

Table 10 shows the first 50 of these lemmas, along with their frequencies in the entire corpus.

Asterisks indicate that the word is also captured by the LIWC dictionaries included in this study.

Table 10 Most Frequent Key Words in Interview Corpus

Lemma	Frequency	Lemma	Frequency
think*	1457	need*	335
learn*	1244	book	324
speak*	1232	kind of	318
know*	749	vocabulary	311
people*	716	different	310
write	711	feel*	297
school	685	high*	288
yeah	655	start	285
language	641	year*	270
like (discourse marker)	624	country*	264
word	592	watch*	255
grammar	563	friend*	250
try	530	help*	237
read	495	student	237
good*	472	practice	226
time*	467	native	224
study	457	American	220
listen*	450	movie	208
reading	438	ok*	200
learning*	433	important*	194
mean	422	course	191
improve*	389	better*	190
talk*	383	interest*	177
understand*	375	teach	176
class	361	experience	169

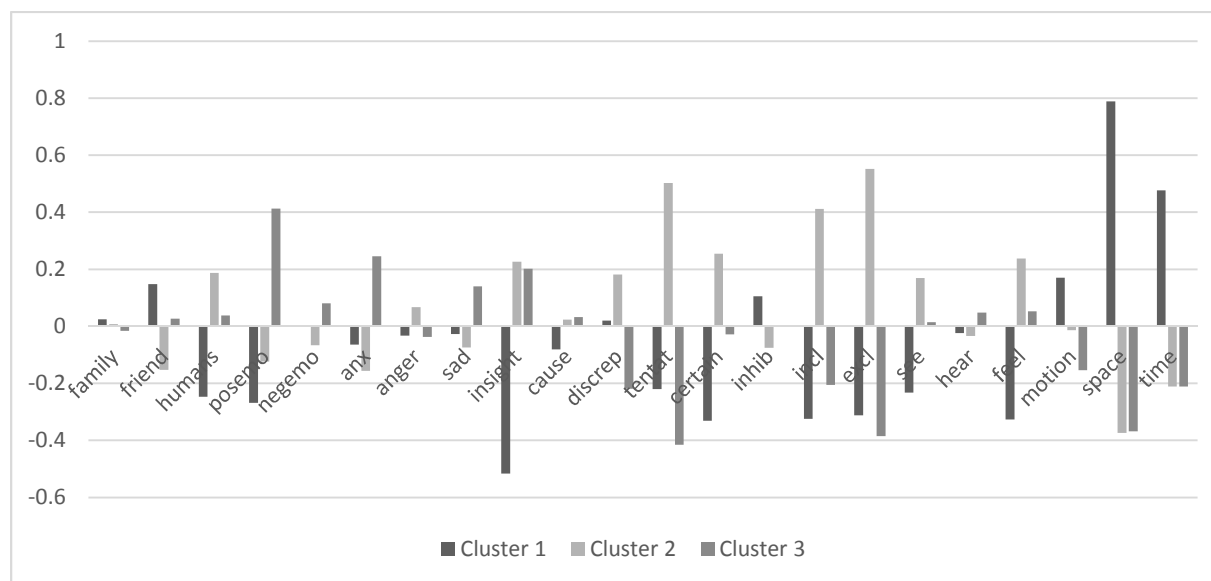
## 4.2 Profiles of L2 Learning Experience

### 4.2.1 Cluster analysis

The first research question asked whether the psychosocial categories of LIWC can be used to identify groups of students who tend to discuss their language learning in similar terms, and whether the characteristics of these students could be developed into experiential profiles. To answer this question, all LIWC categories were converted to z-scores and a cluster analysis was conducted which resulted in three clusters. However, the statistical cluster analysis only provides information about which interviews belong in which cluster. It does not provide information about why the interviews clustered together, so it is the job of the researcher to interpret what the clusters mean. In this study, the main goal was to examine which psychosocial categories tend to occur together, so the following procedures were used.

Because clusters are based on the tendency of certain categories to occur together in some texts but not in others, the interviews which have similar category patterns cluster together. In order to analyze which psychosocial categories were frequent and infrequent in each cluster, z-scores were averaged for the interviews from each cluster. By averaging the z-scores for the features of each cluster (e.g., Friginal, Li, & Weigle, 2014), patterns of category use can be more clearly revealed. For instance, for all interview texts shown to be in Cluster 1, the z-scores for Family were averaged, resulting in an overall Family score of 0.024 for Cluster 1. This was done for all psychosocial features of all three clusters (see Figure 1 for total scores). The resulting mean z-scores for some features were positive, with a high of 0.788, while z-scores for other features were negative, with a low of -0.517, as shown in Figure 1. For the purposes of this analysis, + or -0.15 is considered the threshold at which features show significant loadings. This decision was made based on the degree of differentiation that occurred in the data, and allows us

to focus on the features most strongly represented in each cluster. Therefore all features that had combined z-scores of higher than 0.15 or lower than -0.15 were included in the interpretation of word usage for that cluster.



**Figure 1. Comparison of Psychosocial Features in the Three Clusters**

In order to interpret how psychosocial features varied across the three clusters, the concordancing program AntConc (Anthony, 2011) was used to examine word use in context. This was done simply by looking at the words from each LIWC category as they were used by students in each cluster. For example, one of Cluster 1's high z-score categories was Space, which contains 220 words such as *down*, *anywhere*, and *little*. AntConc was used to find every instance of all 220 of these words in Cluster 1 interview texts. This procedure was repeated for each strongly represented category in all three clusters. This resulted in word frequency counts for these strongly represented semantic categories, as well as contextual information about the use of each word. Based on this analysis, each cluster was considered to represent a certain way of experiencing English learning, with underlying patterns of word use that present a cohesive psychosocial picture of the L2 learning experience of those students.

The clusters were somewhat evenly distributed, with 38 students (30.89%) in Cluster 1, 48 students (39.02%) in Cluster 2, and 37 students (30.08%) in Cluster 3. To confirm that the clusters were not disproportionate based on nationality—which would have indicated that cluster formation was unduly influenced by culture rather than individual differences—the nationalities of students in each cluster were compared. As Tables 11 and 12 show, nationality is well distributed across the three clusters. For example, Iran and the Netherlands, which both have three students, have one student in each cluster; India has two, four, and three, respectively; Korea has five, three, and five. Indonesia appears somewhat unbalanced, with eight students in Cluster 1, three students in Cluster 2, and five students in Cluster 3. However, the only country which appears very unbalanced is China, which by far had the most participants of any country. This could be a chance occurrence, or it could result from the type of major that Chinese students pursuing higher education in the United States tend to have.

Table 11 Comparison of Clusters by Geographic Region

Region	Cluster 1	Cluster 2	Cluster 3
South Asia	10	7	8
Central Asia and Middle East	7	3	1
Western Europe	9	12	9
Latin America and Caribbean	1	2	2
Eastern Europe	0	3	0
East Asia	11	20	17
Africa	1	0	0
Total	38	48	37

To further explore this possibility, academic discipline was also compared across clusters (see Table 13). Two majors, Economics and Public Health, appear to be disproportionately represented in Cluster 1, and two majors, Biology and Computer Science, are disproportionately unrepresented in Cluster 1. The fact that Chinese students are heavily concentrated in Biology and Computer Science helps explain why there are more Chinese students in Clusters 2 and 3. In

addition, Indonesian students in this sample were heavily concentrated in Economics, which relates to the large number of Indonesian students in Cluster 1.

Table 12 Comparison of Clusters by Nationality

Country	Cluster 1	Cluster 2	Cluster 3
Afghanistan	1	1	0
Armenia	1	0	0
Brazil	0	1	0
China	5	16	12
Colombia	0	1	1
France	3	6	6
Georgia	0	1	0
Haiti	1	0	1
Hungary	0	1	0
India	2	4	3
Indonesia	8	3	5
Iran	1	1	1
Italy	5	4	2
Ivory Coast	1	0	0
Japan	1	1	0
Korea	5	3	5
Kyrgyzstan	1	0	0
Moldova	0	1	0
Netherlands	1	1	1
Romania	0	1	0
Spain	0	1	0
Turkey	2	0	0
Uzbekistan	0	1	0
Total	38	48	37

Table 13 Comparison of Clusters by Academic Discipline

Discipline	Cluster 1	Cluster 2	Cluster 3
Actuarial Science	0	2	2
Anthropology	0	0	1
Applied Linguistics	1	2	0
Biochemistry	1	0	0
Biology	1	5	5
Biomedical Engineering	0	0	1
Business Administration	3	3	3
Chemical Engineering	1	0	0
Chemistry	1	3	3
Communication	1	0	0
Computer Science	1	5	2
Criminal Justice	0	0	1
Economics	14	8	4
Education	1	3	2
English	0	2	0
Finance	1	1	2
Financial Engineering	0	0	1
Industrial Engineering	0	2	1
Information Systems	1	0	0
International Business	1	0	0
Law	0	1	0
Management of Technology	0	0	1
Marketing	0	0	1
Materials Science	0	1	0
Math & Statistics	0	2	0
Mechanical Engineering	1	0	0
Philosophy	0	0	1
Piano Performance	0	1	0
Political Science	1	2	3
Prosthesis and Orthosis	1	0	0
Public Administration	0	1	0
Public Financial Policy	1	0	0
Public Health	5	1	1
Risk Management	0	0	1
Screenwriting	0	1	0
Social Work	1	0	0
Spanish	0	1	0
Taxation	0	1	0
Undeclared	0	0	1
<b>Total</b>	<b>38</b>	<b>48</b>	<b>37</b>

When clusters are compared across general academic area (see Table 14), very different patterns are visible across disciplines. Most striking is the prevalence of social science majors in Cluster 1, especially compared with Cluster 3, a fact heavily influenced by the concentration of Economics majors in Cluster 1. Humanities students are almost exclusively concentrated in Cluster 2, and the only undeclared major falls into Cluster 3. Students in the natural sciences, business, and math/engineering/computer science areas display similar patterns: each area has twice as many students in Cluster 2 and/or Cluster 3 as in Cluster 1. It is beyond the scope of this study to identify reasons for these patterns across academic areas, but this could be a fruitful path for future research.

Table 14 Comparison of Clusters by General Academic Area

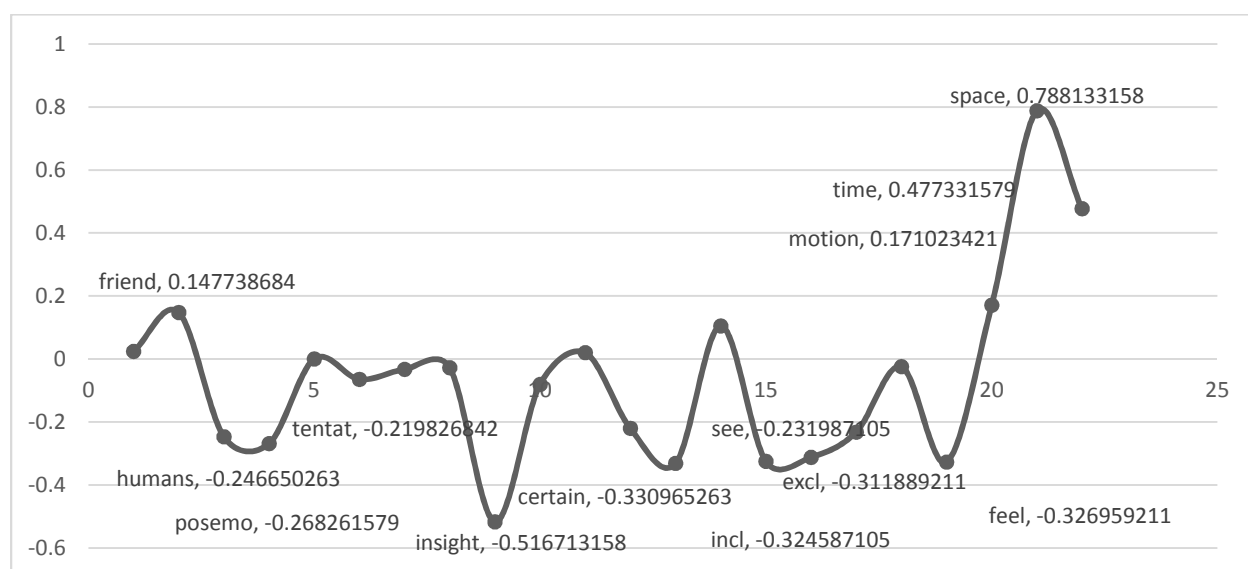
Academic Area	Cluster 1	Cluster 2	Cluster 3
Business and Law	5	8	10
Humanities	0	5	1
Math, Engineering, and Computer Science	5	10	8
Natural Sciences	3	8	8
Social Sciences	25	17	9
Undeclared	0	0	1
Total	38	48	37

#### 4.2.2 Cluster 1: Doing

As shown in Figure 2, Cluster 1 contains four psychosocial categories that have positive loadings higher than .015 and nine categories that load negatively higher than 0.15. The positively loaded features (shown in Table 15) are Space, Time, Motion, and Friend, and the negatively loaded features are Insight, Certainty, Feeling, Inclusivity, Exclusivity, Positive Emotion, Humans, Seeing, and Tentativeness. A sample interview text from a Cluster 1 student is included in Appendix C.



Given the types of words these students favor, and the contexts in which they are used, students in Cluster 1 seem to focus on action and description, making their L2 experience interviews flow like a narrative of events. The particularly high loadings on Space and Time (with words such as *in*, 1192, *when*, 368, *time*, 206, and *then*, 181) often occur in descriptive accounts of the past (“I remember *when* I decided to really be good in English,” “I developed my writing *when* I started prepare the TOEFL test,” “within that period of *time* since 2003, I was gradually studying,” “*then when* I was in my college, *then* we are learning more in reading”), as well as in explanations of study habits (“*when* I found a difficult vocabulary *then* I stopped the movie and tried to write down the words,” “here I put eighty hours per week *in* using English”). The L2 learning experience, for students in Cluster 1, is all about action, activities, classes: what they have done in the past and what they do in the present to improve their English abilities.



**Figure 2. Significant Features of Cluster 1**

This action- and event-oriented experience of language learning seems to include social activities with friends and acquaintances. Within the Friend category, *friend\** (81) is by the far the most frequent lemma, but *roommate\** (12) and *colleague\** (5) also occur several times.

*Friend* was used both in the context of what interviewees do with their friends (“I text to my *friends* in English,” “I have another American *friend*, so when we talk actually I'm learning some new things”) but it was also used to describe things that friends do to learn English (“I rely on English course to improve my English but my *friends* he only watch movies and listen to music to study English,” “I have some *friends* who their parents they paid them one year during the high school to just leave the school during one year and study in America or Australia”).

*Roommate\** and *colleague\** were used in a similar way: “I live in a apartment with three *roommates* and two of them are American,” “one of the best way to learn English I think is to have a native *roommate*,” “I always use online dictionaries, or I ask my *colleagues*.”

Table 15 Positive Psychosocial Features of Cluster 1

<b>Motion</b>	<b>Space</b>	<b>Time</b>	<b>Friend</b>
go* (177)	in (1192)	when (368)	friend* (82)
take* (93)	at (159)	time* (206)	roommate* (12)
come* (77)	on (144)	then (181)	colleague* (5)
change* (33)	high* (112)	year* (130)	
travel* (21)	countr* (94)	now (119)	
put* (19)	up (52)	first (103)	
front (16)	international (42)	start* (100)	
catch* (12)	middle (40)	sometimes (95)	
attend* (11)	little (38)	after (74)	
leave* (11)	point* (33)	back (57)	
step* (10)	where (35)	still (51)	
	out (30)	before (49)	
	world (28)	day (46)	
	levels (23)	new* (45)	
	big* (21)	always (44)	
	around (20)	usually (37)	
	environment (15)	month* (35)	
	outside (15)	begin* (33)	
	over (15)	already (31)	

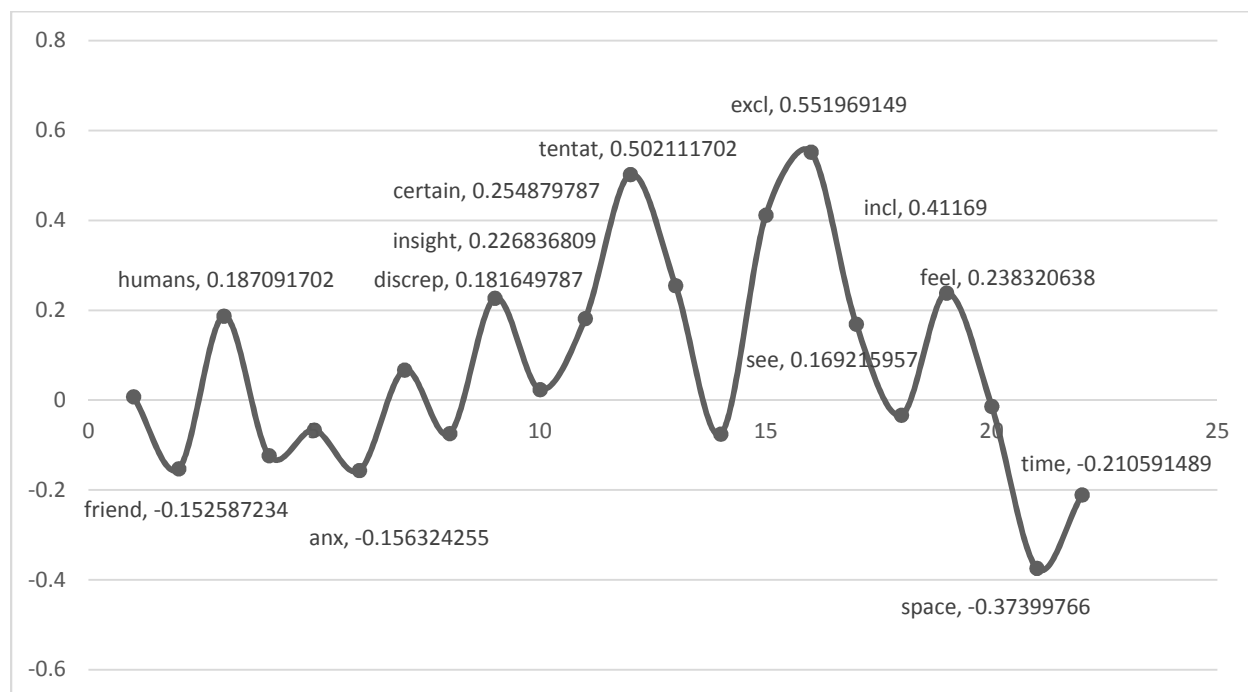
Interestingly, Cluster 1 has many more negative features than positive features. While three of the four positively loaded features (Motion, Space, and Time) come from the Relativity

group and describe time-bound activities, many of the negatively loaded features belong to Cognitive Mechanisms (Insight, Tentativeness, Certainty, Inclusivity, Exclusivity), which is associated with thought processes. This lack of cognitive words suggests that students in Cluster 1 are indeed focused on actions and events related to English learning rather than on thinking about or analyzing it. The perceptual processes Seeing and Feeling (which normally include words such as *see*, *watch*, and *feel*) are also negatively loaded in this cluster, suggesting that Cluster 1 students are more concerned with actually doing things than with observing or translating those activities into internal experience. And while Friends is a positively loaded category, thanks mainly to the word *friend* itself, the more general Humans category (which would include more abstract references to *people*) is negatively loaded. In addition, the negative loading for Positive Emotion indicates that while these students do not display strong negative emotion or anxiety, they also may not view English learning as a positive or enjoyable experience.

#### 4.2.3 Cluster 2: Thinking

Cluster 2, tellingly, is opposite to Cluster 1 in many of its categories, and it loads overwhelmingly positive in one particular group of features: Cognitive Mechanisms. (See Figure 3 for a visual display of loadings and Table 16 for key words used in positively loaded features.) While two cognitive features, Causation and Inhibition, have slightly negative loadings, the six positively loaded cognitive categories (Insight, Discrepancy, Tentativeness, Certainty, Inclusivity, Exclusivity) seem to dominate the L2 learning experience of Cluster 2 students. Two other positive features, See and Feel, are perceptual categories indicative of observation or of the student's internal response to the world. Only one positively loaded category, Humans, relates to

the non-cognitive aspects of language learning. A sample interview text from a Cluster 2 student is included in Appendix C.



**Figure 3. Significant Features of Cluster 2**

Insight, though not the most strongly loaded category, contains some of Cluster 2's most functionally important words. *Learn\** (727), *think\** (576), *know\** (417), and *understand\** (152) all describe the cognitive processes behind L2 learning and are used in many ways by students in this cluster. Students discuss English learning in general terms (“we cannot choose to *learn* English, it’s mandatory,” “it’s very good to *learn* English,” “for me just *learning* English is really tough”) or describe learning methods and approaches (“you’re *learning* grammar by speaking to other people,” “I tried some other ways to *learn* English,” “I’m kind of visual *learning* so I have to write down and see,” “I *learn* English automatically with my major materials”). While *learn\** most often accompanies general preferences, approaches, or beliefs about language learning rather than specific strategies, *know\** is sometimes used with more

detailed descriptions: “if there’s a word I don’t *know* I usually look it up in the dictionary,” “the main problem that I *know* is hard to control is just accent and the intonation of the sentences,” “so when you hear you *know* that sounds bad or that sounds wrong.” In general, however, students using these Insight words tend to focus less on specific activities and more on a broader view of English learning.

Table 16 Positive Psychosocial Features of Cluster 2

<b>Humans</b>	<b>Insight</b>	<b>Discrepancy</b>	<b>Tentativeness</b>	<b>Certainty</b>
people (328)	learn* (727)	if (296)	or (428)	all (183)
person (31)	think* (576)	need* (151)	some (306)	every (76)
girl* (10)	know* (417)	would* (117)	if (296)	always (74)
kid* (14)	feel* (157)	should (57)	lot (287)	everything (65)
child* (9)	understand* (152)	mistake* (45)	maybe (255)	correct* (45)
	memor* (72)	problem* (37)	something (172)	sure (35)
	find* (57)	could* (34)	sometimes (166)	never (32)
	remember* (45)	normal (18)	most* (152)	definitely (21)
	question* (40)	hope* (9)	kind of (139)	everybody (20)
	meaning (30)	must (7)	guess* (71)	confiden* (18)
	realiz* (27)	rather (8)	pretty (52)	perfect* (15)
	idea* (23)		any (42)	totally (13)
	reason* (23)		anything (40)	everyone (11)
	explain* (22)		question* (40)	certain (10)
	knowledge (19)		depend* (39)	
	decide* (18)		usually (34)	
	become* (16)		probably (31)	
	concentrate* (13)		might (25)	
	answer* (12)		possib* (23)	
			almost (24)	
<b>Inclusivity</b>	<b>Exclusivity</b>	<b>Seeing</b>	<b>Feeling</b>	
and (2016)	but (706)	watch* (100)	feel* (157)	
we (426)	just (558)	see* (91)	hard (73)	
with (348)	not (470)	look* (40)	hand (6)	
each (30)	or (428)	beaut* (9)	touch* (6)	
around (24)	really (396)	view* (5)		
out (22)	if (296)	picture* (4)		
into (21)	something (172)			
plus (12)	without (18)			

The word *think*\* is somewhat different from the other major Insight words in that it almost always occurs in the phrase *I think*. Rather than describing mental processes per se, *I think* usually presents the speaker's opinion on a wide range of topics: "I *think* the most important thing is communicating to other people," "I *think* reading and writing is inseparable," "I *think* my study process is not that bad," "I *think* that's the beauty of English," "language I *think* is like a sport, so the more you use it the better." *Think*\* thus provides an interesting connection to the other Cognitive Mechanism categories that are strongly represented in Cluster 2, most of which relate to the speaker's degree of certainty, desires, opinions, and hypothetical subjects.

Tentativeness and Certainty both appear in this cluster, but as we saw above in Dimension 1, these two seemingly opposite categories are actually natural partners. Major words in these categories include *or* (428), *some* (306), *if* (296), *maybe* (255), *all* (183), *sometimes* (166), *most*\* (152), *kind of* (139), and *every* (76). Mainly function words and adverbs, these terms often modify thoughts and opinions about language learning, which are rarely absolute and may need to be hedged or further explained in some way ("that's pretty much how I learned *some* things," "they use very basic languages and sentence structure so it's *kind of* easier," "it's *kind of* nice to discover a culture by using its language," "with vocabulary it's better to do it *maybe* the old-fashioned way"). Although often used alongside thought processes, these words also accompany explanations of approaches or strategies ("I *sometimes* will read *some* English novel," "I was trying to memorize *some* words").

Inclusivity and Exclusivity words serve a similar function, that of hedging, elaborating, or somehow extending descriptions of language learning processes. *And* (2016), *but* (706), *just* (558), *not* (470), *or* (428), *we* (426), *really* (396), and *with* (348), appear in utterances such as "I

think the key factor is the amount of time and effort to use English,” “before it was *just* theory and I didn’t *really* practice English,” “you have time to see what you did wrong *but* it’s hard to improve,” “I tried remembering each with a new word *or* something like that, *just* something to sort of remember everything.”

Discrepancy words, while not as frequent as the other Cognitive Mechanisms categories, add an interesting layer to the opinions, explanations, and analysis in Cluster 2 interviews. As the category name implies, these words relate to hypothetical situations, things that might or could happen but that are at odds with what actually has actually happened: *if* (296), *need\** (151), *would\** (117), *should\** (57), *mistake\** (45), and *problem\** (37). *If* is often used to describe things that need to be done or changed (“*if* I want to survive here I *need* to speak with people,” “*if* I were to relearn English again I *would* really skip that area,” “*if* I don’t want to learn English I will not try hard,” “*if* I keep doing like this, I’ll eventually get better and better”), while *need\** obviously expresses needs related to language learning (“I *need* take some exam in English,” “I *need* to do some grammar thing,” “I *need* time”). *Would\** typically describes what the student would change or would like (“*if* I had an American roommate I think it *would* be better,” “definitely I *would* change my writing pattern,” “I *would* like to do an internship here next year). *Mistake\** and *problem\** are often framed in terms of confession, avoidance, or correction (“I know I make a lot of *mistakes*,” “maybe the main *problem* is that I cannot understand all the words,” “this method will help me to avoid the grammar *mistakes*”). Taken together, these words seem to indicate a tendency to analyze what could be done differently, or what could happen differently, to make the L2 learning experience more closely match the learner’s expectations.

The two perceptual categories of Cluster 2, Seeing and Feeling, contain just a few frequently occurring words (*feel\**, 157, *watch\**, 100, *see\**, 91, *hard*, 73, *look\**, 40). Among these

learners, *feel*\* is often used in a way similar to Discrepancy words, describing a frustration or mismatch between desire and reality: “sometimes I will *feel* embarrassed because I can’t fully express my thoughts,” “it’s not that I *feel* bad, but sometimes I get this *feeling* that I’m kind of limited,” “I *feel* I have a lot to learn,” “using English makes me *feel* like getting in trouble because...I cannot express myself by English very appropriately.” Similarly, *hard* typically refers to difficulties and challenges (“sometimes it’s very *hard* to talk to people in English”). While *watch*\* appears almost exclusively in the context of watching television or movies and *look*\* almost always occurs in the phrase *look it up*, *see*\* relates to the learner’s interaction with the language and its speakers (“by *seeing* what other people do, you kind of absorb what they are doing to start doing the same way,” “I try to converse to native speakers to *see* how they speak,” “I could *see* how the words are put together in the English language”).

The only social category to receive a positive loading in this cluster, Humans, owes its position to one word: *people*. In contrast to the students in Cluster 1, who talked about friends and acquaintances, students in Cluster 2 prefer the more impersonal *people*. This corresponds to the more cognitive and abstract content of their interviews, and *people* is typically used to discuss beliefs or opinions about English learning in general: “many *people* are just shy to say something,” “such *people* can’t come forward and express their views,” “*people* won’t understand what I’m saying,” “there is some *people* who speak very good English with a little accent.” As a result, even the Humans category is connected to an analytical perspective for students in this cluster.

Three of the negatively loaded categories in Cluster 2 (Friend, Space, Time) suggest that these students did not frequently discuss events and social activities as part of their L2 learning experience in the same way that students in Cluster 1 did. The presence of Anxiety as another



strongly negative category indicates that students did not focus much on emotion and that they do not report strong feelings of anxiety toward English learning. . Instead, these students kept their attention on the cognitive and perceptual aspects of the L2 experience, seemingly regarding it as a thinking, analytical process rather than an activity-related or emotional experience.

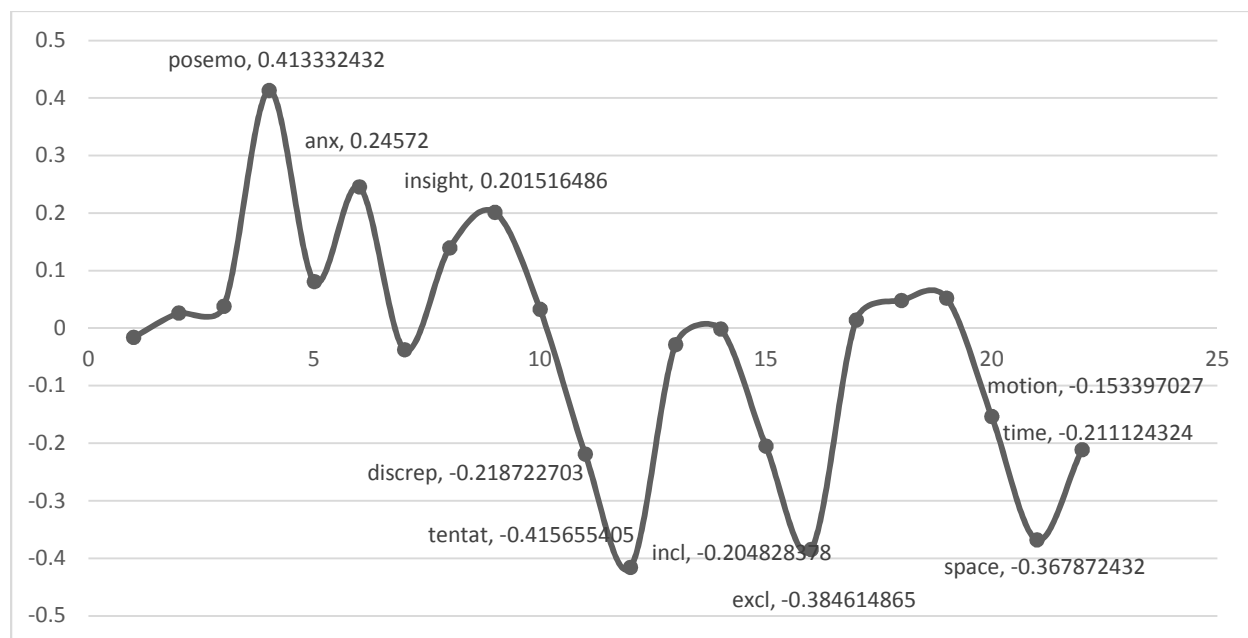
However, the fact that Discrepancy words such as *if*, *need*, *would*, and *mistake* occur frequently in these interviews hints at an underlying dissatisfaction or frustration with English learning, one that is expressed in wistful hypotheticals rather than outright negative emotion.

#### 4.2.4 Cluster 3: Feeling

In contrast to Cluster 1, which highlights action, and Cluster 2, which highlights cognition, two of Cluster 3's three positively loaded features are affective (Positive Emotion, Anxiety, ), with Positive Emotion by far the most strongly loaded (see Figure 4 for significant features). The other significant positive feature, Insight, contains cognitive words related to learning, knowing, and understanding. Negatively loaded categories in this cluster are Discrepancy, Tentativeness, Inclusivity, Exclusivity, Motion, Space, and Time. In other words, apart from the single cognitive category Insight, the action and thinking words that characterized the first two clusters occur infrequently in Cluster 3, while emotion takes center stage in these interviews. A sample interview text from a Cluster 3 student is included in Appendix C.

In the positive emotion category, the most common words are *good* (136), *like\** (135), and *improve\** (133; see Table 17 for frequent words in the positively loaded categories). *Good* is sometimes used to refer to English proficiency or specific English skills (“I think I’m quite *good* at it,” “actually I was pretty *good* at grammar because of my background,” “I do actually get *good* at reading because I build very large vocabulary”) or is used to describe feelings about English speaking (“I feel pretty *good* about my experience,” “I know you understand me that’s a

*good* feeling,” “I’m feeling *good* to use English”). Students also describe a variety of circumstances and beliefs about English learning with *good*: “I think if you want to be *good* at a language you have to keep practicing it,” “music was a *good* way to help us learn,” “this is *good* for you to find a job.” *Like*\* is used both to discuss aspects of English learning that students like (“I *like* languages so I think I *like* English,” “I *like* learning English because I could watch Hollywood movie or drama without subtitles,” “I *like* to learning English because I *like* to talk with people,” “I do *like* writing, I’m writing a blog as well”) as well as things they would like to do (“I would *like* to speak in English on campus,” “I would *like* to be able to talk in a more correct way”). *Improv*\* can refer to past, present, or future improvements: “I think I really really *improved* the first weeks,” “you see you are *improving* and that’s nice to see,” “I try to *improve* my writing skill also,” “reading novels good idea to *improve* my reading skills,” “I’d like to *improve* my intonation.”



**Figure 4.** Significant Features of Cluster 3

While Positive Emotion has many frequently occurring words, the Anxiety category has just a few words in total; where these words occur, therefore, they must be considered significant. Words such as *confus\** (9), *nervous* (9), *shy* (6), and *afraid* (5) mainly describe occasional or temporary negative feelings about English learning: “I get *confused* sometimes,” “many times I feel *confused* about what they are talking about,” “I feel a little *nervous* from time to time especially when I give presentations in English,” “I’m quite a *shy* person so I don’t speak a lot unless I’m forced to,” “in the beginning I’m a little *afraid* of speaking with others.” Interestingly, of *asham\**’s five occurrences, four were produced by one student, meaning that it was quite infrequent among most of the students of Cluster 3.

Table 17 Positive Psychosocial Features of Cluster 3

<b>Positive Emotion</b>	<b>Anxiety</b>	<b>Insight</b>
good (136)	<i>confus*</i> (9)	<i>learn*</i> (493)
like* (135)	<i>nervous</i> (9)	<i>think*</i> (481)
improv* (133)	<i>shy</i> (6)	<i>know*</i> (230)
friend* (82)	<i>afraid</i> (5)	<i>feel*</i> (91)
well (63)	<i>ashamed</i> (5)	<i>understand*</i> (91)
better (60)	<i>uncomfortable</i> (4)	<i>remember*</i> (40)
ok (60)	<i>awkward</i> (3)	<i>find*</i> (38)
important (55)	<i>crazy</i> (3)	<i>memor*</i> (28)
interest* (33)	<i>scar*</i> (3)	<i>mean*</i> (20)
love* (24)	<i>pressur*</i> (2)	<i>explain*</i> (19)
comfort* (23)	<i>stress*</i> (2)	<i>reason*</i> (18)
easy (23)	<i>worried</i> (2)	<i>question*</i> (17)
confiden* (22)	<i>avoid</i> (1)	<i>sense*</i> (13)
helpful (19)	<i>embarrassed</i> (1)	<i>prefer*</i> (12)
sure (19)	<i>fear*</i> (1)	<i>become*</i> (11)
useful (19)	<i>miserable</i> (1)	<i>relat*</i> (11)
best (14)		<i>choose*</i> (9)
helps (13)		<i>idea*</i> (9)
hope* (12)		<i>figur*</i> (7)
enjoy* (12)		<i>believe*</i> (5)

The Insight words of Cluster 3 are quite similar (though proportionally less frequent) to those used by students in Cluster 2: *learn\** (493), *think\** (481), and *know\** (230) are the most common, followed by *feel\** (91) and *understand\** (91). These words are used to describe the general process or experience of language learning, as well as students' opinions about language learning through *I think*: “*I think* we only *learn* about this very very superficial English in middle school,” “I didn't do anything specific to *learn* grammar,” “before I came here I *think learning* English is like agh, it's horrible,” “I love English so much so I can *learn* it by myself,” “*I think* I didn't waste much time in *learning* English.”

Although Cluster 3 students attend to the learning and knowing cognitive processes, they score low in the Cognitive Mechanisms categories that signal hedging, demurring, or dissonance (Discrepancy, Tentativeness, Inclusivity, Exclusivity). This relative lack of Insight features, which were used frequently among Cluster 2 students to elaborate their thoughts or provide alternative explanations, suggests that these students feel less need to explain circumstances or expand on hypothetical situations. Their L2 learning experience is presented as more straightforward, with fewer appearances of *but, just, not, or, if, maybe, need, and kind of* to clarify or expound (or perhaps excuse). Cluster 3 students also score low in the motion, space, and time categories so important in Cluster 1; they dwell instead on their positive feelings toward English and their beliefs about the learning process.

Overall, Cluster 3 is differentiated from the other clusters by its emphasis on affect and insight. It seems quite significant that Positive Emotion occurs together with Anxiety (but *not* Negative Emotion), since these features do not appear at first to be complementary or cooperative. These students may simply focus more on emotion in general than the other students, since neither Cluster 1 nor Cluster 2 students scored strongly on any kind of emotion

(and both scored low on Positive Emotion). Also, the appearance of Sadness and Anxiety words does not necessarily imply negativity, since we saw above that in many cases such words describe specific situations or do not refer to the learner herself. This co-occurrence suggests that Cluster 3 students attend to both positive and negative emotions in the language learning process, but the much greater prevalence of Positive Emotion words points to a generally positive relationship with English learning.

The prominence of affective categories in Cluster 3, paired with an attention to thinking and learning, suggests that these students' L2 learning experience is based on an ability to notice and regulate their emotions related to L2 learning. While other students did not refer much to their emotions at all, Cluster 3 students acknowledged both positive and potentially negative feelings, but on balance were able to maintain an overall positive outlook. They may have the emotional maturity to understand that language learning anxiety can be overcome if it is acknowledged and dealt with, and they seem to be more willing to admit such feelings during the L2 experience interview. This self-awareness and self-regulatory capacity forms a very interesting strand of the L2 learning experience, one that may be quite facilitative in the arduous and emotionally-intensive process of L2 acquisition.

#### 4.2.5 *Summary of successful L2 experience profiles*

Based on the cluster analysis described above, the three profiles of successful L2 learning experience can be summarized as shown in Table 18.

Table 18 Profiles of L2 Learning Experience

L2 experience profile	Represented by	Tends to focus on (Positive z-scores)	Tends not to focus on (Negative z-scores)
Doing	Cluster 1	Doing things, actions, events	Cognitive or perceptual processes, affect
Thinking	Cluster 2	Learning, thinking,	Actions, events, affect

Feeling	Cluster 3	analyzing, discrepancies, conditional situations Liking, anxiety, learning	Discrepancies, conditional situations, actions, events
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### 4.3 Relationship of TOEFL Scores to Psychosocial Categories and L2 Experience Profiles

The third research question addressed whether or not a relationship exists between the clusters (L2 experience profiles) found above and self-reported TOEFL scores, or between the individual psychosocial categories of LIWC and TOEFL performance. (Descriptive statistics for TOEFL scores in this population are provided in Table 19.) To address this question, Pearson Product Moment Correlations were calculated for the 96 TOEFL reported scores in relation to psychosocial categories. A one-way ANOVA and non-parametric Kruskal-Wallis test were also conducted to determine whether group means of the three clusters differed significantly.

Table 19 Descriptive Statistics for TOEFL Scores

	Total Population
Mean	93.802
Standard Deviation	11.118
Standard Error	01.135
Minimum	63.0
Maximum	119.0
N	96.0

#### 4.3.1 Pearson correlations

Due to the exploratory nature of the study, a relatively small effect size threshold of  $r > .2$  was used to determine relationships in the data. While this threshold is below the preferred effect size of  $r > .3$ , which generally indicates a moderate relationship (J. Cohen, 1992), it was felt to provide sufficient indication of a relationship in the present exploratory data. It is important to keep in mind, however, that the discussion and implications of these results are necessarily

tentative and require further investigation. As shown in Table 20, using these criteria, two psychosocial categories in LIWC were also found to correlate significantly with TOEFL scores: Family ( $r = .220$ ,  $r^2 = .048$ ,  $p < .05$ ) and Friend ( $r = -.237$ ,  $r^2 = .056$ ,  $p < .05$ ). This indicates that students who used more words related to Family tended to score higher on the TOEFL, while students who talked about Friends tended to score lower.

Table 20 Correlations of Psychosocial Categories with TOEFL Scores

LIWC Category	Pearson Correlation	Sig. (2-tailed)	N
family	.220*	.031	96
friend	-.237*	.020	96
humans	.069	.502	96
posemo	.195	.057	96
negemo	-.084	.417	96
anxiety	-.071	.490	96
anger	.181	.077	96
sadness	.199	.052	96
insight	.140	.173	96
cause	.050	.630	96
tentative	.138	.179	96
certainty	.138	.181	96
inhibition	.051	.624	96
inclusive	-.018	.860	96
exclusive	.055	.593	96
see	.138	.180	96
hear	-.095	.356	96
feel	.038	.711	96
motion	.123	.231	96
space	-.065	.531	96
time	-.075	.467	96

#### 4.3.2 One-way analysis of variance (ANOVA) and Kruskal-Wallis testing

In order to test whether the mean TOEFL scores of the three clusters differed from one another, group means were compared and a one-way ANOVA was conducted in SPSS. Group means and standard deviations are shown in Table 21. Students in Cluster 1 had the lowest mean TOEFL score (89.310), students in Cluster 3 had the highest mean TOEFL score (96.926), and students in Cluster 2 were between the other two groups (94.950). As described in Section 3 above, information provided by ETS suggests that a composite score of 94 or above is considered Good, and a score of 65 to 93 is Intermediate or Fair. Therefore the average score of students Clusters 2 and 3 was in the Good range, while the average score for students in Cluster 1 was in the Intermediate or Fair range. Results of the ANOVA were statistically significant at the  $p < .05$  level, with  $F(2,93) = 3.865$ ,  $p = .024$ . Detailed results are provided in Table 22.

Table 21 Means and Standard Deviations of TOEFL Score by Cluster

	Cluster 1 (Doing)	Cluster 2 (Thinking)	Cluster 3 (Feeling)
Mean	89.310	94.950	96.926
Standard Deviation	11.383	10.382	10.759
Min	63	71	73
Max	109	117	119
N	29	40	27

However, the Levene's statistic (.017) for the analysis of variance revealed that the assumption of homogeneity of variances was not met for this test. Therefore an independent samples Kruskal-Wallis test was conducted, since this non-parametric test provides more robust results for groups that may not have homogeneous variances. The Kruskal-Wallis test was significant at the  $p < .05$  level, with  $p = .032$ , which confirms that the mean TOEFL score does differ between the clusters.

Table 22 ANOVA Summary Table for Analysis of TOEFL Scores by Cluster



	$\Sigma$ of Squares	Df	Mean Square	F	Sig.
Between groups	901.281	2	450.640	3.865	.024
Within groups	10841.950	93	116.580		
Total	11743.239	95			

To analyze which of the three clusters differed significantly by mean, three parametric post-hoc tests (Tukey, LSD, and Bonferroni) and one non-parametric post-hoc test (Independent Samples Mann-Whitney U) were performed. All three parametric tests indicated statistical differences between Cluster 1 and Cluster 3 ( $p < .05$ ), and the LSD analysis also showed a statistical difference between Cluster 1 and Cluster 2 ( $p < .05$ ). (Differing results among post-hoc tests are the results of slight differences in the statistical calculations used by each test.) The Mann-Whitney U nonparametric test also indicated a statistical difference between Cluster 1 and Cluster 3 scores ( $p = .021$ ) and narrowly missed significance between Clusters 1 and 2 ( $p = .051$ ). It therefore seems quite clear that students in Cluster 3 performed significantly better on the TOEFL than students in Cluster 1, and that Cluster 2 students may also have performed significantly better than Cluster 1 students. The analyses do not support a significant difference in TOEFL performance between students in Clusters 2 and 3.

The effect size for a comparison of the three clusters is negligible,  $\eta^2 = .077$ . However, the effect sizes for a comparison of individual cluster means indicates a medium or small effect. Comparing Clusters 1 and 2 results in an effect size of  $d = .53$  (medium); comparing Clusters 1 and 3 results in an effect size of  $d = .70$  (medium), and comparing Clusters 2 and 3 results in an effect size of  $d = .19$  (small). This suggests, once again, that the primary difference in test performance lies between Clusters 1 and 3.

#### 4.4 Qualitative Observations: Individual and Social Differences Among L2 Learners

In the third research question, a qualitative analysis of L2 experience interviews provided interesting insights into the successful L2 learning experience. Due to the difficulty of directly comparing responses across all 123 participants in a qualitative way, the discussion below is based on larger patterns within the data rather than a coded analysis of every transcript. Even so, several interesting themes emerged that may have a significant bearing on how students experience language learning. (Many of these also appear in the analysis of clusters above, but they warrant closer observation here.)

##### 4.4.1 Family influence

The first notable trend is the tremendous influence of family on the English learning process for some learners. Although some students did not mention family at all in their interviews, 48 of the 123 students (39.0%) used one or more of the words *family*, *parents*, *mother/mom*, *father/dad*, or *relatives*. This is particularly interesting since none of the interview questions asked about family at all, which means that these learners brought up their families in response to other questions. Furthermore, the students who mentioned family words had an average TOEFL score of 97.81, which is significantly higher than the average score (91.42) of students who did not mention family. An independent samples *t*-test revealed that this difference is significant at the  $p = .01$  level ( $t = 2.798$ ,  $p = .006$ ,  $df = 93$ ). The effect of family appears to be independent of cluster, meaning that within each cluster, those who discussed family scored higher than those who did not (see Table 23). Interestingly, the effect is especially pronounced in Cluster 3 students, who show a difference of almost 10 points in average TOEFL score of students who mention family versus those who do not.

Table 23 Average TOEFL Score, Family Mentions vs. No Family Mentions

	All Students	Cluster 1	Cluster 2	Cluster 3
Mentioned family	97.81	91.43	97.28	102.73
Did not mention family	91.42	88.64	93.84	92.94

This is quite an important finding because family factors have been consistently overlooked in the SLA literature, particularly as a direct influence on IDs in adults. Although the importance of family has long been recognized in child or adolescent second language acquisition (e.g., Gardner, 1960; Macintyre, Burns, & Jessome, 2011; Macintyre, Clément, Dörnyei, & Noels, 1998) and heritage language learning (e.g., Kondo-Brown, 2005) family influence has not, to my knowledge, been systematically studied as an immediate factor in the differential success of adult L2 learners. What is especially striking in the present study is that the participants were all adults pursuing higher education (mostly at the graduate level) in a study abroad context quite far removed from their families; and yet the influence of family still seems quite influential on their proficiency levels.

While this phenomenon certainly requires further study, the results of L2 experience interviews suggest that students who talk about their families often do so in the context of support for L2 learning. For example, students reported, “I took English in school but my parents also wanted me to have a tutor,” “my parents are really good examples for people who want to learn a language,” “my father like English very much so sometimes he also taught me some English,” and “actually my mother really played a role.” Many of these students describe traveling to English-speaking countries with their families, seeing their parents as role models for language learning, their parents’ insistence on extra English classes and exercises, or the emphasis their parents placed on studying English. There are few, if any, instances in which a learner describes her or his family as a negative influence on L2 learning; it seems that if

students mention their family at all, it is connected with parental support for English acquisition. On the other hand, the complete absence of family in other learners' descriptions of their learning experience suggests that some families do not provide this type of extra support for their children, or at least not in a way that significantly influences the learner's experience or proficiency level.

Because this pattern reveals only correlation and not causation, it is difficult to determine how and why family influence is connected to higher L2 performance. One possibility is that families that are generally more supportive of education—all types of education, not only English acquisition—may have higher performing children in general, so that the connection is not limited to L2 learning. These families may have more money or cultural capital (Bourdieu, 1980) to provide their children with extra learning opportunities such as international travel and private tutors, or they may simply value education very highly. Another possibility is that some families specifically value English acquisition as an important asset for their children, and they thus cultivate English learning by providing emotional encouragement or extra resources. In families where English is highly valued, for example, children may be more likely to become proficient in English despite limited financial resources. Either way, it seems clear that family factors should be studied as an important influence on L2 learning among adults.

#### *4.4.2 Teaching methods*

A second important theme to emerge from the qualitative analysis of L2 experience interviews is students' distaste for the grammar-translation method of English teaching that is still prevalent around the world. (See Table 24 for a sample of student comments on this subject.)

The majority of students interviewed for this study reported that their English learning experience in middle and high school was filled with pencil-and-paper exercises and limited

authentic communication. This was true for learners within all three clusters and from all parts of the world. Some students suggested that this focus on grammar exercises resulted in part from their teachers' lack of English proficiency, and many also felt that their national education systems were to blame for favoring poor teaching methods or for simply allowing apathetic teaching. Chinese and Korean students frequently complained about the grammar- and test-focused nature of their educational systems. Many students from Europe, Asia, the Middle East, and Latin America felt that their secondary education had not prepared them well for speaking and listening in authentic communicative interactions.

Table 24      Comments on Grammar-Translation Teaching Methods

Participant	Comments
Participant 20 French Cluster 2	That's pretty much all how our classes were, we just had grammar and only grammar. That's why I think we can be ok at grammar but we're really bad at talking. Because we just don't practice a lot, so it was just practice about grammatical things and everything so it could be really boring, but that's how we got our bachelor's, so.
Participant 37 Chinese Cluster 3	I learn grammar because in China the English teacher they teach a lot of grammar. That's how I learn grammar, especially in the high school. I believe the major part of the English exam is about the grammar, about how you write your sentence, your vocabulary, all grammar. It's only about twenty percent about the listening, and there's no speaking test in china in English exam. Yeah all about grammar I think, at least sixty percent in my opinion.
Participant 86 Korean Cluster 2	I saw many problems in Korea, when it comes to learning English. Because we only focus on the reading and grammar, and sometimes listening, but students cannot actually write in English and speak in English... Because many Korean students actually hate learning English, because it's really stressful, and it's not fun, because they always focus, memorize the vocabulary and memorize the grammar rule and those kind of things, that makes students hate English. So but I think, speaking is really important.
Participant 104 Italian Cluster 2	Then I actually started to learn English in my lower high school... And it was kind of strange because actually the professor that taught us English was a French professor and he had to learn English for teaching us English. So you can imagine that it was something very very related to the book and really basic things like what's your name, where are you from, and basic stuff like that. So it was not kind of very expanded or very interesting experience actually. In the high school as well because my

English professor had a dialectal accent from the southern part of Italy so her English was not so good basically.

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#### 4.4.3 *Dynamic nature of L2 learning experience*

This widespread poor opinion of middle- and high-school English classes also points toward another pattern that emerged quite clearly in the interviews: some students reported disliking English or being completely amotivated as teenagers, only to become passionately interested and motivated when they discovered an authentic reason for learning the language. While not every student reported this pattern, it represents a distinct strand of the L2 learning experience. Because their school instruction tended to be grammar-translation, this group of students found English meaningless, pointless, and boring; yet as young adults, many realized that English would help them to study abroad, travel, attend graduate school, or reach career goals, and they became newly devoted to studying or seeking opportunities to practice. Table 25 contains statements from some of these students that capture their changing experience over time. Interestingly, this strand of experience was present in students from all three clusters, suggesting that this fluctuation in experience may be universal rather than based on L2 experience profile.

The transformation of English from a hated subject to an important source of accomplishment for these students reflects the extent to which L2 learning is informed by its relation to the learner's life. In the case of the students cited above, the English language did not change, but the nature of their learning changed (from grammar-translation to authentic communicative purposes) and their reasons for learning changed (from passing exams to reaching life goals). When the language was, so to speak, brought to life for them, they became highly motivated to study and practice it in ways that they had not before. Of course, not every student had such a metamorphosis; some students from all three clusters reported always loving

English or loving L2 learning in general. A sample of comments from these students is provided in Table 26. Even students who have always loved English, however, often described some type of change in their learning when they decided to study abroad or became fully committed to English study.

Table 25      Comments Reflecting Changing L2 Learning Experience over Time

Participant	Comments
Participant 20 French Cluster 2	I used not to like it because it was all very theoretical and everything. But now I'm just learning by speaking with people, it's very interesting, and you learn a lot from them, so pretty much it's very good. It's very good.
Participant 28 Italian Cluster 1	Actually when I was young I totally hated it because it was my parents' choice and I couldn't really find out why it was so important to know English. Then when I enrolled in the university I realized it was the most important language to know, even if it is not the most spoken, it is the most important and probably widely understood. So I actually like it.
Participant 37 Chinese Cluster 3	Actually before I came here I think learning English like agh, it's horrible. Because nobody speak English around me, and we don't write stuff in English, we don't write article in English, so learning English kind of suffering, torturing like that. But after I planned my plan to come here I kind of enjoyed it, because I have to improve...I think I kind of figure out the amazing part of the English. Because I think also my PI think, also he used to be a Chinese and now he's a citizen of here, we discuss this a lot, so we think that the language of English is more precise than Chinese, especially for scientific area. It's like there are specific words, just this words can describe your feeling or your project or what you're doing. But no such kind of very precise English in Chinese... And also people here all speak English so I enjoy speaking English.
Participant 94 Chinese Cluster 1	When I was young I hate English. Because just like said you usually practice for the test. You not really for your regular usage. And when I was a high school student my teachers say the goal for us you have to pass, you have to get point over ninety degree. If you didn't achieve the goal you will be punished. So at that moment I just want to get a goal the teacher gave us. But maybe after when I was twenty two, twenty three years old, I enjoyed traveling so I went to a lot of countries and English is the useful language no matter where you go. And I like to talk and I like to share my experience, my stories with other people, so I like to use English from then. And I think that point to change my attitude to learning English. So I like English right now because I'm here.
Participant 96 Korean	Learning English wasn't really a pleasure for me back in Korea, but while I was studying abroad with foreign student and teachers speaking English, it

Cluster 1	was kind of survival skill to have. So that was big motivation for me to learn English. After that I enjoy watching movie and cartoon in English and that kind of helps me to be motivated in learning English. So I think that's more like exploring culture through the language, that is my motivation.
Participant 121 Chinese Cluster 2	Yeah now I love English. Although sometimes in the past I hate English because there so many exam...when I realized that I can read lots of papers and understand them, so it's amazing process. So now I love English and actually every day I devote about one or two hours for my listening and reading and I enjoy this process.

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This fluctuation in L2 learning experience reveals the extent to which L2 learners are influenced and motivated by their perceptions of the language's importance for their lives. It also confirms, as has been suggested by much previous L2 motivation research, that students' experience is colored by vastly different priorities. While some students love L2 learning in itself, others love the cultural associations or identities connected to speakers of English. Many students discussed the influence of pervasive American media in their lives—such as television shows, movies, and advertisements—as both a motivating factor and a learning aid. The current global cachet of English also seems to be a motivator. According to one French student (Participant 83):

*[Americans] spread your culture in the whole world so we are influenced by it. And that's why we watch a lot of your movies, we listen a lot of your music, because you export it ... Japanese have that too with Hello, Kitty and anime cartoons, but French don't really have it. We don't have that powerful of a soft power. We used to do it, but now is America I think.*

Another student, from Brazil, reports that learning English is easy because it has permeated her culture:

*I don't know maybe because in Brazil or most of the countries we always listen to things in English all the time, everything you see there's advertisements and everything, so you're familiar with the language, it's different, I'm trying to learn German now and it's so hard because it's part of your culture or it's not, where you look you don't see a movie*



*in German. And you're always listening to music in English or listening to tv shows in English, so even if you don't really pay attention you are learning something I think. So it's easy. I think that's why I like it.*

In fact, many students compared learning English to learning other L2s, and in many cases they reported liking one language much more and becoming much more proficient in one of their L2s.

For example, Participant 88, from Italy, says:

Table 26 Comments Reflecting Love of English Learning

Participant	Comments
Participant 13 Indian Cluster 2	I love it. The way you can express things and it is important in everything right now. I mean whatever you want to do, it's like if you know English you can do anything. I mean if you want to learn if you want to read if you want to do anything, English has become a major part of life now. So it's good thing to learn English.
Participant 38 Indonesian Cluster 3	I love English. It's maybe because I love English so much so I can learn it by myself so I don't have to go course. And I think I'm quite good at it. So I love English very much. I don't know why but since the first time I learn English I saw my teacher always very cool, oh he speak English isn't he cool. So that's why I very very interested in learning English.
Participant 41 Italian Cluster 2	I don't know, I just like it, I think it's interesting, it fascinates me. And every time I know a new rule, I'm like why does it make sense, why does it work this way. So I'm really interested and I want to learn more. I think it's a beautiful language, like the accent, I love it, the way it sounds when someone speaks, I just love it. There is no specific reason I guess.
Participant 47 French Cluster 2	I love learning. I will always remember my first classes of English in middle and high school I have an amazing teacher and she really gives me, I don't know how to say it, but I really love English in the beginning. So yeah I love the way people speak English...It has always been a language I love listen and I know how important it is especially in business area, we just can't speak English, there's no way I will find a job if I don't speak English. Even if I speak English it will be hard so I know that we have to know English and be fluent. So yeah I love it and I know it's important so there's two very good reason to speak English.
Participant 100 Turkish Cluster 1	I like learning English. But when I came to the US I realize that the spoken language is very different than what we learned in Turkey. It was a little shocking but I think yeah I'm getting used to live with it.
Participant 114 Ivoirian Cluster 1	Ok I like learning English because it is exciting to learn a new thing, especially a new language. And English, I like learning English because English is said to be an international language, and that is true because two years after learning

	English I got this Fulbright scholarship and I'm studying here in United States. Studying in United States was my dream since I went in university. But my concern was how can I afford to study in United States. And when I learn about this scholarship, that stimulate me, encourage me learning English. So I did it and today I'm here in United States.
Participant 123 Uzbekistani Cluster 2	I do like it because it opens, or it reveals some other qualities in my character because when I speak English I'm not exactly a person who I am when I speak Russian. So I just mentioned this fact to my roommates last night, it kind of makes me more, it enriches my character, my personality. In this way I like learning English.

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*I come from a little town in the north of Italy so I had to study German as a first foreign language because my town is close to a German speaking country. And I remember I started learning English, as soon as my teacher started talking I remember thinking I really like the sound of this language...And then I always keep learning English. Middle school, high school, I took English as my first foreign language, and then Spanish and German, I had to take German. I can't stand German.*

These students remind us that differential success in L2 learning may be more dependent on contextual and external factors in learners' lives than on any immutable internal characteristics such as aptitude or personality. Students have different experiences with each L2, whether because different languages have different statuses for the learner, because their culture or family values different languages differently, or because one language is more useful or appealing for the learner's life. A student who is highly motivated to learn one language may become very proficient in that language while lacking motivation and proficiency in other L2s. Although this differential attainment in multiple L2s seems like an obvious fact, it is too often overlooked in the study of IDs. This confirms Dörnyei's (2005) observation that IDs are not monolithic and stable constructs across time and space; factors such as motivation, affect, self-efficacy, and the other "traditional" IDs can vary over time or by situation for the same learner.

## 5 DISCUSSION

The purpose of this study is to explore a new theoretical and methodological approach to IDs in successful L2 learning, an approach that provides greater coherence among the many competing ID strands and enables researchers to investigate IDs at the level of the whole person rather than as isolated variables. The basis of this methodology is the L2 experience interview, a type of interview that allows learners to explain (in their own words) their experience with language learning. Because interview questions are open-ended, learners are able to discuss any aspect of their experience that is salient or important to them. Their words are then analyzed using a semantic content analysis program, which provides quantitative information about the types of psychosocial words each student uses. Based on semantic use patterns, learners can then be clustered into three groups of students who share similar ways of experiencing L2 learning. Qualitative analysis supplements the quantitative analysis, providing in-depth contextual information about participants' words and enabling observation of overarching trends.

The study addressed three specific research questions. The first question asked whether the 22 psychosocial categories of LIWC could be used to identify clusters of students who share a similar L2 learning experience. Three clusters were identified based on the categories learners used to discuss their experience. Students in Cluster 1 (Doing) focused on actions and events but not cognitive processes or affect; students in Cluster 2 (Thinking) focused on cognitive processes such as thinking, learning, and explaining discrepancies, but not on actions or affect; students in Cluster 3 (Feeling) focused on affect and learning but not actions or discrepancies.

In the second question, several types of analysis were used to assess relationships between students' TOEFL scores, psychosocial categories, and clusters. Significant differences between Clusters 1 and 3 and Clusters 1 and 2 suggest that students' TOEFL performance can be

meaningfully linked to their psychosocial profiles identified by the cluster analysis. This finding is especially interesting given the range of student variables represented in the study and the length of time that elapsed between the test date and interview date.

In the third question, an inductive qualitative analysis identified three salient themes across the interviews that were not apparent in the LIWC analysis. The first theme related to the influence of family on the adult learners in this study: participants who mentioned family scored significantly higher on the TOEFL than participants who did not refer to their families. Second, learners from all parts of the world consistently expressed dislike and frustration of the teaching methods (mostly grammar-translation) used in their middle and high school English classes. Third, the dynamic and fluctuating nature of the L2 learning experience was apparent in the comments of many students. Some learners reported hating English as teenagers but loving it as young adults, while others described a love of English learning that adapted or matured once they moved to the United States. Learners also highlighted having completely different L2 experiences with different languages, as well as differential success with different languages.

The fact that the psychosocial categories of LIWC were successfully used to form coherent, meaningful clusters of students seems to validate the L2 experience methodology as a new way of looking at individual differences among successful language learners. However, it is important to consider what the construct of L2 learning experience is, and how it functions as a holistic picture of IDs. The discussion below will examine these issues in turn. The first section looks at the L2 experience approach as a methodology; the second section discusses its significance as a measure of IDs; the third section analyzes the three experiential profiles as a description of IDs; the fourth section proposes a model of social and individual differences inspired by the findings of this study.

## 5.1 L2 Learning Experience as a Methodology

The L2 experience approach, as applied in this dissertation, is essentially a methodology that is designed to study the construct of L2 learning experience. The methodology consists of four main elements, which are based on existing research techniques from applied linguistics and educational psychology:

- 1) L2 experience interview
- 2) Semantic content analysis
- 3) Quantitative analysis of SCA results
- 4) Qualitative analysis of student comments

While these steps have been applied in a specific way to answer the research questions of the present exploratory study, this is not the only way that the L2 experience approach can be used. I believe that the approach could be adapted to answer a variety of questions related to L2 learning, so that future research could apply these elements in different ways to answer different research questions.

For the most part, the foundational L2 experience interview would not change, since it is important to keep the interview standardized across research contexts. The questions used in this study were carefully developed through several studies and is based on phenomenographic principles which aim to uncover learners' unique perspectives. However, it is possible that different interview questions might produce different results, so it may be beneficial for new questions to be tested before the L2 experience interview protocol is finalized. After these further investigations are concluded, I would suggest that all research conducted from an L2 experience approach use the same, standardized question list in order to allow for comparison across

learners in many different contexts. (In this way, the interview can be used similarly to a questionnaire, which is the same when used by many different researchers.) However,

After L2 experience interviews are conducted in a standardized way, different types of analysis can be applied. Semantic content analysis is an important core feature of the approach, but many types of SCA exist. While the present study used 22 categories of LIWC to detect underlying psychosocial phenomena in the L2 experience interviews, other categories and other SCA programs may provide additional or better information about L2 learning. For example, LIWC offers the option of creating customized dictionaries, so researchers could develop customized L2 categories in order to home in on particular aspects of L2 learning that interest them, or to sharpen the psychosocial focus more specifically to the L2 experience. Analyses done with these more specific categories could complement and enhance the present analysis, which was performed with software from general psychology. Other SCA programs are also available, and others will probably be developed in the future that may better serve the needs of ID researchers. The L2 experience approach is flexible enough to be used with different types of semantic analysis.

Additional quantitative and qualitative analytical techniques could also be applied to the L2 experience interview. The present study used cluster analysis to examine whether students cluster into identifiable groups on the basis of semantic content. However, researchers may have different investigative goals, and the types of analysis used will reflect the research questions of future projects. For example, principal component analysis could be used to identify underlying dimensions of semantic content that are common to many L2 learners, or multiple regression analysis could be used to see which semantic categories are most predictive of L2 performance. Different types of qualitative analyses are also possible and desirable. Researchers could study

the L2 experience interviews of smaller groups of students in order to delve more deeply into understanding the L2 experience, or they could perform thematic coding using software such as Atlas.ti. Student comments can and should be explored more fully using various corpus techniques, discourse analytic techniques, or other types of analysis that are commonly used in applied linguistics and related fields. A further qualitative step that could enhance the L2 experience approach is member checking, or asking some of the participants to review findings and interpretations. This would allow participants to provide feedback on the accuracy of the results, and may perhaps produce new insights into the L2 experience.

In addition, studies of the L2 learning experience could be given a longitudinal element by looking at the evolution of learner experience over time. Given the finding in the present study that L2 experience fluctuates over time, as well as the central role of time in the complexity perspective of L2 learning (Larsen-Freeman & Cameron, 2008a, 2008b), such studies may be very important in further establishing the L2 experience methodology as a viable way of looking at IDs.

Clearly, the exploratory analyses conducted in the present study are just the first step in the journey toward validating the L2 experience approach. The findings are significant and promising, but they will need to be supplemented by further investigation in order to establish true validity and reliability. Many questions remain that are beyond the scope of this dissertation to answer and should certainly be addressed in future research. However, several important issues can be considered here: What does the construct “L2 learning experience” actually mean, and how does it capture IDs (Section 5.2)? How do we know SCA is a valid measure to use with non-native English speakers—are we really measuring L2 experience rather than some other

difference, such as proficiency level (Section 5.3)? What do the L2 experience profiles really tell us about learners (Section 5.4)? Each of these important issues will be examined below.

## **5.2 L2 Learning Experience as a Measure of IDs**

As described in detail in the literature review above, the nature of traditional ID research has resulted in many previous studies that examine one or two isolated ID variables. This is an understandable effort to make sense of the seemingly infinite variation among learners, but it has resulted in a modular view of IDs that attempts to separate different aspects of the learning experience. While this modular view has recently been superseded by a complexity perspective on IDs, researchers have until now lacked the tools needed to study IDs in a holistic, unified way, and many researchers have thus continued to examine traditional ID variables using traditional methods.

One of the primary advantages of the L2 experience profiles introduced in this study is that they offer a composite view of many of the psychosocial variables that past research has attempted to separate: identity, self-confidence, anxiety, cultural and social influences, the role of the family, goals and expectations, motivation, vision, self-regulation, and a wide variety of attitudes and beliefs about the language learning process. These separate constructs are certainly useful in some ways, and they have contributed a significant amount of knowledge about IDs in L2 learning. They will undoubtedly continue to be used by L2 researchers. On the other hand, such isolated variables seem to have limited value in the effort to build a complexity-based view of learners that accounts for IDs as interdependent and dynamic. As many of the student comments reveal, L2 learners do not think in terms of researcher-imposed constructs such as willingness to communicate and self-efficacy. Rather, all of these affective, cognitive, and



motivational factors come together in each learner's experience of language learning, which is based on a unique blend of past, present, and anticipated future life circumstances.

As an illustration, consider the comments of Participant 86 in response to Question 10 (How do you feel when you use English?):

*I'm always nervous to speak English in front of the native English speakers. Because I feel like they kind of judge me, oh that is not correct, you made mistake with your grammar, or they secretly think that in their mind, so I'm kind of afraid of it. So in the past I'm really afraid to talk in English, I mean really afraid. So I can understand what they're saying but I don't really want to talk about it in English. But now I try to talk a lot and I try to overcome those kind of feeling. I mean reading is kind of fun. I mean English, I have two very different feeling at the same time towards English. Sometimes I really hate English, but sometimes I really love English. When I learn something through English I feel very happy and I feel English is really adorable or something. But sometimes really stressful because for native English speakers they can read some assignment and they can write assignment very quickly but I have to go over again and again, I have to think more and process in my mind. So sometimes it's very stressful and I have to think very hard. And just in everyday life when people make conversation, they just make conversation. But for me, I have to really concentrate to understand them, so sometimes it takes my energy away.*

If this student were involved in a study in which she was asked to select answers on a questionnaire, what would the results tell us about the complexities of her self-efficacy, her emotional investment in English, or her multi-faceted identity as a non-native English speaker? If a researcher attempted to reduce her complex response into isolated IDs such as motivation or self-concept, the richness of her experience would be lost. In contrast, the L2 experience interview captures this student's very honest emotional response in which she describes anxiety, confidence, resilience, enjoyment, stress, pride, learning strategies, and descriptions of her thoughts as she interacts with English speakers. The semantic content analysis performed by

LIWC picks up on the cognitive, affective, and social aspects of her experience. Therefore one of the major strengths of the L2 experience approach is its inclusivity of many traditionally isolated ID variables, all in one construct (L2 experience).

In this regard, the experiential approach accomplishes many of the goals sought by ID researchers looking for a method of representing IDs holistically as a complex, dynamic system. As discussed in the literature review above, the only complete methodology that has so far been proposed as a solution is Dörnyei's (2014) Retrodictive Qualitative Modeling (RQM) approach, which has been used by his students to identify salient learner typologies in the L2 classroom. RQM is based on the idea that although dynamic systems may be quite complex, they self-organize in ways that can be identified and meaningfully studied by researchers. This tendency for systems (in this case, learners) to form "attractor conglomerates" and "typical dynamic outcome patterns" enables researchers to identify "a few well-recognisable outcomes or behavioural patterns (e.g. crystallized types, skills, schemas or achievement configurations)" (Dörnyei, 2014, pp. 84-85). Dörnyei (2014, pp. 86-88) suggests three steps to this type of research: Step 1, identifying salient student types in the classroom; Step 2, identifying students who are typical of the established prototypes and conducting interviews with them; and Step 3, identifying the most salient system components and the signature dynamics of each system. Although examples of signature dynamics are not provided, the ultimate goal of this research seems to be identifying patterns in student behavior and explaining how each student developed into his or her typology.

The L2 experience approach has many of the same goals as RQM but uses methodology that could be replicated in a standard way by different researchers. According to Dörnyei (2014), "the essence of the proposed RQM approach is that we CAN understand salient patterns – or

essential underlying mechanisms – associated with typical system outcomes” (p. 89), and to do this RQM relies on traditional qualitative research techniques such as classroom observation, focus groups, and in-depth interviews with students and teachers. Although researchers focus on building profiles, it is not clear how the analysis is conducted, how profiles are determined, or how signature dynamics can be traced. Additionally, RQM maintains the researcher-centric orientation of traditional ID research in that profiles are developed by researchers according to their externalized views of each student. In contrast, the L2 experience methodology identifies profiles by letting students’ words speak for themselves. Rather than developing typologies based on researcher-imposed constructs, this approach allows profiles to emerge directly from the data. The L2 experience methodology is also much more feasible for widespread use and replication studies across many contexts, since it provides numerical data that could in the future be consistently interpreted across a variety of settings. It therefore seems that the methodology used in the present study achieves many of the desired outcomes of complexity-inspired ID research, but in a way that is both reliable and practical.

A further benefit of the L2 experience methodology is that it binds learner and context in one construct rather than separating the two, as has traditionally been done in second language studies. One of the primary criticisms of SLA research in general, and ID research in particular, is that researchers often focus on one or two variables and ignore the importance of the learning context in the L2 acquisition process (Atkinson, 2011; Firth & Wagner, 1997). This is certainly true of questionnaire-based ID studies, which focus on a narrowly defined aspect of L2 learning, and it continues to dominate the traditional modular view of ID as isolated variables. However, the complexity perspective espoused by Larsen-Freeman and Dörnyei has tried to correct this imbalance by emphasizing the primacy of context:

Context includes the physical, social, cognitive, and cultural, and is not separable from the system. Context cannot, for example, be seen as a frame surrounding the system that is needed to interpret its behavior (Goffman, 1974). The connection between system and context is shown by making contextual factors parameters or dimensions of the system. (Larsen-Freeman & Cameron, 2008, p. 204)

Clearly, any approach that hopes to capture the full picture of L2 learning must consider the learning environment as a core feature, not as an afterthought or separate variable. The L2 experience perspective does precisely this, by picking up on what learners themselves notice and discuss about their learning context. Learners usually do not distinguish between “agent” and “environment” when reflecting on their L2 experience, but in their experience interviews learners often talk about themselves in relation to their learning context. Consider, for example, the following opening statement by a student from Uzbekistan:

*My experience started many years ago when I went to school, and it was a little bit frustrating from the very beginning because nobody in my family knew English, my mom and dad studied German. And I was the first one in my family and among my neighbors who started to learn language. And because we had no English speakers around and we used old Soviet books with old techniques based on grammar, I had great difficulty learning it. And our teachers of English constantly changed. But you know what happened when I was about ten years old, our relatives from the United States came, they came for a day but that made me such a great impression that I made my mind to study English and to be an interpreter in the future. So I just used every chance to study English.*

While the personal qualities of this student stand out in this excerpt, we also learn a great deal about the learning context in which she grew up, as well as her reactions to this context. This ability to capture not just context in an objective sense (i.e., type of school attended, teaching methods used, family environment, etc.), but more importantly, to capture the *student's perspective* on the context, is one of the major strengths of the experiential approach. Because external experiences in themselves may not be significant until they are translated into internal reality (Polkinghorne, 2005), the most important contextual features might be those that students have incorporated into their L2 experience narratives and are willing to talk about. This illustrates the importance of taking a phenomenographic approach in considering how students learn their L2, and it also conforms to the basic tenets of complexity theory by considering context as a “parameter” or “dimension” (Larsen-Freeman & Cameron, 2008, p. 204) at the heart of the L2 learning experience.

### **5.3 SCA as an Analytical Tool with NNSs**

Whenever a methodology is adapted from one discipline into another, questions arise as to whether it is appropriate to use with a new study population or for new purposes. In the present study, tried-and-true techniques from fields outside of SLA are being applied to L2 learners and non-native English speakers. This adoption of tools and methodologies from psychology into applied linguistics has many precedents, as described in the literature review above. Many, if not most, of the research methods and instruments used in SLA today were first used in psychology, first language acquisition, or education (Dörnyei & Ushioda, 2011), and applied linguists continue to look to neighboring disciplines for inspiration, guidance, and cutting-edge techniques. ID research, in particular, has a long history of appropriating questionnaires and analytical techniques from psychology to use with L2 learners. While there

are inherent dangers in adopting techniques piloted with one population (American English speakers) for use with another population (non-native English speakers), it is an important source of progress for our field. On the other hand, until a new methodology has been validated with L2 learners, caution must be used in interpreting results and making claims. The results of early studies such as this one are exploratory, even if they offer promise for future research.

In this dissertation, it is important to consider whether the use of semantic content analysis is a valid methodology to use with NNSs. After all, semantic usage was the basis for clustering students into three profiles, and we have seen that the profiles corresponded to significant differences in TOEFL scores. What if the psychosocial categories of LIWC did not pick up on psychosocial differences but instead measured linguistic ability? Could it be that lower-proficiency students talk about external or biographical events because it is simpler to talk about biographical subjects than about abstract or emotional topics? This is one possible explanation for why Cluster 1 students, who focused on Friends, Time, Motion, and Space, scored much lower on the TOEFL than Cluster 2 and 3 students. This question cannot be definitively answered by the present study, which was not designed to test this possibility. Future studies will be needed to resolve this question (and below I offer suggestions for how this can be done). However, I do believe that the L2 experience methodology captures IDs and that the significant differences in proficiency level are a result of these IDs. Several considerations provide grounds for cautious optimism in this interpretation.

First, the broad findings of this project are consistent with what I expected to find based on existing literature and research practices in other fields. Previous phenomenographic research in many fields has indicated that experiential differences exist and that they can be detected through interviews such as those used in the present study (Marton & Booth, 1997). As described

in the literature review above, the L2 experience interview was derived from phenomenography, which was developed in educational psychology in the late 1970s (Marton & Säljö, 1976) and continues to be widely used (Case & Light, 2011). One of the basic principles of phenomenography is the idea that in any learning situation, people will conceptualize the learning situation differently, but that there is a basic range of common experiences that can be identified through research (Åkerlind, 2005). (As noted above, this is also an assumption of recent work by complexity theory advocates in SLA; Dörnyei, 2014; Larsen-Freeman, 2012.) By asking learners to reflect on and describe their learning experience, researchers can detect and categorize the basic distinctions in their experiences. Through phenomenography, educational psychologists have identified categories of experience in many areas of learning and in learning contexts all over the world, including Scandinavia (Booth & Anderberg, 2005), Australia (Åkerlind et al., 2010), and Hong Kong (Marton & Tsui, 2004).

While phenomenographers do not consider themselves ID researchers—probably due to the notorious lack of cooperation between researchers in different fields and subfields—the fact that they consistently find systematic differences in the ways that learners experience the learning situation suggests that this technique picks up on the high-level ID construct that is referred to as learning experience in the present study. Furthermore, the breadth of research in this area indicates that this variation in learning experience occurs in many cultures, in many types of educational settings. The few existing phenomenographic studies of L2 learners (conducted with students in their native languages) describe similar results for L2 learning. Benson and Lor (1999) found systematic differences in the conceptions, beliefs, and approach to L2 learning of 16-year-old high school students in Hong Kong, and Polat (2012) identified experiential differences among adult university learners in the United States.

Based on this well-established phenomenographic principle that there is a finite and identifiable range of experiences in any learning situation, the present study tested an alternative analytical technique in order to make this type of research practical for large scale research. In this dissertation I preserved the research approach that elicits students' reflections of their learning experience and aims to achieve an understanding of the learner's own perspective on L2 learning. But instead of relying on qualitative interpretation to determine learner profiles (or categories of experience, as they are called in phenomenographic research), I used SCA to provide the basis for further quantitative and qualitative evaluation. This new type of analysis produced the expected outcome—three distinct experiential profiles of L2 learning—but through a different route. It would be strange to believe that this outcome, which is similar to the findings of many previous phenomenographic studies, was achieved in this study simply as an artifact of L2 proficiency.

In addition, the pilot study in which I applied LIWC to L2 experience interviews with native English speakers showed that LIWC categories strongly correlated with, and even predicted, L2 performance. Although I did not perform a cluster analysis in that study (due to the smaller number of participants), a multiple regression analysis showed that high-performing students tended to use certain kinds of words to describe their experience, while low-performing students used different words. Regressions using conservative modeling techniques showed that LIWC accounted for 32% of the variance in students' spoken fluency, 54% in written fluency, 59% in spoken complexity, and 30% in written complexity. In this initial study, I selected different LIWC categories from the psychosocial categories used in this dissertation project, but two of the categories were the same. In both the NS study and the present study with NNSs, Family was correlated with high performance and Friend was correlated with low performance.



The fact that the L2 experience methodology was such a powerful predictor of L2 performance with native English speakers provides convincing support that it can also be used with non-native English speakers. It seems unlikely that such a strong effect among NSs would be completely replaced by a proficiency effect among advanced, university-level NNSs.

Another point that supports the validity of experience interviews in measuring experience rather than proficiency level is the fact that Cluster 1 students talked just as much (and in some cases more) than students in Clusters 2 and 3. If Cluster 1 learners had been constrained by their proficiency level to only discuss a few topics, we would expect them to produce less output than the other students. This is not the case at all. Instead, as Table 27 shows, interview length for Cluster 1 learners is very close to that of Cluster 2 learners and exceeds that of Cluster 3 learners. Students in both Cluster 1 and Cluster 2 tended to talk more than students in Cluster 3, and Cluster 1 students had the highest median interview length as well as the highest maximum length. A one-way ANOVA (performed because the Levene's statistic was greater than .05 for the complete data set) revealed no significant differences in interview length between groups, with  $F(2,120) = 1.344, p = .265$ . (See Table 28 for details of the ANOVA.) This suggests that Cluster 1 students were not limited by English proficiency in their conversations, at least in how much they were able to say.

Table 27 Interview Length by Cluster

	Cluster 1	Cluster 2	Cluster 3
Mean	1204.55	1210.21	1022.43
Median	1045.50	1028.5	913
Max	3334	2486	2673
Min	379	466	476
N	38	48	37

It is also important to keep in mind that the basis of this analysis is word categories, not factors traditionally associated with proficiency level such as syntactic complexity or word sophistication. The only information LIWC provides, and on which the cluster analysis was based, is the percentage of each interview text that falls into each category. In this form of analysis, a frequent and easily learned words such as *happy* carries the same weight in the Positive Emotion category as less frequent words such as *delightful* or *magnificent*. This means that a learner who focuses on affect in her L2 experience interview can do so with few or many words at her disposal. For example, a learner who says “Sometimes I so sad” would have the same effect in LIWC as another learner who says “Some days I am filled with despair.” Whether a person chooses *sad* or *miserable*, or even *melancholy*, *agony*, or *sorrow*, the semantic content related to sadness is recorded in the same way.

Table 28 ANOVA Summary Table for Interview Length by Cluster

	$\Sigma$ of Squares	Df	Mean Square	F	Sig.
Between groups	888728.534	2	444364.267	1.344	.265
Within groups	39665374.392	120	330544.787		
Total	40554102.927	122			

Consideration of interview text samples serves to illustrate this point. The following two excerpts are very comparable because they come from two older male participants, both in their 40s. Participant 80 is Turkish and Participant 125 is Korean. However, there are noticeable differences in the sophistication of their language as they respond to the same questions. Below are these participants’ responses to questions 9 (Do you feel that most other people learn English in the same way that you do, or in a different way?) and 11 (Is there anything you want to change about your English learning experience?).

## Participant 80, Cluster 1

*I don't think so. I mean first of all they don't enjoy it I think. If they enjoyed it they would be doing it in a very fun way. I think you have to consider it like a pastime activity rather than a responsibility, which is what the majority of people learning English are doing. That is a mistake but I mean I can't blame them, because you either like something or you don't. But if somebody has made it their major in university, they have to learn to like it. So that's what I'm trying to pass on to my learners in university, I say you have to enjoy it. When you teach you have to enjoy teaching. If you don't enjoy teaching, enjoy speaking in English, when you enjoy speaking in English you will be enjoying teaching and your learners will be enjoying the same time with you as well. It must be fun, I mean otherwise you have a whole career ahead of you like twenty thirty years now. I mean can you imagine doing it for the next thirty years. So just try to I mean make the best of it. Look on the fun side of it, I mean don't just teach grammar. Grammar is fun as well. Give them games, songs, watch movies together, have discussions, I mean correspond through English like I'm doing through facebook. Just use it. They have to use it, I mean they have to learn to like it. And it helps.*

*I wish I had had the chance of practicing my English, when I started learning it for the first time. I mean for like six years I had no chance of practicing it. No chance of using or hearing English outside classes. 'Cause at that time even the tv channels would not air English speaking movies. We didn't have the internet, we didn't have dvds, there wasn't a library full of English books where I lived, so I had to wait until university. That's one thing, how can I put it, I mean they speed up, I had access to British and American libraries, I had access to tourists, I had instructors speaking English outside classes. So I wish I had had all these facilities back then. I wish somebody had asked me to keep journals back then. I wish I had been able to go abroad for a weekend. Because that's what Europeans have, they're very lucky. When I was in England I always came across groups of German, Italian, Spanish, Portuguese, Swiss students visiting London with their teachers. I said wow, I mean they're here, their teachers don't have to persuade these people to speak English because they can actually feel it, I mean it's here. So if you learn to speak a language you will have an opportunity to do it. I think that's the biggest problem, that was a problem back then in Turkey, it's still a big problem now.*

*'cause most students don't really need to speak English until they start work or go to a university where English is taken seriously or it is the medium of instruction completely or for some specific courses. So yeah I wish I had a reason to use English then. That's what I would change.*

Participant 125, Cluster 3

*Different way. I want to know different way, I think my way is wrong. It's not a benefit for me. Sometimes I ask the American people how can I improve my English skill. They said you meet someone, you use every time.*

*Yes. Have brave is important. I'm still shy. Just speaking is better way, I have to speak English more and more. I said I meet someone who speak English, I have to meet.*

Participant 80 has been identified by the cluster analysis as a Cluster 1 student, but he is clearly more fluent and more at ease expressing his thoughts than the Cluster 3 student.

Participant 125 struggles to find the right words (a fact made very clear by listening to his interview transcript), but he still manages to express the emotions connected with Cluster 3. Similar differences are also noticeable among more “typical” younger participants, such as Participant 3 (who is Chinese, Cluster 2) and Participant 19 (Indian, Cluster 1).

Participant 19, Cluster 1

*No. I don't think so, very less people I think actually go through this kind of extensive process, but I did it just for three four months, or six months I think, just so I get into the groove, I have to learn the English language more and more words so it becomes a learning process. So what happened was after the six months now I do it often. If I read some newspaper I actually think of those words and just write them down. So now that is helping me actually I find that now it is more help, but I don't think most people actually do that. I think most people actually learn sometimes actually out of necessity, I think so. Just maybe they read and they have to read something and they have to understand it and then they go and look up those words. But if they're actually reading a newspaper and they don't actually understand a word I don't think they go and make note of it and actually meaning right away. But I think most people actually learn vocabulary by*

*talking to each other and if they don't understand they ask what do you mean. I think most people actually do that, I don't know, that's what I think.*

*Yes actually there's a lot. I mean maybe pick up more on grammar, alphabet, I mean going back I would have maybe have paid more attention to grammar, not just learning new word, or maybe write a lot. I'm one person who believes constant writing actually improves your English, not only your thinking but also your English. Maybe I should have written a lot, maybe I should have read a lot more, of course I read a lot of novels and maybe I should have paid more attention to what I was actually reading, the kind of English which was actually there and how people write in different, and now when I write it's all mixed up, some of it goes in past tense and some is coming in present, and some would, may, might, this that, it's a mess, a whole lot of mess until I go back and read. So seeing all this I actually think maybe I should have paid more attention to my grammar, or maybe learned more regarding English. What to say, maybe should have continued that toastmaster club, maybe improve mostly speaking, ok. Maybe writing I could do it over time even now, maybe utilize one hour every day to sit and write anything, just anything so that I keep improving. But speaking actually I need to do it more often, speak to people, speak to a group of people, maybe I should have done it when I had a chance. Now I definitely get it but now it's more like it's academic program, but maybe just speaking on any topic. I used to do it in school, participate in this Just a Minute, there's a program called Just a Minute where they give you a topic and you need to think about it for a minute and just go and speak about it. All those actually help me. I felt after that I should have continued participating in such exercises, participating in clubs, going to some literary clubs, and maybe my English would have been much much better, that's what I feel. And now what I want to do, is yes, read a lot, that's the only thing I can do, not only my academic textbooks not only my magazines, not only that, but read much more so that, at least in two three years, once I will be staying here in the U.S., at least maybe stop being surrounded by everyone who is speaking good English. And maybe by two years I've actually reduced the gap, by speaking to them and listening to them and learning how things are done how things are spoken, how they write, it's a constant learning process, I want to do it, I always have. I should.*

Participant 3, Cluster 2

*Maybe they have learn the other way. But I think if you memory the English word sometimes you need to spend time to memory the word for not the speaking English people. So maybe everyone have their tip to learn how to memory the word.*

*I want to change is my speaking. I think you have to learn how to speak, you need to know the listening. Is also need to strength and helpful you can speak well.*

In all of these instances, the Cluster 1 learners are more voluble and seem to be more at ease describing their experiences than the Cluster 2 and 3 learners. They help to demonstrate that the cluster analysis, based on LIWC categories, is not picking up proficiency differences among these students, but rather on the psychosocial focus of their interviews. Reading the entire interview transcripts of all 123 students provides a sense that almost all of the students were capable of expressing their thoughts about L2 learning. Many students, outside of the recorded interview, also expressed their desire to help other English learners by participating in the interview and their satisfaction in being able to participate in a project that could potentially help future learners. This suggests that most of them took the interviews seriously and offered their best answers in the interviews.

Even though I believe the reasons presented above constitute reasonable grounds for seeing the three clusters as derived from differences in experience rather than differences in proficiency, this can be empirically tested in future studies. One way this can be done is to replicate the study in learners' native languages. The same study could be done with native English speakers learning a L2, but it could also be done using the foreign language versions of LIWC. If similar outcomes are found, we can conclude with greater certainty that the methodology used in this dissertation is a valid measure of IDs. Until these studies are

performed, we can interpret the data with caution, allowing that the weight of evidence suggests reasonable confidence in the results.

#### **5.4 L2 Experience Profiles as a Description of IDs**

In keeping with the basic goal of this study to identify “higher level amalgams” of IDs (Dörnyei, 2009), the three experiential profiles describe differences in the ways that successful learners approach L2 learning. All three profiles relate to the same experience, but they identify three different ways of perceiving that experience: (1) as concrete actions and events; (2) as cognitive processes to be analyzed and explained; (3) or as a cognitive process that involves a great deal of emotional regulation. These findings result from an analysis of the words students use in L2 experience interviews and are based on pre-defined psychosocial categories applied during a software analysis. But what do the L2 experience profiles actually tell us about IDs in language learning, and how do they help explain differential performance between groups of students?

First, we see a basic distinction in the level of abstraction with which students describe the learning process. Students in Cluster 1 are focused on concrete events which can be narrated more or less chronologically, while students in Clusters 2 and 3 tend to focus less on events and more on their internalized responses to events. This distinction has been described by phenomenographers as a deep level versus surface level approach to learning, where surface level learners tend to focus on what is immediately evident in a learning situation, and deep level learners search for meaning in the situation (Entwistle & McCune, 2004). Surface level learners accept ideas or information passively, without thoroughly reflecting on its relevance to the learning situation; deep level learners are more likely to relate new material to previous knowledge and experience, with the intention of understanding the situation for themselves

(Benson & Lor, 1999). This difference has been found in many types of learning situations (Marton & Booth, 1997) and has been explored in the L2 learning context by Benson and Lor (1999) and Polat (2012).

As an illustration, compare the following excerpts from a Cluster 1 student (representing a surface level approach) and a Cluster 2 student (representing a deep level approach). Both students are responding to Question 1 (Tell me about your experience learning English).

Participant 7, Cluster 1

*Ok so, I started learning English in it's a school before the high school, and you have to stay four years in this school. And at the beginning so when you are eleven years old, you can choose if you want to study two foreign language or just one. And from six year old to eleven year old I study German, because I live in front of Germany on the border with Germany. And when I arrived in this new school I chose to study two foreign language so I selected English, too, so it will be my second foreign language. And so during the four year we had, it was two hour per week to study English. And then after that you go in the high school, you have three years, and you study, yeah, at this moment it begins to be mandatory to study two foreign language, so I continue with German and English. And so until the A-level this was the main way to learn English, it was two hour per week. So at the end of the high school you are eighteen but really you don't learn a lot during these seven years in English. I didn't really learn a lot of things because students are not so motivated, they don't want to study these sort of things. And also the way to learn is not very interesting. You study a lot of grammatical things, and there is no motivation. But when I was sixteen we made a little two weeks trip in England and Ireland, and this was very interesting. It was the first time I had contact with English speaking people and in a English speaking country, so this was very interesting. That was the moment when I realized that learning English is important. Because when you just live in France and a bit in Germany you don't need English. I mean there is no one will speak with you in English and in my high school we didn't have a foreign student or something like that. We were just between French people so we didn't really need to speak other language. But when you arrive in the high school you begin also to watch movies and series in*



*original version, so in English because mainly series and movies they come from the United States so, it begins to be more, it's more trendy to watch the series in English and not in French, and you want to learn some catch phrase, so this is, yeah in the high school you begin to realize that it's important to learn a foreign language. And after the high school I went to a prep school to, it's a sort of preparation to a concourse to go to business school, and this is more selective to go in these classes, so this is the moment when I really learn something English. We had very interesting teachers, they show us a lot of videos, a lot of speech, we learn vocabulary in business and also in political field. So it was more interesting. And after since I'm in the business school you really understand that English is very important because when you want to apply for a job, especially in finance they always ask you if at least you can make a sentence, you can write something in English. You don't really know to be a native speaker or a very well speaker but just to understand and if sometimes you have to go abroad for something that you can be able to discuss with people. So I would say at the beginning I learned English because it was mandatory for the school, after because it was interesting with the friends, and after because it's mandatory for the job. So yes this is the way I learn English.*

#### Participant 2, Cluster 2

*I study English start from ten year old when I was a girl, that's what most of the children in Taiwan, they go to the English school or something. And at first it's just for fun, because the teacher was playing games or something, it's funny and it's interesting. But when we go to the middle school or high school and the level is higher and higher, but I think in Taiwan the short part of English learning in Taiwan is that we are good at reading and writing, but actually we are not good at speaking and listening. So when I first come here it's a little hard for me to speak, I really nervous and feel embarrassed to speak English to others...especially the teenager, they speak so fast, and I cannot follow them so I just always pretending I understand but actually I don't understand. So yeah, but it's still, I think it's interesting the process to learning how to follow others speaking, so yeah I think it's interesting, to learn English.*

Both responses are fairly elaborate, but there are clear differences in the level of abstraction that each learner brings to the reflection. The Cluster 1 student describes his experiences as if telling

a story, with straightforward descriptions of what occurred, when, and why (using the Space, Time, and Motion words characteristic of Cluster 1). He describes events as “interesting” and explains when he realized that English was important, which does show some evaluation of these external situations, but for the most part he focuses on providing an exact account of events. The Cluster 2 student, in contrast, leaves out many of the concrete details of her experience, instead describing her own reactions and looking for abstract meaning behind the concrete events. Her account includes not only external events, but emotional reactions (*I really nervous and I feel embarrassed to speak English to others*), analysis based on learned information (*especially the teenager, they speak so fast*), and acknowledgement of the cognitive processes underlying L2 learning (*I think it's interesting the process to learning how to follow others speaking*). She uses the Cognitive Mechanism words so common in Cluster 2 interviews. Her experience comes across as not just an accumulation of events, but as a unified process that she thinks about and participates in.

Compare these responses to the following response from a Cluster 3 student:

Participant 68, Cluster 3

*It's particular because I don't have any class for learning English here. So I think it's all about my experience with the other and my interaction with the exterior, there is no really official English class. So it's difficult for me because I can work from my cassette and try to learn by myself on the other side. So I don't know I think I really really improved the first weeks. And after that I don't know maybe it stopped during a few months and it was the same level, I don't know. And yeah but that's cool, it's better than our classes in France. Because I think it's the worst country to learn English, it's horrible. So to be in a English country it helps a lot. So I think I improved.*

Even though this participant is answering the same question as the two participants above (Tell me about your experience learning English), his response is so abstract that it is difficult to tell

what question he is responding to. He provides very few straightforward biographical details, instead focusing almost exclusively on his impressions and evaluations of his time as an exchange student. Interestingly, he begins his discussion not with information about learning English in his home country, but with his sojourn in the United States. And despite his assertion that “it’s all about my experience with the other and the interaction with the exterior,” he discusses primarily his internalized reactions and interpretations of what has happened. This Cluster 3 response is very revealing of how Feeling students seem to internalize events.

The distinction in basic approach to L2 learning, although somewhat simplistic, is worth examining because in this study it corresponds to significant differences in TOEFL score. Cluster 1 students, who display a surface level approach to the L2 experience, generally score lower than do the Cluster 2 and 3 students who share a deep level approach to learning. Although this phenomenon has not yet been investigated in SLA research, the connections to L2 learning seem clear. Students who see learning primarily as a series of events external to themselves could be, in a manner of speaking, skimming the surface of the learning experience. They may not engage deeply with the content of language learning, which in turn may not lead to as effective L2 acquisition. Students who approach the process at a deeper level are likely to experience learning as an internal rather than external process, one which they have more control over and take responsibility for. By engaging more meaningfully with the content and mental processes involved in L2 learning, deep level learners may be more successful at mastering the complexities of a second language.

Learning approach is almost certainly related to metacognition, which, properly understood, is far more than simply “thinking about thinking” (Wang, Spencer, & Xing, 2009, p. 47). Although metacognition has (understandably) been seen in most SLA research as an

exclusively cognitive process examined in terms of metacognitive knowledge and strategies, it may be better understood as “anything psychological, rather than just anything cognitive” (Flavell, 1987, p. 21). After proposing the original model on which most SLA metacognition research is still based, Flavell (1987) expanded his idea of metacognitive phenomena to include “executive processes; formal operations; consciousness; social cognition; self-efficacy; self-regulation; reflective self-awareness; and the concept of psychological self or psychological subject” (p. 25). This inclusive list of psychosocial elements seems designed, like the L2 experience approach in the present study, to capture a broad swath of human mental experience rather than only the narrow band that might be considered cognitive. There is no doubt that cognition is an essential element of the L2 learning process, but purely cognitive accounts fail to capture some of the most important and meaningful aspects of the learning experience. Therefore any discussion of metacognition should also include “meta-affect,” which is defined as “awareness and control of affect” (Bown & White, 2010b, p. 434). In other words, metacognition is not just about thinking but comprises affect and any psychosocial elements that contribute to the mental processes underlying L2 learning.

According to this expanded conceptualization of metacognition, the semantic content analysis provided by LIWC reveals patterns of metacognition by indicating which aspects of the L2 learning process students focus on most in L2 experience interviews. Because people talk about what is important to them or what they pay attention to (Tausczik & Pennebaker, 2010), learners will spend more time discussing topics that are salient or significant to them. Therefore the psychosocial features of each profile are an excellent indication of what learners are thinking and feeling.

We saw above that Cluster 1 students tend to focus on biographical events and external actions rather than on analyzing the cognitive processes of learning. Although 32% of Cluster 1 students scored in the high range (94-120) on the TOEFL, their significantly lower average TOEFL score (mean = 89.21) suggests that a focus on Doing is not as conducive to L2 learning as a focus on Thinking or Feeling. The fact that these learners speak primarily about actions and events—while avoiding analysis of thoughts and emotions—may indicate underdeveloped metacognitive attention to cognition and affect. Logically, learners who do not spend much time thinking about learning, or who are not able to reflect deeply on the learning process, may be less likely to become adept and achieve high scores on a proficiency test. These students may not have the skills or desire necessary to think of their experience in terms of mental processes, which may in turn correspond to a lack of desire or skills needed for effective L2 learning. In this case, limited metacognition could indicate less effective language learning.

In contrast, Cluster 2 students are by far the most analytical group, focusing almost exclusively on cognitive and perceptual processes in their detailed descriptions of L2 learning. These learners describe their knowledge, understanding, and awareness with many modifiers, quantifiers, and hedges, suggesting an almost scientific attention to detail. Cluster 2 learners also have a high combined z-score for Discrepancy words such as *want*, *need*, and *would*, which seems to constitute a deeper level of analysis but also belies a hidden frustration or perceived mismatch between their desired outcome and reality. However, their intense focus on cognition may pay off, as Cluster 2 TOEFL scores are generally higher than those of Cluster 1 (mean = 94.66). It is possible that the more highly developed metacognitive skills that enable these students to analyze their learning experience in depth and with precision may also make them

better language learners (or at least enable them to perform better on an academic test of their L2).

Cluster 3 students also show evidence of advanced metacognition in their frequent use of Insight words such as *learn*, *think*, and *know*. Unlike Cluster 2 students, however, Feeling learners spend less time analyzing the details of their cognitive processes and more time examining their emotions related to L2 learning. This is the only group of students to devote significant attention to affect, mostly in the form of Positive Emotion words (along with a few prominent Anxiety words). In fact, Positive Emotion has by far the highest positive z-scores of any psychosocial feature in Cluster 3 interviews, suggesting that it is the defining feature of this group of students. Compared to Cluster 1 and 2 learners, who have strongly negative z-scores for Positive Emotion, Feeling learners seem very happy with their L2 learning experience.

At the same time, Cluster 3 students score significantly higher on the TOEFL than Cluster 1 students and moderately (though not significantly) better than Cluster 2 students (mean = 96.68). They also had a noticeably higher proportion of high scores on the TOEFL than Cluster 2 students (62% compared to 51%). While a connection between positive affect and successful L2 learning is not surprising, it does beg the question of whether positive feeling produces or arises from successful learning. Either scenario (or both) seems plausible: students who feel that they are successful also feel good about their experience, or students who have a positive outlook toward L2 learning are more successful. It is important to keep in mind, however, that Cluster 3 students also express anxiety and sadness more than other students, which means that their learning experience is not one of untempered positive emotion. Rather, it seems that these learners are able to acknowledge and then overcome the emotional challenges of L2 learning, emerging from the process with overall positive feelings toward their experience. This

conclusion is suggested by looking at the z-scores of these students, which show Positive Emotion at 0.413 and Anxiety at only 0.246. Such emotional resilience suggests that Cluster 3 learners have achieved a degree of affective self-regulation that enables them to cope with the intense effort, the emotional difficulties, and the challenges to self-image or identity necessitated by adult language acquisition.

The study of affect (also called emotion) in SLA is an underdeveloped and relatively recent phenomenon, but it is increasingly recognized as an essential—perhaps the most essential—component of L2 learning (Bown & White, 2010a, 2010b; Garrett & Young, 2009). A recent wave of interest in emotion has underscored its important role not just as a complement to cognition, but as a primary determinant of cognition (Garrett & Young, 2009). In fact, far from being a separate or compartmentalized aspect of the L2 experience, affect seems to influence learners' perceptions, cognitive appraisals, and decision-making, which can influence their learning process in profound ways (Bown & White, 2010b). The primacy of affect is a basic assumption in the holistic L2 experience approach taken in the present study, and it is captured through LIWC categories specifically devoted to detecting different types of emotions.

If affective responses are so important in the learning process, it follows that awareness and regulation of affect may facilitate effective L2 learning. Thus, an important component of meta-affect is affective self-regulation, in which “the psychological self is involved in overcoming self-doubt, managing different forms of anxiety, or generating positive emotions” (Bown & White, 2010b, p. 434). This is exactly what Cluster 3 students appear to be doing: they acknowledge that sadness and anxiety are part of the learning process, but they still manage to generate positive emotions to keep going. Comments from three of these students (responding to question 10, How do you feel when you use English?) suggest how this might be done:

## Participant 109, Cluster 3, Italian

*I feel pretty confident now. But I mean, I realize that when I use English I think in English and it's something very different when you're used to use another language. So I like that. And I feel confident but I used to feel obviously very sometimes embarrassed you know my skills weren't so good but then I got better.*

## Participant 112, Cluster 3, Chinese

*Before I came to America I'm very confident with my English. I think oh I got a high score in the TOEFL test and I don't think language will be a problem. But when I came here I became a TA and you need to explain a lot students in the lab. So many times I feel confused about what they are talking about. And sometimes they just repeat words and sentences. And it's hard to get the whole sentence what they are trying to say. So I think I still need more time to adjust to maybe the English environment. I've got a co-workers who are senior than me, some senior student or PhD candidate, they have spent more years than me here. Some of them still have problems explaining themselves but many of them can fit in the environment quite well. So I think maybe two years or three years later I will be like that. Yeah it just need time.*

Such affective self-regulation might be considered a type of general self-regulation, as proposed by Tseng et al. (2006), but it is also related to self-efficacy (Mills, Pajares, & Herron, 2007), motivation (Ning & Downing, 2010), affective learning strategies (Bown & White, 2010b), emotional intelligence (Dewaele, Petridies, & Furnham, 2008), and intelligent processing of emotions (White, 2003). Whatever this construct is called, and whatever its specific components or relationship to other constructs, it seems to be a very important aspect of the L2 learning experience of many high achieving learners in this study.

We can theorize that affective self-regulation influences the L2 learning process so profoundly because the nature of language learning requires adult learners to, in a sense, give up their status as competent, sophisticated speakers and become novices who may struggle to find



the right words; as one participant said, when speaking English, “I feel like I’m a little kid. I’m like five years old or something.” The well-documented emotional challenges of L2 learning (e.g., Gabrys-Barker & Belska, 2013) may, therefore, become an obstacle on the road to proficiency unless they are skillfully managed. Cluster 3 students seem to have adopted an approach to L2 learning that enables them to maintain a positive attitude throughout the learning process, which may in turn facilitate their English skills.

Thus, we see that the L2 experience approach distinguishes between the three groups of students in terms of their holistic experience of L2 learning, which encompasses a multiplicity of L2 constructs that have traditionally been studied separately: affect, anxiety, attitudes, beliefs, identity, learning style, metacognition, motivation, self-efficacy, self-regulation, and others. By taking a systemic perspective that identifies “higher level amalgams or constellations of cognition, affect, and motivation that act as ‘wholes’” (Dörnyei, 2009a, p. 235), we have been able to form a coherent picture of how the complexities of L2 learning combine in real-life learners. The three experiential profiles of successful learners meet Larsen-Freeman’s (2012) call for “configurations that capture generalizations among groups of learners or certain combinations of individual differences that act as integrated wholes” (p. 83). The many faces of academic English learning—represented here by a diverse participant pool from 23 countries and 43 academic majors—can be meaningfully explored in terms of L2 experience, which can be captured through L2 experience interviews and semantic content analysis. The statistically significant differences found between groups of students further suggests that the experiential perspective is a fruitful new approach to the study of IDs.

## 5.5 A L2 Experience Model of Individual and Social Differences in L2 Learning

The purpose of this study was to test the L2 experience methodology and develop high-level experiential profiles of learners as a unifying approach to IDs. However, in the process of conducting interviews and answering my three research questions, I came to realize that much of what students were saying lay between the lines of my formal analysis but seemed to fit into the larger picture of IDs in L2 learning. In speaking with 124 learners (actually 160 learners, including pilot studies), I felt that the key point to emerge from the interviews was not that learners have different L2 experiences, which is to be expected, but why this group of students became successful learners. After all, even though some participants achieved higher TOEFL scores than others, all participants in this study can be considered successful L2 learners because they have all learned their L2 well enough to attend a university in the U.S. The three experiential profiles are quite important, but they are three paths on the same journey. The larger question, then, is what starts the journey? Why had these students been successful whereas many others were not? Perhaps the most valuable insight these interviews can provide is not how the experiences of successful students are different from one another, but how they are alike. What is the uniting element of their experience that unsuccessful learners do not share?

This question may be difficult to answer on the basis of interviews with only successful learners, but students' descriptions of their past experiences can still provide important clues. For instance, quite a few students discussed having been unsuccessful with English in the past, or described being unsuccessful learning other L2s. These issues were introduced in Section 4.4.3 above, in which I discussed the fluctuating nature of the L2 experience and some possible reasons for differences in the foundations of L2 experience. Looking across all 123 interview

texts, the basis of this dynamicity begin to solidify into a distinct construct that I call perception of life importance: how important does the learner perceive the L2 to be in his or her life?

This perception can vary by language, context, or over time, and it is influenced by numerous factors, a few of which are family, culture, educational system, media, career goals, friends and peers, or personality. Regardless of what drives this perception, it seems that the learner's perception of the L2's importance in her life is the primary starting point for IDs in adult SLA. In very simple terms, learners who perceive that their lives will be positively impacted by learning the L2, for whatever reason, will learn the language faster, more effectively, and better than learners who do not perceive the L2 to be important for their lives. While it is impossible to enumerate every reason a learner might find a L2 important, these reasons might be broadly categorized as: (a) The L2 is important for the learner's identity or personal fulfillment; (b) The L2 is valued by society and/or the people the learner most identifies with (family, friends, romantic partner, profession, avocation, culture, or others); and (c) The L2 is important for the learner's professional or life goals (career, travel, or other accomplishments). Thus, the learners in this study who simply love learning languages might fall under Category A (learning for personal fulfillment or enjoyment), while learners who see English as useful for their graduate study or careers fall under Category C. Learners in a society where the L2 is highly valued (such as the case with English in India, where the educational system and family expectations push students to learn English) provide an example of Category B. In many cases, learners may have multiple reasons or influences, which may combine or compete with one another. Learners whose lives will not change through learning the L2 are not likely to put in enough effort to become proficient.

These reasons for learning are not designed to be hard-and-fast categories or any sort of classification system for learning; rather, they are simply suggestive of why learners might perceive L2 learning as advantageous or not. In addition, different learners might respond to the same situation in different ways. For example, one aspiring economist might have ambitious career plans for which English is essential, while another aspiring economist is satisfied with a career that makes no use of English; in the same family, one child might be very desirous of pleasing her parents by attaining high English proficiency, while another child might not mind disappointing her parents' English expectations. The point is, each person develops his own perspective on the importance of an L2 based on what is important in his life, which varies tremendously from one learner to another.

Perception of life importance, therefore, seems to be the starting point for success in L2 learning. What the learners in the present study seem to have in common is that, at some point in their English learning experience, they decided that English was important enough to warrant their attention and effort. For some students this was a relatively recent decision, made when the learner received a scholarship to study in the U.S.; in other cases, the learner fell in love with English from the first day. In any case, this perception appears to set successful learners apart from less successful peers. For this reason, I believe that perception of life importance forms the core of what can be considered a tentative model of individual and social differences. This model is, emphatically, tentative, and I do not in any way claim that it is proven by this study. Rather, the aim is to fit together core elements that collectively emerged from the L2 experience interviews, perhaps creating a cohesive picture that can be investigated in future studies. The proposed model of individual and social differences consists of three parts: (1) perception of life importance; (2) effort and ability; and (3) actualization of learning experience.

In this model, perceived degree of life importance significantly impacts the amount of effort that a learner is willing to put into learning the L2, relative to her or his abilities. If the learner believes she will benefit from L2 proficiency, she will be much more willing to devote herself to L2 learning than will a learner who does not perceive any direct benefits from L2 proficiency. Again, people may have widely different perceptions about what constitutes a benefit, but a learner who believes he has much to gain will usually work harder than one who does not. This is true because people have many demands on their attention and time, but only a finite cognitive capacity for learning. Choices must be made, often at the subconscious level, about how to allocate one's mental energy. Because adult L2 learning is often a time-consuming, labor-intensive, and emotionally demanding process, learners are more likely to become proficient if they have a reason to prioritize L2 learning over competing demands. Learners who do not have a compelling reason for commitment are less likely to prioritize L2 learning over other life demands (other school subjects, friends, hobbies, work, etc.) that are more important to them.

A crucial component of L2 learning effort is a person's inherent abilities and language learning aptitude. While aptitude has not figured at all into this study of psychosocial IDs, it is clearly a factor in any kind of human learning and cannot be ignored in considering a model of individual differences. For this reason, it is included in the proposed model as a speculative component. This portion of the model is not directly based on the study results presented above, but it could be investigated in future studies of L2 experience.

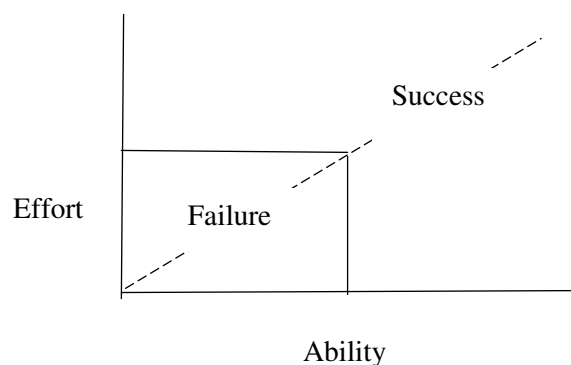
Although the exact mechanisms and causes of differential ability remain largely an unsolved mystery in SLA research, it is clear that aptitude differences allow some people to learn L2s, or certain aspects of L2s, faster and more easily than other people (Sparks, Patton,

Ganschow, & Humbach, 2011). Aptitude is often used as a synonym for ability, but the experiential approach to IDs suggests that other components may also contribute to basic L2 learning ability. These might include general intelligence (i.e., not a specific language aptitude; Robinson, 2002); previous L2 learning experience (having previously learned an L2 is often considered facilitative for subsequent L2s; Aronin & Hufeisen, 2009); general life experience (e.g., musical training in childhood has been associated with increased linguistic ability; Moreno, Marques, A. Santos, M. Santos, Castro, & Besson, 2009); general educational experience (e.g., literacy may facilitate, or at least change, the acquisition process; Tarone, 2010); age, even for adult acquisition (e.g., 20-year-olds are often assumed to have a cognitive advantage over 60-year-olds; Craik & Salthouse, 2008); and other factors which could conceivably change how “easy” or “hard” L2 learning is for a person. From this perspective, ability is not simply a trait someone is born with; it changes over a lifetime based on what the person does with it and how she lives her life.

In the model of individual and social differences presented here, ability plays a necessary but not a defining role in differential outcomes in L2 learning. In this model, ability determines how much effort a person will be required to contribute to the learning process, given her motivational intensity. In other words, a learner who perceives English proficiency to be very important for his life will be willing to work very hard to achieve the desired proficiency, even if his aptitude is low. (This model applies to learners of normal intelligence.) A learner who has high ability but sees no reason to achieve L2 proficiency will probably fare worse over the long term than a low-ability learner who feels strongly compelled to learn the L2.

This relationship is depicted in Figure 5, which shows how the combination of effort and ability contributes to degree of success in L2 learning. A learner who perceives the language as

not important for his life will likely put in little effort, and if the learner also has low ability, he will probably not achieve proficiency. A learner who puts in little effort but has remarkably high ability may still attain some success, but not as much as a high-ability learner who also puts in significant effort. For example, a student gifted in L2 learning may sit through four years of Spanish in high school but learn little if he sleeps in class, does not do his homework, and has a negative attitude toward Spanish learning. If the same learner goes to college, becomes captivated by Chinese culture, and decides to move to China, he may learn Chinese quickly and well since he has a compelling reason. By the same token, even if a learner has low ability, a greater amount of effort can still result in high proficiency. Consider a hypothetical student who finds L2 learning difficult but who dreams of becoming a doctor, going to medical school in the United States, and returning to help her community. Even though she may have to work harder than other learners, this student is still likely to become proficient enough in English to reach her lifelong goals.



**Figure 5. Success threshold based on effort and ability**

Therefore both effort and ability may vary over time and by language, even for the same learner. They can also combine in different ways over the course of the L2 learning process, reminding us yet again that L2 learning is complex, dynamic, and difficult to fully describe. The

L2 experience model of individual and social differences suggests that while traditional constructs such as motivation and aptitude are central to differential outcomes, they do not tell the whole story. By looking instead at how the learner perceives the L2 in his life, and then connecting this to his effort and ability, we can begin to understand how IDs are rooted in a learner's whole experience of L2 learning.

These IDs are further developed as the learning process unfolds and are actualized in the way the learner responds to the demands of learning. The three experiential profiles described in this study (Doing, Thinking, and Feeling) represent different ways that learners may realize their learning experience. In a sense, these profiles are the outward manifestation of all the factors that have contributed to the learner's experience, including the first two elements described above (life importance and ability/effort), but also all the psychosocial factors examined in this study. Therefore L2 experience is the final unit of analysis, but it builds on and incorporates everything else. This concentric relationship is depicted in Figure 6, which shows the three basic layers of individual and social differences.

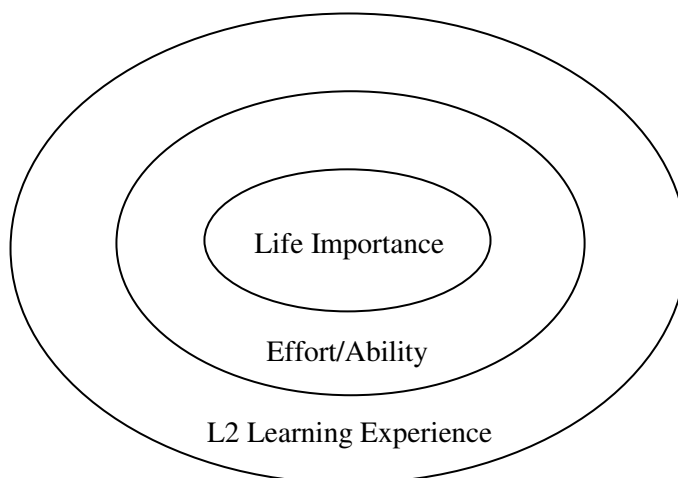
In sum, the L2 experience model of individual and social differences seeks to answer the questions: why do learners learn differently from one another, and why are some learners more successful than others? The basic tenets of the model can be stated as follows:

1. **Perceived life importance.** If the learner perceives that learning the L2 will create a positive change in her life, she will be more likely to learn the L2. If she believes L2 learning will not have a significant impact on her life, she will be less likely to learn the L2.
2. **Effort and ability.** The amount of effort devoted to L2 learning is directly related to the importance the L2 holds in a learner's life. If the language is very important, he will be



willing to put in a greater amount of effort relative to his abilities. If it is not so important, the learner will not be willing to put in as much effort relative to his abilities. Ability includes language aptitude, general intelligence, previous L2 experience, age, general life and educational experience, as well as other factors that influence how difficult a given language is for a given learner.

3. **Actualization of learning experience.** Based on the previous two core elements and including many psychosocial variables, learners may experience their L2 learning through Doing, Thinking, or Feeling. Successful learning is possible with any path, but Thinking and especially Feeling experiences may facilitate L2 learning.



**Figure 6. Layers of Individual and Social Differences in L2 Learning**

Looking at these three aspects of each learner's experience may provide answers to the basic questions posed above by accounting for most of the differences between learners. This model accommodates the fact that every learner has a unique learning trajectory, but it also identifies the primary elements of each experience that are most important for differential outcomes. As such, it should not be seen as a precise formula for explaining IDs in the style of  $xID + yID = Z_{learning}$ , but rather as a roadmap which shows the territory of L2 learning.

Learners may start from different points and end at different points—and they will surely take different routes and travel at different speeds—but at least we can use the same map to study all the different paths learners might take.

The goal of this model, therefore, is to provide a basic but comprehensive map of the complex terrain of IDs that have, until now, been seen as existing on different planes. To extend the metaphor, past ID research has created many different maps of separate ID constructs, which might provide information on how a specific ID impacts L2 learning. The L2 experience model aims to show that IDs can be seen as part of one picture, albeit a picture of great complexity. A model such as this one, which aspires to general applicability, cannot offer specific details, because the details of each L2 learning experience are vastly different and cannot all be identified by researchers. What this model does offer is a heuristic for looking at the big picture of IDs, which can and should be fleshed out with details about individual learners. Although it is only a guide—not a blueprint or equation—the L2 experience model of individual and social differences may act as a useful guide that allows L2 researchers, learners, and teachers to see the L2 learning experience as a complex, variegated, fascinating, but unified process.

## **5.6 Implications for L2 Teachers and Learners**

Based on the results of this study, several implications can be suggested for L2 learners and teachers. One important finding is that there are multiple paths to successful L2 learning, which means that learners may take different approaches to achieve their goals. Instructors should be aware that different students may notice or relate to different aspects of the learning experience. Some learners may see learning as a series of external processes that can be improved through practice, and these students may benefit from direct instruction and concrete activities. Such learners likely value extensive interaction with teachers and peers, and in the

classroom they may respond best to teacher-directed activities with clearly defined goals and results. Other learners may prefer a more inductive approach to L2 learning and might thrive in a setting where they can be allowed to set their own goals, adopt their own learning strategies, and work at their own pace. This implication is neither new nor surprising, but the present study confirms the value for teachers of understanding that students simply have different ways of experiencing L2 learning, and a one-size-fits-all approach is unlikely to generate the best results.

At the same time, it seems that certain aspects of the L2 learning experience, such as analyzing the learning process and maintaining positive emotions, may be instrumental in promoting more effective learning. Teachers may therefore try to encourage “thinking” and “feeling” in their classrooms in several ways. Crucially, they may introduce activities specifically designed to foster metacognitive awareness about not just the grammatical components of the L2, but of L2 learning in itself as a process. Some students may believe that L2 learning “just happens” or may become demotivated when the process is not as easy as they thought it would be. They might also look at successful peers and believe that success is the result of inherent ability rather than the result of many factors, particularly hard work and a positive attitude. Teachers can play a vital role in helping students to instead see L2 acquisition as a long-term process with ups and downs, but one that almost everyone can succeed in if they believe it is important enough. If students understand the learning process as a journey of many years and much effort, they may be more likely to overcome short-term setbacks and disappointments. By helping to manage students’ expectations and emotional needs, teachers may encourage a Feeling experience of the L2 that could foster long-term success.

L2 instructors should also be aware that IDs are probably not immutable, permanent characteristics of students but are instead the result of a complex interplay of inherent (learner-

internal) and circumstantial (learner-external) factors that affect a learner's experience.

Adopting this experiential perspective could help teachers address issues with difficult students, such as those who would simply be considered “unmotivated,” “anxious,” “low self-efficacy,” “poor strategy users,” or have other negative labels attached to them in the traditional ID framework. While such labels can help to identify some problems, they probably do not contribute to a solution for helping these learners. If, for example, motivation is seen as an inherent characteristic, it may seem impossible to change. On the other hand, a teacher who views motivation as a result of the learner's experience would understand that motivation can and does change. Therefore what may be more helpful is for teachers to consider what factors in the learner's experience might have led to low motivation or low self-efficacy, then to think about how to improve the learner's experience. The teacher might even conduct a type of L2 experience interview with a student to uncover what is most influential in his or her L2 experience, or to specifically address learning issues. This is, admittedly, a very difficult task for teachers who have many students and little time, but at least teachers who approach difficulties from this perspective will have a more nuanced understanding of their students than those who simply dismiss problematic students as “unmotivated.”

Overall the experiential approach tested in this study suggests that learners and teachers will benefit from considering L2 learning as a whole experience that is influenced by many aspects of the learner's life. Even factors that teachers may not know about or may not have considered important—such as the role of family support or the ability to generate positive emotions—may play an important role in differentiating between learners. Both students and teachers should be aware of how a learner's L2 experience can fluctuate over time, and they should be ready to address external factors that could negatively impact a learner's experience

and attainment. By maintaining this level of awareness and seeing learning as a long-term investment, teachers and learners may be able to enhance both L2 proficiency and enjoyment of the learning process.

## **5.7 Limitations and Future Research**

While this study has accomplished a great deal, it is the product of only one researcher working in one location with a specific sample of learners. One limitation is that the students in this study can all be considered successful learners since they were attending a university in the United States, even though some were clearly more proficient than others. Learners who did not become proficient enough to be accepted into a university program were not considered in the study, nor were those whose financial or life circumstances did not allow them to come to the United States. The participants could therefore be considered an elite rather than representative of most English learners around the world. Also, as in so many studies, this research was unfortunately biased toward academic participants and academic English performance. In order to be truly comprehensive and to develop a more universally applicable theory of IDs, research is needed with many kinds of learners, of varying ages, from many types of societies around the world. Interviews conducted in a more naturalistic setting (i.e., outside of a university and with non-academic English users) might reveal very different paths for L2 learning. In addition, due to the unique status of English in the world, investigations should also be conducted with learners of other languages.

A related limitation is that interviews were conducted in participants' second languages, which could potentially impact their ability to communicate their thoughts. This issue is discussed in detail in Section 5.3 above, but it is an important consideration and so worth repeating. The robust results of the study seem to suggest that this was not a major limitation

with the highly proficient learners interviewed here, but this certainly limits which learners can be interviewed using this technique. Learners who do not have high enough English proficiency cannot be interviewed in English, thus automatically eliminating unsuccessful English learners from the methodology. This could be remedied by substituting results from native English speakers who have low proficiency in their L2, as was done in Polat (2012), or by validating the methodology in other languages. Attempting to conduct L2 experience interviews in other languages might introduce new problems, including issues of translation and comparability across languages, but it is a viable option since the LIWC program used in this study is available in 11 other languages. Therefore replicating this study with a variety of L1s and L2s would provide valuable information to validate or invalidate the experiential approach.

Additionally, the quantitative methodology itself, while innovative, does have certain limitations. The analysis was based on a computer program developed by psychologists for purposes other than studying L2 learning. Twenty-two LIWC categories were used here to identify psychosocial elements of L2 learning, but it is possible that the selected categories are not the most informative for L2 experience interviews. One very promising route for future inquiry is to develop a semantic content analysis application specific to L2 learning. This could be applied both to the psychosocial aspects of the L2 experience, as well as to other aspects of the L2 experience that were not explicitly covered in this study.

Regarding the qualitative component of this study, future research should incorporate a more rigorous qualitative analysis that includes detailed thematic coding, member checking, and a more principled approach to grounded theory analysis of learner comments. This could be done with or without reference to the findings of the present study, and so might reveal new

phenomenographic categories of experience or other insights that were not apparent in the present analysis.

A further consideration for future study is whether there is a minimum number of words necessary for semantic or other types of textual analysis. In order to be as inclusive as possible, the present study analyzed interviews from all participants, regardless of interview length. The very wide range of text lengths (379 words to over 3,000 words) may have impacted the results in some. Of particular concern is very short texts, which may not provide a long enough sample of the learner's experience to be truly representative or informative on her or his views. On the other hand, some learners are naturally more talkative than others (a trait that in itself may be considered an ID!), and it may be inappropriate (even detrimental to the representativeness of the sample population) to eliminate interviews simply because they are short. This is an issue that should be investigated in future studies.

In addition to including a larger and more diverse sample of learners, future research should find better ways to measure differential L2 performance. One of the most obvious sources of information about learner proficiency is the experience interview itself, which can be analyzed in terms of classic complexity, accuracy, and fluency measures. While use of these measures is not without controversy (see Norris & Ortega, 2009), it would certainly provide a more accurate representation of learners' skills at the time of the interview, and it would not require any additional testing. On the other hand, analyzing oral performance data provides information about only one skill (speaking), which may not be desirable for thoroughly assessing differential performance. Asking learners to complete other tasks at the time of the interview could also be an option, as could testing multiple skills (reading, writing, listening) or using authentic activities to assess different areas of competence. Each of these performance measures has advantages and

disadvantages, so researchers investigating these questions would need to consider which performance measures best suit the needs of their studies. Overall, investigating a variety of measures with a variety of learners would be ideal.

Another fruitful area for future investigation is the nature of L2 learning experience over time. While the L2 experience interviews capture each learner's experience of English learning at one point in time, they convey evidence of changes in this experience in both the past and future. L2 experience interviews may therefore be valuable when conducted with the same learner over a period of time, which might reveal significant or subtle changes in a learner's experience that could also be connected with changes in L2 proficiency. Could a learner change from one profile to another, based on life experiences or shifting life goals? Would a learner who develops a more metacognitive experience of the L2 thereby improve her learning or increase her TOEFL score? Using the experience interview as a longitudinal research methodology could offer even more important insights into the L2 learning process and IDs among individual learners.

Ultimately, the richest area for potential future research will be testing the proposed model of individual and social differences. The claims made above are significant, and it will take years of study to thoroughly investigate them. A major challenge for any model of individual differences is falsifiability, or whether or not the model can actually be proven or disproven. Even if a model were shown to explain performance on a language proficiency measurement such as TOEFL score or words per AS-unit, it would be difficult to make definitive claims that the proficiency measure used encapsulates the entirety of differential performance. In other words, does explaining differential performance on the TOEFL capture everything we want to know about IDs? Human behavior is too complex to be analyzed in such a neat and



straightforward way. As is now recognized in SLA, each L2 learner is the unique result of her or his individualized experience (Larsen-Freeman, 2012), and it is doubtful that IDs can be explained formulaically. While the present study offers one new methodology, it is likely that still other techniques and perspectives will need to be developed to further probe the L2 experience approach to IDs. New technologies, or methods introduced from related fields such as psychology and education, may eventually provide better ways to test the L2 experience model.

Perhaps the most important test of this or any other SLA model must be its usefulness to language learners and teachers. There are clearly benefits to L2 researchers in identifying, describing, and understanding IDs, but the primary beneficiaries of applied linguistics research should ultimately be L2 learners. For this reason, future research might focus on applications of the model in L2 classrooms or other L2 learning situations. Does the model describe meaningful tendencies among L2 learners that can be used by L2 teachers and learners to understand and improve the learning process? Can it help learners to better understand themselves as participants in the L2 experience, and can it help instructors to more effectively reach students? Can it raise awareness of the myriad factors involved in the L2 learning process, and can it help develop better teaching methods or teacher training? Can it inform language curriculum or policy decisions? While it may be difficult to prove a model of IDs, it may not be difficult to prove its usefulness as a roadmap for the people most concerned with language learning.

Individual differences have always been, and will always be, a source of fascination and frustration for SLA researchers. The model presented here aims to help penetrate some of the mystery surrounding IDs and differential learning success, but this is an area of inquiry that will always retain some of its impenetrability. In this regard, the task of the ID researcher will

continue in much the same way, but hopefully with better tools and a better understanding of the inherent complexity of individual and social differences.

## 6 CONCLUSION

This dissertation has explored a new perspective and methodology for the study of IDs in L2 learning. Using L2 experience interviews and an automated semantic content analysis program, it identified three ID profiles that distinguish between the successful learners in this study. The ID profiles were compared to learners' TOEFL scores, revealing important differences between the three groups. In general, students who experience L2 learning as Doing tend to score significantly lower than students with a Thinking or Feeling experience, and students with a Feeling profile tend to score noticeably (though not significantly) better than those with a Thinking profile. A qualitative analysis of the data also showed that students who mention Family words often score significantly better than those who do not, and that many students report fluctuations in their L2 learning experience over time. The results of these analyses suggested a L2 experience model of individual and social differences that accounts for most of the differences among learners. This tripartite model describes learners' perception of the L2's importance in their lives; the effort learners will put into learning the L2, which is influenced by their ability and their judgment of importance; and their actualization of the learning experience through the experiential profiles.

The L2 experience model of individual and social differences is not new in the sense that it presents information that L2 teachers and researchers do not already know intuitively. Indeed, the core elements that contribute to successful adult language learning have been discussed in many different ways, under many different names, by many different people for at least 50 years. What the L2 experience model offers is a new, more coherent, more comprehensive way of looking at the same old problem. In the past, researchers started with an invented ID construct, such as motivation or anxiety, then molded their theories, data collection, analysis, and

conclusions around that construct. This has resulted in an extensive body of knowledge about individual (and artificial) ID constructs, but not much clarity in why and how different IDs contribute to differential L2 success. The present study, instead of starting from the bottom up with a contrived construct, started from the top down with each student's basic L2 experience. The results show that even core components such as motivation and aptitude are more fruitfully considered in the context of the learner's whole experience and from the learner's own perspective. By viewing the experience through the learner's own words, rather than through the lens of researcher-imposed ID constructs, we start to see IDs in a way that learners themselves would recognize. We have, in effect, kept the core principles but removed a layer of artificiality (i.e., separate ID constructs) that has long prevented the formation of a comprehensive perspective on IDs.

Once we stop looking at motivation, beliefs, learning style, etc., and start looking at the L2 experience as a whole, the process begins to make much more sense. In fact, the conclusions of this study begin to seem quite obvious—hasn't this model already been proposed before, in several different ways? I believe that it has, just not in an explicit and unified format. The conclusions of many separate studies on IDs all point toward the three basic tenets of this model, as does the experience of countless L2 teachers and learners. However, most previous studies have been limited by the labels and methodologies that took root in the mid-20<sup>th</sup> century and which have influenced both the agenda and the mindset of ID researchers. It is only now, with the availability of new methodological tools and the acceptance of complex and situated approaches to L2 learning, that we can fully grasp how the many identified ID factors fit together. The answer is that they do not fit together, at least not if they are considered separately.

In order to form a comprehensive theory of IDs, a new perspective is required that seeks not to reduce but to understand the complexity inherent in the L2 learning experience.

In this spirit, the L2 experience model of individual and social differences identifies three primary sources of IDs that, together, begin to explain the big picture of L2 learning differences. These three tenets capture much of the cognitive, motivational, and affective descriptors that have been applied to IDs in the past, but they do so without attaching the same labels or ascribing the same limitations. Since the model is based on learner's experiences, it should make sense to the learners themselves, and learners should recognize themselves when the model is explained to them. The model thus intentionally eschews complicated terminology in favor of more commonplace terms that lack the accumulated baggage of many existing ID constructs. It is a model designed not just for researchers, but also for L2 teachers and learners to better understand the complexities of the learning process.

While the results and theories presented in this dissertation are clearly exploratory and must be subject to further research, the primary goals of the study have been accomplished. The experiential approach to successful L2 learning was found to be meaningful, a new methodology for the study of IDs in SLA was introduced, and a tentative but comprehensive model of individual differences was developed. Much research in this area remains to be done, but these findings suggest great promise for the experiential approach to individual differences in SLA.

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## APPENDICES

### Appendix A: Participant Information Sheet

#### Background Information

Family Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Native Language: \_\_\_\_\_ Gender: Female  Male

Age: \_\_\_\_\_ Status: Graduate:  Undergraduate:

Email: \_\_\_\_\_

Major: \_\_\_\_\_

#### Experience with English

1. For how many years have you studied English? \_\_\_\_\_
2. How old were you when you started to study English? \_\_\_\_\_
3. How long have you lived in an English-speaking country? \_\_\_\_\_
4. Are you currently taking an English language class? Yes  No   
If yes: Course number and title: \_\_\_\_\_
5. Have you ever taken the TOEFL or IELTS test? Yes  No   
If yes: What was your score? \_\_\_\_\_ When did you take the test? \_\_\_\_\_
6. Have you ever taken the GSTEP test? Yes  No   
If yes: What was your score? \_\_\_\_\_ When did you take the test? \_\_\_\_\_
7. How many hours per week do you normally spend using English? \_\_\_\_\_

## Appendix B: Example of LIWC Output

Filename	family	friend	humans	posemo	negemo	anx	anger	sad
Participant 1.txt	0.14	0.28	0.63	2.23	0.56	0.14	0	0
Participant 2.txt	0	0.09	0.61	3.15	1.14	0.61	0	0.17
Participant 3.txt	0	0	0.64	1.78	0.51	0.13	0	0.13
Participant 4.txt	0.41	0	0.68	3.13	0.54	0.41	0	0
Participant 5.txt	0	0.05	0.38	1.57	0.54	0	0	0
Participant 6.txt	0	0.67	0.76	3.52	0.1	0	0	0
Participant 7.txt	0.47	0.18	1.04	3.01	0.47	0.14	0.04	0
Participant 8.txt	0	0.49	0.74	1.23	2.96	0.99	0	0.25
Participant 9.txt	0	0.23	0.57	3.32	0.23	0	0	0
Participant 10.txt	0.26	0.18	0.18	2.11	0.62	0	0	0.09

## Appendix C: Sample Interview Texts for Each Cluster

### Cluster 1 Student

#### Participant 44, Kyrgyzstan

*1. In my country we have English starting from the middle school, maybe from sixth grade, but I would say that the quota is not good, especially if you're not in specialized school. Actually you probably don't have anything when you're finishing the school. But in the maybe eleventh grade I began studying more with English and I think it was with my father's help, he was studying it, it's the future and you need it and try to learn it. So after graduation I applied to go to our university but the department of foreign language isn't actually English. And I got my bachelor degree in English as a teacher in English. But again it was in that time when our country got independence and we have this transition period from one system to another system and actually a lot of good teachers they left university they went to another country so they went to other new university they were opening in that time. So the quality was also not very good I would say, so. After that actually I worked in government structures, I worked in financial area and I got another master's degree in business administration. Then I worked in public health but I think everywhere I needed English and actually I used it translating, socializing, in my job in public health I worked as a focal point manager in public health programs, in the Red Cross, so I was in focal point for international situation for Red Cross and all the correspondence everything went through me so I used my English. Then I worked for the last years for the Project Hope which is an American organization and again everything is in English. And the organization and of course you're talking to colleagues so I used my English, I needed it. And now here I am.*

*2. I like learning English my main problem probably is a lack of time. And I know my weak points I know where I should improve it especially grammar. And I wish I could do it, and actually this time I was thinking about taking English class here. But then I had I mean more priority maybe on classes I really need, I mean like epidemiology and biostatics and so on. I'm*

taking six classes and there is no time for English but I'm really interested to get some advice from you, what can I do for that.

3. Because English is a universal language. You can use it everywhere. Wherever you are going you can use English. And this helps with understanding. This helps also you can read a lot and you can talk to the people and get to know culture and it's everything. I've been Europe several times, I've been to the southeast in Europe everywhere you can use English it's the universal language.

4. At the moment what I'm doing is intense practice. Because you talk to people, maybe not for so long but you're talking every day. You're reading a lot and then I'm writing papers a lot now, which is also very unusual but it's also very interesting and I think my English is improving a little bit especially I think listening. American is different from British which we were taught to listen to and talk to, so I'm trying to get not to get but I think even the accent the melody I mean the whole structure of the sentences as you Americans speak it a little bit different so I try to catch the sound.

5. Again everything here is in practice. So you are just listening all the time around, and actually when you are not in the class and when you don't speak with your friends, I have some American friends, I listen to the radio. Of course its entertaining, good music I love good music, and on the other hand you're also getting some listening comprehension from what you can hear. I think it helps.

6. I don't do anything in particular I'm just reading and writing. Actually before coming here I had an English pre-academic program in Kansas University, so they also have a department of applied English. In that program I mean in the agenda they have of course their goal or objective is to improve our English. But it was partially maybe not so much it was more about networking with other Fulbrighters and so on. But we got actually very nice books and I think you use them as well. It's academic writing and I think it's English in research world or something like that. I tried when I came and I had a little bit time I tried to look through and I know that academic writing is different from what I'm used to. Unfortunately I don't have time now enough to see how to do better but I think these books are very helpful and actually I think I need to start reading more. I don't have time. It's a tragedy. I need it but I don't have it for improving English.

7. Well of course I learned grammar in the University. So the basics are from there. Probably I forgot a lot and I need to I need to improve it.

8. What I've noticed here I'm building my vocabulary, but it's more again in academic reading. But it's not probably in what you use in your daily life in daily conversation this is the problem. And actually I got a book, I think it's about one woman from Atlanta, she had an experience. So African American who escaped from the court I think. She jumped two police officers and it happened so he came to her apartment. So she was a survivor, and she wrote this book. But the language is I think very casual, and it's not abstract or theoretical. So I'm reading it time to time and I think it helps with getting some vocabulary from what you need for daily life. But I don't know. And again you're talking with your roommates, and fortunately I have Americans roommates but unfortunately usually of course they are all busy and they don't tend to talk much, they are always in their rooms. But I think my current roommate he's here for one month but he's really nice and can talk to him. And I have another American friend, so when we talk actually I'm learning some new things from them.

9. Difficult to say. With me I had some background in English already but most of the people, for example the Fulbright students I meet, they have other background, and I think they

are learning English as a second language, taking courses most of them as I understood. Taking courses, even going to English speaking countries to live for several months. Some of them learn it in the country but again taking special courses.

10. I feel very well actually. I love English it's becoming more maybe my next native language. So I think now I really feel more comfortable than when I just came. It was a little bit difficult, and actually this winter I went back for Christmas break, I went back to my country. And actually for a couple of days for me it was difficult for me to switch again to our language. And then when I came here I was going to talk in my language to my American friends. For a couple of days you have this adjustment period.

11. Yes I think I need maybe very intensive course but with something what I need maybe with more focus on grammar, and of course writing, academic writing, these kind of skills. But I was not sure if it was available here. I'm thinking I cannot take it as a class because it takes a lot of time, as I understood you should come here two times a week for the class. And again homework, I feel like my priorities my field, what I should get from here. But at the same time in summer there will be some courses available I would be happy to attend because more or less not so busy some classes maybe practical and yeah, I would be happy.

12. No I think it's a very comprehensive. I think we touched all the areas like speaking and writing and reading and so on.

## Cluster 2 Student

### Participant 31, Indonesian

1. For the first time it's very interesting because I don't know the function of this language. Because it's compulsory in my class. In seventies it is first time I learn English. For the first I'm not really good. But I try to learn. The one point, I like to learn English because I love music and I love watch movie. And that is my hobby, almost every week I watch Hollywood movie, in English of course. And music is almost every day, in Indonesia almost all radio station broadcast American English music so. Where I learn listening to English. And then in my undergrad there is class. And because I already love to learn English, two class in my undergrad, my degree is in accounting, that is using Bahasa Indonesian my first language and second using English. Fortunately I accepted in the English class. The first time when I'm in the junior high and high school I already know but passively, I mean English in the passively. I only know, of course not all words but mostly I know the meaning of for example a three minute song I know what's the meaning about the song. In my undergraduate I learn to speak of course my pronunciation is bad because I never hear a native English speaker speak to me and there's some funny things coming with, because the different pronunciation different understanding.
2. Because English is rich and I think it's beautiful, a lot of emotion, a lot of things. English is already settle for our most humankind things but words. And if I compare with my first language Bahasa Indonesia it's not have lot of vocabulary. So Bahasa is always import some term from English and make them as Indonesian. And I think it is settle and final, only new words such as information technology new invention and device for taking, and that's it.



3. *Because I have to. I have to learn English and I think English is the way for me to go international and to, yeah I can meet you because I have English ability. If I do not have ability in English language I cannot go anywhere. It's my passport to go anywhere.*
4. *Most important thing, movie with English subtitles. That is improve my reading and listening but not yet speaking. My speaking improving mostly in here.*
5. *In the speaking section I join you in here I think is improve my English because I have to speak in English in certain of minutes. In my apartment I live with some Indonesians so we always speak Indonesian it's not improve my English. And second I try to join in the organization I join the voluntary organization and there is no Indonesian at all. And I can speak more fluently.*
6. *I love book and of course dictionary. I can access new word that I don't know in my smartphone and then I know the meaning. And there's pronunciation too. I can learn how to pronounce better. Writing I took the course and I'm bad in grammar too, so I learn the grammar for a couple of times. Yeah I think it's that.*
7. *In android application there is a lot of grammar lesson even there is only little question or not completely but it's help me to know. Because in Bahasa there is no tenses in Bahasa Indonesian, and just particle, in on at confusing me always. So I focusing in that. And of course using the tenses.*
8. *GRE. And there is GRE bible, I learn prerequisite to come here GRE score in the certain level. And for that reason I learn. And the application software name is GRE bible and there is almost three thousand and five hundred words. But of course I cannot remember it all, but if that's what's coming to me and when I read, I read the book. I'm not really aware cause I used to know about that word. Sometimes I forget about the meaning but it's ok I can look in the dictionary.*
9. *A different way. If I looks in my Indonesian friends coming here, almost all of them learn English in the learning course in the school. Not in the school but at some do you know the British Institute learning course but out of school. Not formal extra school and they pay for lot of money that. But what is the positive way that they are building the grammar understanding in school. And because I'm not using that way, I'm learning via movie and song, and music, I know the meaning but sometime I cannot, or when I explain my idea sometimes the grammar is bad. Especially in particular sometimes I think I do not know how to place the words in the good way.*
10. *Its depend the situation. If lot of people around me native American sometimes I feel not confident. But if here this is I'm confident because you understand that English is my second language so you know my weakness about this. And but if the same with my friends with speaking and non-native, I mostly confident in speaking.*
11. *No I don't think so. I think I happy with the way, I love to take the path how I learn English. How I improve my speaking and my grammar.*
12. *I think that my friend in the class, the professor understand that we are English as a second language. But our friend is sometimes speak so fast. I know that is normal for them but it is too fast for me. But mostly I know the meaning of the conversation. Maybe when I will six months more or one year more living in here I can pick up those people.*

Cluster 3 Student  
Participant 22, French

1. *My experience learning English for me it's not that easy because first I have problem to understand, the comprehension, but now I think it's a little bit easier for me because of the class first. And I'm trying to improve my English by I bought a tv, so it's very a good tool to improve my English because when, I don't know I clean my room I just bought a tv and to be used to hear speaking people, so it's helped me a lot, so. Yeah. I'm trying to speak with English speaking people but that's not that easy because when you are in an exchange program generally people are hanging out with the same community, I mean I have French friends so I'm used to be with my French friends, when we go to a party, we meet some American people sometimes, for example last week we had dinner with our friends so I think it's important to have contact with American people because we are here to meet them to improve our English. But yeah I mean when I arrive here my subject was to improve my comprehension and to improve my speaking, because I mean in French we're used to write in English and to read English books but we're not used to speak with American people and comprehension, I mean I don't watch tv in English every day so, so I mean I have to improve yes but I think that it's better than when I arrived here in August.*
2. *Before I didn't like to learn English, I mean because I preferred much more Spanish, but now I'm used to hear people speaking in English so now I like it but before I preferred Spanish, so I worked much more Spanish before but now I like it because I'm used to hear people speaking English. So yeah that's another evolution.*
3. *I want to learn English because I mean my major is logistics and I mean it's mandatory to speak English when you have a major like mine. Because I mean logistic is open on the world wide so I have to learn English if I have to do a shipment to Australia or even to China, the universal language, so I think it is mandatory now, that's why I want to learn English. And to communicate, I mean I have friends from China I don't speak Chinese so we can communicate with them and learn their culture and all that stuff so I think that's important.*
4. *Watching tv, it's helped me a lot because it's what I have to improve most, my comprehension, so watching tv, it helped me the most. Watching tv, watching films.*
5. *To improve my listening watching tv, watching film. And my speaking, I mean it's speaking with American people American friends, yeah. It's the better way to improve I think, my English.*
6. *My reading ability I mean here we have to read a lot of textbook so that's how I improve my reading ability. And I mean it helped me a lot because now I think that I read much more faster English than before when I arrived. So, cool. Writing, yeah I don't write a lot. Yeah I don't write a lot because last semester I had all my exams, I had multiple choice questions exam, so I didn't have to write a lot. Yeah I had to write some papers, not a lot so yeah I still need to improve my writing. But when I arrived here my big objective was to improve my comprehension and my speaking.*

7. *To be honest I don't work on my grammar and I should work on it. But I have a new resolution I can say that for two thousand thirteen is to go to I think there is in the library there is an office to help us so I will go there.*
8. *I mean I learn vocabulary when I read textbooks I just take that's my vocabulary, and I write it on a little book. And the same for when I watch tv, I write, when I watch tv I always take a little piece of paper with me to note some expressions or vocabulary. Yeah because if I don't do that I forget.*
9. *In comparison with my French friends, it's about the same way I think. But I know that they're not writing like me every word, vocabulary, but yeah they watch tv, we try to speak with American people. Yeah.*
10. *Sometimes I am a little ashamed because of my accent and we have to answer questions in class. So I am ashamed because I know that if I answer questions people will say she's not American and I'm a little ashamed. Yeah sometimes. And when sometimes I don't understand people I'm a little ashamed because American people, when I have something where they help me and I don't understand, I mean they repeat it in the same way and as faster, so and sometimes it's difficult because I mean European people are more, you don't understand, ok I will repeat it but more slowly, and with American are more, blah blah blah, I don't understand, blah blah blah, it's sometimes difficult.*
11. *What I would like to change, I would like to go to the office that help exchange program students to improve her English, yeah that's what I would like to change, yeah.*
12. *I would like to say that it's sometimes difficult to meet American people because we are with American people in class so sometimes we speak a little bit but to really build a relationship it's much more difficult. I mean especially with the girls, I mean it's really difficult to have American friends girls. And sometimes I mean with boys it's much more like oh if you want you can come having a date and I say that yeah but I have a boyfriend and I mean it's a real problem but I have a boyfriend, and they say oh but we can be friends, mmhmm, ok, and say, and I maybe meet this American boy once and he will give up, so it's difficult to have American friends. But last year I was in Spain and I was doing an internship there. And it was the same because you meet Spanish boy and say I have a boyfriend, alright adios. And I had a speaking Spanish roommate so I improved much more my Spanish because I was always with Spanish speaking people. And here so it was much more better and here it's different when you work in a country and when you sit in a country, last year was working in Spain and I was always with Spanish people, but I had few friends because I mean it was only my roommate, and here I have much more friends because it's easier when you are in the university to meet friends, it's a French-speaking community or African friends but French-speaking community too. Or Belgian people or French people but yeah that's a problem. So that's why I would like to find an internship here to be more integrated in I mean in the American life. Yeah an internship or a job.*