UNIVERSIDAD DE CHILE
FACULTAD DE FILOSOFIA Y HUMANIDADES
ESCUELA DE POSTGRADO

ANALYSIS OF APTITUDE AND MOTIVATION IN ENGLISH L2 LEARNING

Tesis para optar al grado de Magíster en Lingüística con mención en Lengua Inglesa

CLAUDIA SOLEDAD MANSILLA OJEDA

Profesor guía: Daniel Muñoz Acevedo

Santiago de Chile, 2017

ACKNOWLEDGEMENTS

I would first like to express my deep gratitude to my thesis advisor Professor Daniel Muñoz for the continuous support, patience and motivation, and immense knowledge he was so kind to share with me. His guidance helped me during all the time of research and writing of this thesis.

Besides my advisor, I would like to thank the students from Colegio Patrona Señora de Lourdes who kindly agreed to participate in this study.

Last but not least, I would like to thank my family: my parents, my dear brother and my cousin Pablo for the emotional support they gave me throughout this entire process.

ABSTRACT

This thesis presents an analysis of the relation among motivation, aptitude, and academic achievement in foreign language learning. The main focus of the study is on identifying how these individual differences relate to achievement employing a well-recognized battery AMTB, that measures motivation to learn a language, and a more recent battery like LLAMA, that measures language aptitude. The results of the study indicate that motivation is the individual difference that correlates more closely to achievement. On the other hand, aptitude, as measured by LLAMA, seems to be weakly related to achievement in foreign language learning. Finally, although aptitude and achievement seem to be relatively independent from each other, some of the components of aptitude are partially related to the different areas in foreign language learning achievement such as listening or reading comprehension. These results suggest that the extent to which the individual achievement of L2 learners influenced by certain specific motivation and aptitude traits that are measured by the test batteries employed in this study.

LIST OF TABLES

LIST OF FIGURES

LIST OF CONTENTS

Chapter 1: Introduction

Even though every human being is unique in every single physical trait, it is often forgotten that we also differ in our internal cognitive and affective attributes. Such attributes are different for each individual, thus learners differ in how successful they adapt to, and profit from foreign language instruction. Curiously though, it seems like most of what surrounds second or foreign language teaching focuses on the opposite, identifying the general methodology or materials in order to make individuals learn.

Studies on individual differences (henceforth IDs) focus on differences between people, seeking to identify the most relevant ways in which people differ. According to previous research (Skehan 1991), optimal results in foreign language learning seem to depend on variables such as aptitude, age, sex, motivation, anxiety, self-esteem, language learning strategies, and language learning styles. Among them, motivation and aptitude have been pointed as the most consistent predictors of language learning success.

Previous research on motivation has been mainly developed by Robert Gardner in the context of the social psychological period, which began around the 60s. As a result of the Canadian context, Gardner and his associates became interested in understanding the how the social situation, particularly different from other contexts, considering the confrontational coexistence of two languages like English and French, could affect second

language learning. Subsequently, Gardner develops two major elements for the IDs area of research: the Socio-Educational Model (1974), and the Attitude/Motivation Test Battery (1985). Correspondingly, Gardner's model proposes that language achievement is influenced by motivation among other factors (Dornyei, 2005). As part of his model, Gardner indicates that the individual's motivation to learn a second language is supported by several constructs, namely attitudes toward the learning situation, integrativeness, called instrumentality and anxiety. Such constructs are the ones measured by Gardner's battery. As an element of the socio educational model, the battery was questioned in terms of its applicability in different contexts from the ones in which languages are taught and learnt as second rather than foreign.

Previous research regarding language aptitude began with Carroll and his major contribution was the Modern Language Aptitude Test (1959). As a result of this work Carroll defines language aptitude as composed by four abilities that are essential to foreign language learning, namely phonemic coding ability, grammatical sensitivity, rote learning ability and inductive language learning ability. Similarly, another battery that could measure aptitude was also developed by Pimsleur called Pimsleur Language Aptitude Battery (henceforth PLAB). Differently from Carroll's work, his conception of aptitude is defined by the three subcomponents measured in his battery, namely verbal intelligence, motivation and auditory ability (Pimsleur, 1966). Subsequently, other batteries were developed, namely the

Defense Language Aptitude Battery (Petersen & Al-Haik, 1976), and VORD (Parry & Child, 1990), among others. All in all, each battery varies according to the author's conception of aptitude, though not all of them have reached the status of MLAT.

In the context of a renewed interest in language aptitude, a new battery has become available, the LLAMA language aptitude test. Mostly influenced by Carroll's work, it also comprises new aptitude components.

Despite of the vast amount of research and the number of batteries developed to measure language aptitude, this individual difference was questioned and received limited attention for various reasons. In this regard it has been indicated that aptitude tends to be associated to outmoded methodologies, as opposed to current communicative language teaching (Skehan, 2002). Moreover, it has also been claimed that this individual differences only applies in formal classroom contexts, rather than naturalistic acquisitional language situations.

Consequently, when taking part in an instructed language learning setting, it is impossible not to think that motivation or aptitude might be the reason why some individuals profit differently from foreign language instruction than others.

Thus, resuming research on motivation and language aptitude allows examining how the corresponding batteries for each IDs work in a different context, especially if new batteries like LLAMA are employed.

Thus, focusing on IDs like language aptitude and motivation can contribute to the IDs area of research by providing an insight about the specific variable components that influence the extent to which a foreign language is learnt.

Consequently, the aims of the study not only consisted of identifying the participants' level of motivation and aptitude through specific batteries in order to analyze how these two variables relate to achievement in foreign language learning, but also analyzing the motivation and aptitude subcomponents. In this way it could be possible to determine which specific subcomponents influence the extent to which individuals will be able to succeed, as measured by their academic achievement, in relation to certain specific language skills like reading and listening comprehension. On the contrary, this study does not intend to establish which of the two variables represents the best language predictor, or to define which battery among all aptitude batteries is the most accurate, but to enrich what is already known regarding individual differences and how they influence the degree to which an individual succeeds in learning a foreign or second language.

Chapter 2: Theoretical Framework

Learners can vary enormously in how successful they are in learning a language, especially if it is about learning a new language. The way that language learners' characteristics influence ultimate attainment has generated interest among various researchers (e.g. Skehan, 1991; Ellis, 2004; Robinson, 2002; Dornyei, 2005; Skehan, 2011) who have reflected about the way each individual learner acquires a second language. The basic assumption in this line of research is that no learner is able to pick up a language the same way other learners do. As each learner is different in every single external physical feature, they also differ in those internal cognitive traits that influence the way they manage to achieve language learning success.

This chapter begins by narrowing what is meant by success in SLA and revises two of the individual differences that have been found to predict foreign language learning success most accurately, as well as their current development in research nowadays.

2.1 Language Achievement and Individual Differences

Success in language learning can be measured in different ways and it has been defined differently by different authors.

The language learning process as part of an educational program is usually measured through tests. In this line, tests are described by Bachman (1990) as a measurement instrument designed to elicit a specific sample of an individual's behaviour (p. 20). In the case of foreign or second language learning, these specific kinds of behaviour refer to language abilities. For Carroll & Sapon (1987), ability, in relation to the mental or cognitive area, refers to the performance on such mental tasks. Likewise, Bachman (1996) also refers to abilities from another perspective according to which language ability is described by teachers and language testers alike as composed of four skills: listening, reading, speaking and writing (Bachman, 1996). These skills have also been distinguished and classified in terms of channel (audio or visual), and mode (productive or receptive). Nevertheless, Bachman (1996) evaluates this perspective of abilities in negative terms indicating that it organizes radically different language use tasks together under the label of a single skill, and that this is a rather simplistic view of language abilities in the context of language learning (Bachman, 1996). Despite criticism, numerous foreign or second language learning materials are organized around such skills, and thus assessed according to that organization.

Having identified key elements in foreign or second language learning, like tests, language ability and skills, another concept related to the measurement of the process also becomes relevant in this context. Gardner (1985) lists several definitions for achievement in language learning.

Accordingly, achievement was first defined as “knowledge about the structure of the language such as vocabulary, grammar, pronunciation, or in terms of proficiency in the four language skills, speaking, understanding, reading and writing” (p.12). Ultimately, Gardner (1985) concludes that all interpretations of achievement deal with the extent to which language material has been taken by students and made part of their own cognitive or behavioural repertoire (p. 12).

Similarly, Brown (2004) indicates that measuring learners’ achievement of a second or foreign language is related directly to classroom lessons, units, or even a whole curriculum (p.47). Additionally, he also refers to the type of instrument employed to measure achievement like summative tests. This type of test is usually administered at the end of a unit or term of study to determine if the course objective was met or not by the end of a period of instruction (Brown, 2004, p.48).

Therefore achievement corresponds to the concrete reflection of what learners have been able to pick up from the language material based on the objective of a language learning program which is, in turn, determined through instruments like tests. In other words, tests are employed to identify the level of achievement in an educational language program.

In line with the idea that each individual may vary in the degree in which it is possible to ‘pick up’ a language or achieve certain course objectives, Cook (1994) asserts that the individual language learner can

“vary enormously in their rate of learning, their approach to learning, and in their actual achievements.” (Ellis, 1994, p. 17) This indicates that not all learners react in the same way to new stimulus, and thus the final results will also vary in each learner. In other words, achievement in second language acquisition is somehow dependent on learner’s internal features which are called individual differences (IDs).Therefore, it appears that individual differences can have an impact on the acquisition of a second or foreign language and influence second language learners’ academic achievement.

In the context of language learning, whether it is a second or foreign language, it has been observed that there is a variation among language learners in the way, speed and success they are able to acquire a language (Skehan, 1991; Dornyei & Skehan, 2003; Dornyei 2005; Ellis, 2004).

Those personal traits that make learners different are called individual differences (henceforth IDs). The concept of IDs saw their origin around the 19th century with the design of the first intelligence test, the Binet-Simon intelligence test, which was devised to identify slow and fast learners in the French school system (Dornyei, 2005, p. 5). Since the beginning of IDs studies, research related to them has evolved to the extent that they have been classified as factors responsible for success in second or foreign language learning (Ellis, 2004). Ellis (2004) classifies them into cognitive abilities, propensities, learner conditions about L2 learning, and learner actions (p. 529). Among these factors there are a number of dimensions of

learner differences like cognitive styles, or learning strategies, but motivation and aptitude have particularly been pointed as the most consistent predictors of language acquisition success.

2.2 Language Aptitude

In very simple terms, foreign language aptitude could be defined as a specific talent for learning languages which varies from individual to individual (Dornyei & Skehan, 2003).

Within the field of language learning, American psychologist J.B. Carroll conducted the first studies on language aptitude during the 1950s. Initially, aptitude studies conducted by Carroll (1971) were concerned with predicting the rate at which learners would successfully master a foreign language. In general terms, Carroll (1981) describes aptitude as a stable factor not influenced by environment, as opposed to certain types of motivation that are likely to change as a result of the learner's learning experiences (as cited in Ellis, 1994, p. 473). Carroll (1989) defines foreign language aptitude as follows:

Aptitude is the name given to the variable that determines the amount of time a student needs to learn a given task, unit of instruction, or curriculum to an acceptable criterion of mastery under optimal conditions of instruction and student motivation. High aptitude is indicated when a student needs

relatively small amount of time to learn; low aptitude is indicated when a student needs much more than average time to learn. (p. 26)

According to this definition, time appears to be a key factor in determining whether a learner possesses or not the so called talent for learning a foreign language. Additionally, Carroll (1990) notes that foreign language aptitude is composed by four constituent abilities: phonetic coding ability, grammar sensitivity, rote learning ability, and inductive language ability. These components were identified after experimenting with a number of variables. Initially, several sub-tests reflecting factors or dimensions of the domain of verbal abilities were administered by Carroll, and were correlated to end-of-course performance on achievement tests. Carroll (1964) identified five factors of verbal abilities that were included in the battery, but also mentions other tests that were developed and included in the initial tryout battery because they were believed to measure certain abilities required in second language learning. Some of the tests initially included were a "grammatical analogies" test which intended to measure "grammatical sensitivity", a "phonetic discrimination" test that was included to measure the ability to recognize the differences among the sounds of foreign language, and several "work-sample" tests (Carroll, 1964). Finally, the components which did not correlate with end-of-course performance were discarded and the remaining group was identified as the four constituents which became part of Carroll & Sapon's (1959) Modern Language Aptitude Test (Dornyei & Skehan, 2003).

The approach employed to devise this test battery is described by Dornyei (2005) as composed by three steps. First, a group of people with high and low levels of the attribute under investigation is selected based on some external criterion. Then, both groups are asked to do a variety of tasks related to the attribute in question. Finally, the tasks that separate the two groups best are chosen depending on how the scores obtained by test takers correlate with each other. Tasks correlating too highly with each other were left aside, since high correlations would indicate that the tasks do not provide unique information but only duplicate the others.

Somehow similarly, Pimsleur (1966) created another commercially-available instrument that could measure language aptitude. The Pimsleur Language Aptitude Test Battery (PLAB) is a paper-and-pencil test battery created by Paul Pimsleur in 1966. Even though MLAT (Carroll & Sapon, 1959) and PLAB (Pimsleur, 1966) share the same target, they differ in the number of battery components. While MLAT is composed of five parts, PLAB has six parts, namely grade point average, interest in foreign language learning, language analysis, sound discrimination and sound-symbol association. Besides the difference in the number of sections that compose each test, Pimsleur's battery places more emphasis on auditory aspects and less attention on memory than MLAT.

Both batteries, MLAT and PLAB, were constructed according to each author's conception of language aptitude. While Carroll stated that language aptitude was composed by four constituents, namely phonetic coding

ability, grammatical sensitivity, rote learning ability, and inductive language learning ability, Pimsleur pointed that aptitude for learning languages was composed by verbal intelligence, motivation and auditory ability. According to the technical aspects that Pimsleur (1988) describes it is indicated that the battery seems to be adequately reliable.

The creation of MLAT and PLAB led to further work in the field of psychometric instruments that could measure aptitude for languages, but such batteries did not reach the success of MLAT. Unlike MLAT and PLAB, which are commercially available, there are two protected tests, administered only to United States government personnel. One of them is the Defense Language Aptitude Battery (Peterson & Al Haik, 1976) which was produced and designed as a response to the MLAT to better discriminate among higher aptitude students. In the end, the DLAB did not produce more effective predictions than the MLAT (Skehan & Dornyei, 2003; Robinson, 2002), indicating no clear superiority regarding validation coefficients amongst high-aptitude subjects. The other restricted aptitude battery was developed by the US Department of Defense. VORD (Parry & Child, 1990) is an aptitude test in an artificial language, and its name means word in the language on which the test was based. Parry & Child (1990) described VORD as a test based on a grammatical system similar to that of Turkish. Unlike other aptitude tests which measure phonemic coding ability, rote learning and sound symbol association, three aptitude components are hypothesized to be measured by the VORD test, namely

memory, sensitivity to syntactic organization and inductive language learning ability through four subtests. Thus, the Vord aptitude test is divided into a verbal morphology, a nominal morphology, a phrase sentence level syntax and a cloze test (Parry & Child, 1900). Nevertheless, in a study conducted by Parry & Child (1990), aimed at comparing various aptitude scores to their battery, it was possible to conclude that "the MLAT appears to be the best overall instrument for predicting language-learning success." (p. 52). Despite the creation of other aptitude batteries, the MLAT is still regarded as the most widely employed, which is a result of its capacity to predict language-learning success.

Nevertheless, once identified as a key predictor to language success, aptitude began to receive limited attention from the research community for several reasons. In particular, Krashen (1981) argued that aptitude was exclusively related to classroom contexts where explicit language learning took place, and hence not relevant for language acquisition. Dornyei (2005) also added that aptitude had become an out-of-date concept, as most language aptitude research had been developed in an audiolingual method context, which went against the current principles of modern language education for the time being, namely communicative language teaching.

2.2.1 The LLAMA battery

In the context of a renewed interest in language aptitude, a new battery has become relevant in the field of psychometric instruments to measure

this construct, the LLAMA language aptitude test. This test was created by Meara (2005) and it is mostly influenced by Carroll's work. At first it was the product of a series of projects carried out by students of English Language and Linguistics at the University of Wales Swansea. Even though it is loosely based on MLAT, the test has evolved into a computer-based version which is still being studied. Consequently, some sections of the LLAMA test have been updated and evolved from its earlier version called LAT. The current complete version of this test presents us with four learning tasks: vocabulary learning, sound recognition, sound-symbol correspondence, and grammatical inferencing, or inductive meaning of form-meaning mappings.

Based on the descriptions that Meara (2005) provides regarding each of the learning tasks in the LLAMA battery, it is possible to identify some theoretical differences and resemblances to MLAT. For instance, the vocabulary task (LLAMA B) measures the ability to learn relatively large amounts of vocabulary in a relatively short space of time (Meara, 2005). Similarly, Carroll's definition of foreign language aptitude draws attention to the idea of time, and how high aptitude differs from low aptitude based on the amount of time needed to learn a given task.

On the other hand, the sound recognition task (LLAMA D) included in the battery differs from all the other tasks and is described as a new task that aims at recognizing short stretches of spoken language. The design of this section of the battery was inspired by the work of Speciale, Ellis, &

Bywater (2004). In their work, they explore the influence of phonological sequence learning and short-term store capacity in the acquisition of second language vocabulary. In their study they were able to determine that "Subsequent apprehension and consolidation of a novel word form is a product not only of phonological short-term store capacity but also of this long-term knowledge of the phonological regularities of language." (Speciale, Ellis & Bywater, 2004). In this regard, Meara (2005) claims that being able to recognize repeated patterns make it possible to identify words when you hear them for a second time. Therefore, this would contribute to the acquisition of vocabulary, as well as the identification of small variations in endings that many languages use to signal grammatical features.

Furthermore, the sound recognition task differs from all other LLAMA tasks since it does not include a study phase. In this respect Granena (2013) indicates that LLAMA B, E and F have in common the fact that they include a study phase that gives test takers time to study and rehearse testing materials, as well as opportunities to use strategies and problem solving techniques. At the same time Granena (2013) indicates that rote learning and explicit associative learning play a role in the three sub tests, as wells as analytical ability, since the three sub tests involve working out relations in data sets.

Additionally, Jackson (2014) indicates that LLAMA's grammatical inferencing subtest is of particular interest since it measures the inductive

language learning ability component that is present, but not directly assessed by the MLAT. Very similarly, Dornyei (2005) indicates that even though it was Carroll (1981) who identified this inductive ability, it was Pimsleur's battery (1966) the one that specifically targeted the component at that time.

In spite of MLAT or PLAB's recognized reliability, these batteries have been previously criticized by other researchers. In this respect Dornyei & Skehan (2003) point that "The actual test battery which resulted from the research of Carroll and Sapon (1959) consisted of five sub-tests, but those sub-tests were mainly hybrid mixtures of the different underlying components. In other words, understanding and construct validity were sacrificed in favor of predictive validity." (p. 593) That is to say, such previous test components, which were supposed to be based on clear theoretical principles, were not the result of a strategical or theoretical-based decision but a matter of being able to use results to predict achievement.

Conversely, the alternative test battery presented by Meara has also been explored by other authors who have highlighted its positive aspects. As Granena (2013) states, this test possesses several advantages including availability in computer form and its free status. While other batteries have restricted accessibility as a result of their military origin, or given to their commercial status, which can be a main issue for those conducting research, LLAMA does not suffer from any of these limitations. Granena (2013) also

adds that despite the similarity between LLAMA and MLAT, the former can be described as language-independent, that is to say, the test has been designed to be linguistically neutral for speakers of any language. Thus, this language independent property can be considered as an advantage for those researching in different language contexts, as it facilitates its administration to test takers despite their L1. More specifically, the set of tests included in the latest version of the battery rely on picture stimuli and verbal materials based on British-Columbian indigenous language and a Central-American language. Such verbal materials were chosen so they can be equally approached by speakers with different language backgrounds and thus, diminish the chances of obtaining results that could be influenced by the language barrier.

Validity studies have been conducted by Granena (2013) indicating that LLAMA test scores have generally been found to correlate with language learning in more explicit conditions, that is to say, contexts in which there is deliberate instruction of the foreign language. Granena (2013) reports these findings in a study in which 186 participants from three different L1 background took part. Two measures of test reliability were employed: internal consistency and test-retest reliability. Internal consistency, on the one hand, is related to the degree to which the results of the tests were consistent across items, while test-retest is the degree to which the results of the tests were stable over time. The results showed that test scores were independent of participants' L1 and gender, and that internal consistency

and stability over time were acceptable. In other words, LLAMA has stable test-retest reliability over a two-year time period, which also indicates that aptitude is a fairly stable trait, as previously claimed by Carroll (as cited in Granena, 2003, p. 122).

The discussion so far has attempted to cover how the construct of foreign language aptitude has evolved and the different batteries that have been employed to measure it. First, the essence of the aptitude construct seems to lie in the time factor. As Carroll (1990) describes, the level of aptitude depends on the amount of time required by the language learner in order to learn a given language task, or unit. Second, many batteries have been devised to measure foreign language aptitude, being Carroll's MLAT (1959) the ground for other batteries. The MLAT has been extensively used because of its capacity to predict language learning success. Lastly, among the batteries that were created after the MLAT, the LLAMA aptitude battery serves as an interesting option for several reasons. Unlike MLAT, the LLAMA battery has a computer based format which is more appealing and attractive for new generations of foreign language learners, and also is available for free downloads which is a major advantage for researchers.

2.3 Language Motivation

Motivation is identified as the other major ID variable to affect language learning success. Dornyei (2005) identifies three phases in the history of Motivation research: the social psychological period, led by Gardner and

his students and associates in Canada between 1959 and 1990; the cognitive-situated period which focuses on cognitive theories in educational psychology during the nineties; and the process-oriented period led by the work of authors such as Dornyei (2000b), Ushioda (2001, 2003) and other colleagues, between the years 2000 and 2005.

This study focuses on the social psychological period and the Gardner's work regarding motivation. The following section refers to the most relevant elements in Gardner's research to this study.

2.3.1 The Socio-Educational Model

Major underlying elements in Gardner's research are: the Socio-Educational Model (1974), and the Attitude/Motivation Test Battery (1985).

The Socio-Educational Model has undergone several revisions since the first version report by Gardner, Smythe, Kirby and Bramwell (1974). Nevertheless, all previous versions are based on the idea that languages are unlike any other subject taught in a classroom in that they involve the acquisition of skills that belong to another cultural community (Gardner, 1985, p. 146). Most recently, Gardner (2005) revised the model and indicated that it is fundamentally concerned with motivation. More specifically, it is proposed that the individual's motivation to learn a second language is supported mainly by two constructs: attitudes toward the learning situation and integrativeness. It also proposes that there are two

other constructs that can influence language learning, called instrumentality and anxiety.

According to Gardner (2005), attitudes toward the learning situation imply that the nature of the learning situation will influence the individual's level of motivation. For instance, a skilled teacher, an exciting curriculum, well-constructed lesson plans and meaningful evaluation procedures will promote higher levels of motivation. As for the construct of integrativeness, Gardner (2007) refers to it as an openness to cultural identification. In other words, it involves the individual's open interest in other cultural communities. Additionally, Gardner (2005) refers to instrumentality as the practical reasons for learning a language. Finally, he explains that the anxiety component can affect learning. In other words, high levels of anxiety can interfere with language achievement, or low levels of achievement cause individuals to be anxious in situations where they have to use the language (Gardner, 2005).

Despite its general recognition, Gardner's model has received some criticism in terms of the terminology employed in it. In this regard, Dornyei (2005) indicates that there are two sources of terminological difficulty. First, the term 'integrative' can be interpreted in relation to three different levels: integrative orientation, integrativeness and integrative motive, which have led to misunderstanding. In this regard, Gardner (2005) explains that the concept of integrativeness is not confusing at all. The concept is

postulated as an extension of Mowrer's (1950) construct of identification and thus, related to people's openness to other cultures.

The second term that can cause confusion is the concept of motivation itself. In this respect, Dornyei (2005) highlights that within the overall construct of integrative motivation, there is a subcomponent labeled motivation, which causes confusion as well. In other words, the similarity regarding the way these two terms have been labeled makes it difficult to identify what is meant by Gardner when he refers to motivation: Is it the general idea of motivation in second language learning? Is it integrative motivation? Or the motivation subcomponent of the integrative motive, as Dornyei (2005) suggests?

Against this criticism, Gardner (2009) explains that the integrative motive is merely the reflection of what an integratively motivated individual is. Thus, an individual is said to be integratively oriented when the individual is motivated to learn le language, exhibits integrativeness, has favorable attitudes toward the learning situation and reflects low levels of anxiety. Therefore, the motivation measure is a construct subsumed to the integrative motive which is the reflection of the four constructs, namely attitudes toward the learning situation, integrativeness, motivation and anxiety, which at the same time are part of Gardner's Attitude Motivation Test Battery.

2.3.2 The Attitude Motivation Test Battery (AMTB)

A first version of this test was designed in the 1960s by Gardner to assess affective variables associated with learning French as a second language. This research instrument was developed in order to assess the major affective components that influence second language learning (Gardner, 1985).

The AMTB has been widely used in the study of individual differences to identify motivation levels in second or foreign language learners as it has been shown that its psychometric properties make it a reliable tool. The original version of the battery was validated and standardized on samples of Anglophone Canadian students. According to Dornyei (2005) “it has been shown to have good psychometric properties, including construct and predictive validity.” (p.70). Such psychometric properties refer to the underlying principles that sustain the measurement of unobservable mental phenomena like motivation, the extent to which this battery is able to measure what is stated by Gardner’s theory of motivation in L2 learning, as well as its ability to predict future behavior in terms of the motivational traits measured. Gardner (1985) reports that the construct validity of the test involves a series of operations designed to determine the psychological reality of a variable or construct.

Gardner (1985) indicates that in order to determine construct validity, convergent and discriminant validity must be demonstrated. In this sense,

Gardner (1985) indicates that "convergent validity is demonstrated whenever a scale correlates with other measures with which it should correlate if the theoretical formulation underlying the construct is correct." (p. 8). On the other hand, discriminant validity is established when a scale is shown not to correlate with measures with which it should not correlate if the theory underlying the construct is correct. Another relevant type of validity is predictive validity, or the extent to which the measures of the test are able to predict in this case language achievement.

In relation to both, construct and predictive validity, Gardner (1993) concludes that, in general, the subtests of the battery measure what they are intended to measure and that they correlate meaningfully with measures of second language achievement (p. 188). Finally, Gardner (1985) explains that content validity refers to the extent to which the items in a scale sample all aspects of the construct which are meant to be assessed.

Conversely, Dornyei (2005) indicates that there are two issues concerning the content validity of the test. In operationalizing the 'motivation' subcomponent of the AMTB, items that are related to motivated behavior are included in the battery (for example, asking about the extent of volunteering answers in class). Such behaviours, as Dornyei (2005) explains, are related to the consequences of being motivated. This would indicate that the battery assesses both motivation and motivated behaviour which is somehow misleading. The battery claims to measure the unobservable mental phenomenon of motivation, nevertheless the

expression of the motivated behaviour that is basically the result of being motivated, is also measured by some items. Despite this criticism it has been possible to prove that the battery is a valid tool.

Gardner (1993) suggested four inquiries concerning aspects of the validity of the test battery. The first enquiry provides an answer to the criticisms in relation to whether the various sub tests assess the attributes they are presumed to measure. To this purpose, a multitrait/multimethod analysis of three methods indicated that the sub tests indeed measure what they claim to measure. The study (Gardner, 1993) also focuses on the relationship of the subtests to the higher order constructs of the battery. In order to answer this inquiry, a factor analysis provided empirical support for the higher order constructs of integrativeness, attitudes toward the learning situation, language anxiety, and motivation. The third aspect explored in the study focuses on whether the strategy used to measure affective variables (likert scales, semantic differential judgment, and multiple-choice alternatives) influences their correlations with measures of achievement. The study showed that the strategies employed to measure the variables influenced the correlation of affective measures with achievement (Gardner, 1993, p. 182).

It has also been argued that this test battery is only suitable in the Canadian context. Gardner (2005) asserted that some researchers felt that the AMTB was not appropriate for their settings. These views originated from the fact that the original test was designed based on the Anglo French

bilingual context in Canada, and therefore it dealt only with second language learning and not with foreign language learning. Results reported by Gardner (2005) from studies conducted in Croatia, Poland, Romania, and Spain indicated that the AMTB was clearly appropriate for the four contexts previously mentioned and that the results that were typically obtained in Canada were obtained there as well. Cronbach measures of internal consistency indicated that the reliability coefficient, obtained between the samples of each country and the scales of the battery, was invariably high for each group tested in each country. The median reliabilities range from .79 to .88. (Gardner, 2005)

As a result of the criticism in relation to the context in which the battery could be employed, an international version of the motivation test battery was created. This version of the battery is intended for those who are learning English as a foreign language. The test has been adapted and translated into several languages such as Catalan, Croatian, and Portuguese. A detailed description of the structure of the latest version of the international test can be found in Robinson (2012). The international AMTB is composed by 140 statements. These 140 questions can be classified into four complex constructs: integrativeness, attitudes toward the learning situation, motivation and language anxiety. At the same time, these four complex variables are composed by scales, plus two extra scales assessing unitary constructs namely, instrumental orientation and parental encouragement.

In a study about all six AMTB constructs and grades in English, Gardner (2007) reports how these variables behave in relation to achievement. In this regard, he indicates that the highest correlate, among all six constructs of the battery, can be found between the measure of motivation and grades in English (Gardner, 2007).

Additionally, results in this study indicate that the next two highest correlates, after the measurement of motivation are the measure of language anxiety and integrativeness. In the case of language anxiety, the correlation tends to be negative indicating that the more anxious the student, the lower the grades. Regarding the measure of integrativeness, Gardner (2007) points that language learners with favorable attitudes and interest in English speaking communities achieve higher grades in English. Though not very high, the next correlate is integrativeness. According to Gardner (2007) a positive correlation indicates that learners who see the practical value in learning English do better in English than those who see it as less important.

Surprisingly, the results in that study show that there is a low correlation between attitudes toward the language situation and grades in English. Surprisingly though, high correlations between attitudes and achievement in English are unexpected as reported by Gardner (2007). In other words, considering that the measure of motivation is identified as the highest correlate in this study, it seems awkward to identify the measure of attitude as one of the lowest correlate considering that this construct supports the

measure of motivation (Gardner, 2005, 2007). In this regard, Gardner (2007) states that "One could hypothesize any number of reasons for this result, but the simple truth is that we obtain similar results in many of our studies, some of which use grades as the measure of language proficiency while some use other indices of achievement as well." (p. 17). Finally, this study indicates that the measure of parental encouragement, which is only employed in the case of younger students, is not a significant correlate of English grades (Gardner, 2007).

Thus, reasons for deciding to focus on Gardner's work on motivation to learn a second or foreign are his long and extended research over the years. In this regard, Dornyei (1998) refers to the consistency of Gardner's accomplishments: "One particular strength of Gardner's theory is that it has originated from, and was extensively tested by empirical research, and, indeed, one can clearly feel the assessment-oriented nature of this conceptualization." (p. 122). In other words, even if Gardner's work has been criticized in the past, the main landmarks in his work, namely the Socio-Educational Model (1974), and the Attitude/Motivation Test Battery (1985), are still relevant context and thus represent sound theory and tools to be employed nowadays. In this respect, Dornyei (2005) adds that all the main models that came afterwards have drawn on Gardner's model, and that his work has prevailed as a result of the popularity and effectiveness to measure motivation through the AMTB battery.

Nevertheless, research has shown that there is a need to continue exploring what the relation between certain individual differences and foreign language learning in different foreign language learning contexts. Thus, analyzing how aptitude and motivation are associated to foreign language learning taking into account new tools like LLAMA and the feasibility of Gardner's socio educational model in a different context can contribute to expand our knowledge of individual differences in SLA research.

This thesis reports on a study conducted with the objective of identifying how aptitude and motivation are related to academic achievement in foreign language learning, but also to obtain a deeper insight into their relationship with language learning success. Hence, this study also intends to look into the subcomponents of foreign language learning aptitude and motivation and how they relate to the subcomponents of foreign language learning. To the purpose stated, this quantitative study employed batteries to identify participants' level of aptitude and motivation. Then, aptitude and motivation scores were correlated to foreign language learning achievement. The next chapter explains the methodological procedures applied in order to attain the objectives previously described.

Chapter 3: Methodology

The objective of this study is to identify how motivation and aptitude relate to achievement in foreign language learning and also to obtain a deeper insight into their relationship with language learning success by looking into aptitude and motivation subcomponents their relation to achievement in English language learning. Therefore, the study reported in this thesis corresponds to a quantitative correlational study. The design of the study involved gathering quantitative data obtained from the aptitude and motivation batteries, and the average marks obtained from an English language course.

Data about the participants' level of motivation, aptitude and achievement in language learning was collected. The level of participants' motivation and aptitude was identified by employing the AMTB and LLAMA batteries respectively. Achievement in foreign language learning was determined according to the academic outcomes obtained from their English optional class. Afterwards, correlations among the scores gathered for each variable were analyzed. Significant correlations were interpreted as evidence of the relationship between the aptitude and motivation variables and achievement in foreign language learning. In other words, a relationship between the motivation and aptitude variables and achievement in English language learning was expected in terms of a synchronized increase, indicating that the variables could be responsible for learners' language learning achievement.

This chapter is organized as follows: first, a description of the participants will be given. Then, a report on the features of the instruments employed to collect and analyze the data obtained for the study. Finally, a description of the analysis procedures performed with the data collected and the criteria for its interpretation are provided.

3.1. Participants

A naturally-formed group, composed of twenty-seven students from a secondary school took part in this study during the second term of the year 2015 and the first term of the year 2016. The students who were asked to take part in this study did it on a voluntary basis, as it was expressed by their parents who agreed to sign a consent form. Such consent form indicated the aims and procedures of the study, as well as the role participants would have. The participants did not receive any type of payment in return for their participation. A copy of the consent form is presented in Appendix B.

This group of English language learners was part of the school's elective English program. The elective course took place once a week for a period of ninety minutes. In this course, students' lessons were focused on developing strategies to approach the standardized test Key English Language Test (henceforth KET), an examination provided by Cambridge English Language Assessment. More specifically, the course was organized around

receptive language skills, namely reading and listening comprehension, and the strategies needed to approach the skills as part of the examination.

Consequently, it is expected that learners must be able to understand simple written information such as signs and newspapers in the area of reading comprehension, as well as being able to follow and understand a range of spoken materials such as announcements, and informal conversations in a reasonably slow pace about familiar topics (Cambridge ESOL, 2015).

The reading comprehension section of the KET examination is composed of 5 parts. In part 1, learners are tested on their ability to understand the main message of a sign, notice or any other short text. The next section tests learners' knowledge of vocabulary. In the third part of the reading test, learners are tested on their ability to understand the language of the routine transactions of daily life. Subsequently, the ability to understand the main ideas and some details of longer texts are tested as well. Finally, the last part tests the knowledge of grammatical structures and usage in the context of a reading text (Cambridge ESOL, 2015).

Similarly, the listening comprehension test includes 5 parts. The first part of the test deals with the ability to identify simple factual information in short texts. In parts 2 and 3, learners are tested on their ability to identify simple factual information in a longer informal conversation. Finally, parts

4 and 5 tests learners' ability to extract specific factual information from a dialogue or monologue and write it down (Cambridge ESOL, 2015).

In summary, the supporting material employed in this English learning program was designed based on each of the reading and listening comprehension parts of the KET international examination.

3.2. Instruments

Tests based on the quantitative standardized examination KET, was employed to collect the data regarding participants SLA achievement. An aptitude test battery and a motivation test battery were employed to identify participants' motivation and language aptitude levels. Both batteries will be described in the following sections.

3.2.1. LLAMA Language Aptitude Test

LLAMA Language Aptitude Tests allowed finding out participants' level of language aptitude. The instrument, designed by Meara (2005), is composed by a set of exploratory tests designed to assess aptitude for learning foreign languages. Its computer-based format makes it familiar for young foreign language learners to approach. Thus, no further modifications had to be made to the instruments in this study.

The tests are loosely based on pioneering aptitude work by John Carroll that was previously described (see section 2.2). Similarly, Meara's version is also composed by four sub-tests.

Consequently, each sub-test assessed participants on four areas:

Table 1. *LLAMA Battery Sub-tests*

Sub-test	Area
Llama_B	a vocabulary learning task
Llama_D	a test of phonetic memory
Llama_E	a test of sound-symbol correspondence
Llama_F	a test of grammatical inferencing

Llama B is a vocabulary learning task. This section measures the ability to learn vocabulary in a short amount of time. The words employed in this vocabulary task are real words taken from a Central American Language, and they are arbitrarily assigned to some images (see Figure 1).

The aim of the task is to observe and learn the names of twenty objects displayed in the screen. Participants can click on the objects and have

access to the names of each of them as many times as they like during a span of two minutes, but notes should not be taken during this pre-test phase. When the pre-test time is up, the program warns the participant by playing a sound. When the official test time begins the program will display the name of an object in its central panel, so the participant is to identify the object that corresponds to that name by clicking on it. There are no time constrains for the official test time.

Figure 1. LLAMA B

The program gives feedback in the form of sounds, so as to indicate if answers are correct or incorrect as you answer each question. Llama D is a task that is designed to measure if short stretches of language can be

recognized at auditory level. The sound sequences used in this part of the program are computer generated. The words employed in this section are based on the name of flowers and natural objects in British Columbian Indian Language. The sounds of the words have been synthesized using AT&T Natural Voices (French), a text to speech software.

The aim of the task is to listen carefully to a set of words in a language that is unfamiliar to the participant, previous to the test phase. Notes cannot be taken during the listening period. After listening to 10 new words the test phase begins. During the test phase, the words are heard alongside other words that have not been heard before. The goal is to recognize the ten words that were heard at the beginning. The participant must decide if the word heard belongs to the ten words by clicking on a happy face icon, or if the word has never been heard before by clicking on a sad face icon (see Figure 2). Just like the previous section of the test, the program provides feedback in the form of sounds, so as to indicate if answers are correct or incorrect as the participant answers.

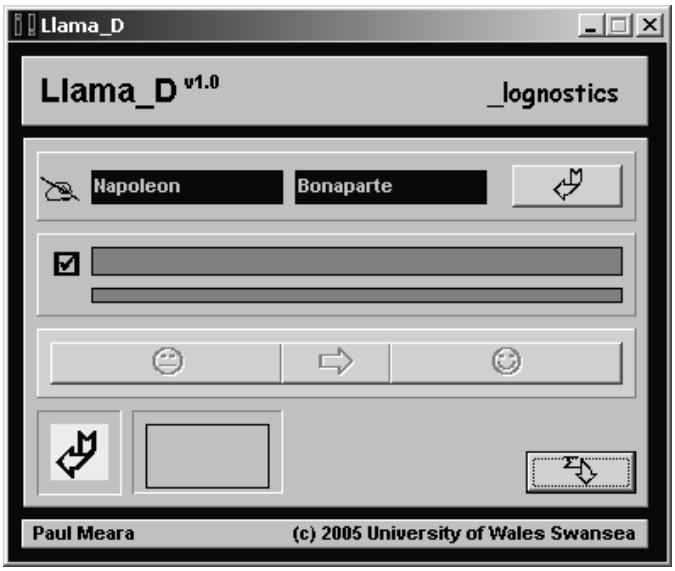

Figure 2. LLAMA D

Llama E presents a set of recorded syllables, along with the transliteration of these syllables in an unfamiliar alphabet. The aim of the task is to work out the relationship between the syllables that were heard and the writing system. There is a two minute pre-test phase in which participants can learn how the spelling system of this language works. The screen displays 24 buttons. Each button can be clicked and plays a short sound file. The text on each button tells how that particular sound is written in the language. During the pre-test phase notes of the sounds and its written representations can be taken.

After the pre-test phase has finished, a word is played by the program for the participant to listen to. At the same time, the program displays two possible written representations for the sound of the word previously heard.

One spelling is correct and the other is incorrect. The correct spelling should be chosen for each of the twenty test items by clicking on the corresponding button. Points are given if the correct alternative is chosen, or taken if the wrong alternative is chosen. This section of the test also provides feedback in the form of sounds so as to indicate correct and incorrect answers (See Figure 3).

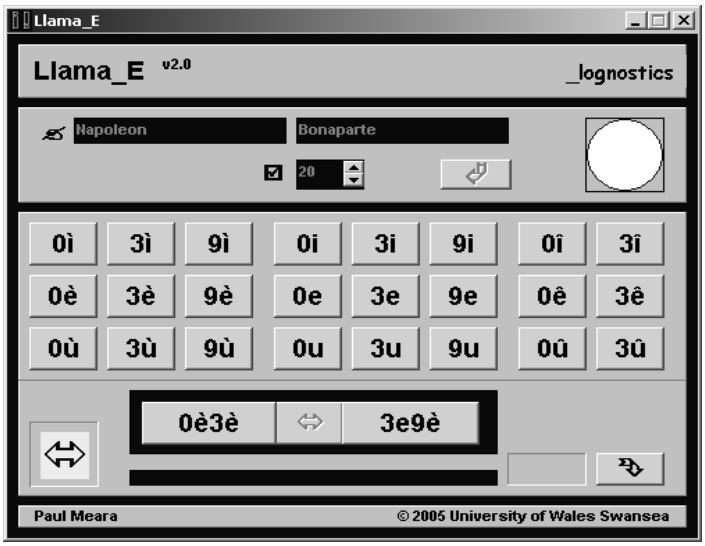

Figure 3. LLAMA E

Llama F is a grammatical inferencing test. The aim is to be able to work out grammar rules in a language that is unfamiliar. The program presents the participant with a screen which displays several buttons. By clicking on the buttons participants can have access to a picture and a sentence that describes it. In the pre-test phase, participants will have access to the items during a period of five minutes. During this training phase, participants are instructed to try to learn as much as possible about the language by viewing

20 sample sentences and accompanying pictures. Notes can be taken during the training phase of the test.

When the test phase has begun, the program displays a picture and two sentences. One sentence is grammatically correct, while the other contains major grammatical errors. Notes previously taken can be used in order to figure out the correct option. After choosing the correct option, the program will also provide feedback in the form of sounds for correct and incorrect answers (See Figure 4).

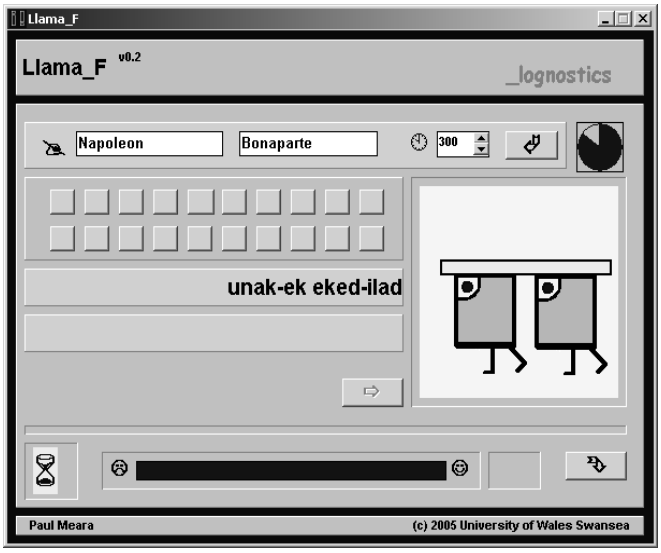

Figure 4. LLAMA F

LLAMA results can be analyzed based on the categorization proposed in the LLAMA manual (Meara, 2005). The LLAMA manual proposes a rating scale for each of the tests. All 4 tests have a maximum score of 100, though the distribution of categories in relation to the score obtained varies. The

Llama_B test ranges from very poor, for scores going from 0 to 20, to the highest category for those obtaining from 75 to 100. Llama_D section, also ranges from 0 to 100, in which the lowest category goes from 0 to 10, and the highest, for participants that obtain from 75 to 100. The Llama_E section, has the lowest category for those obtaining from 0 to 15, while the highest category corresponds to scores between 75 to 100 as well as the last test, Llama_F. The computer based test also provides the Llama DataReader program which can be useful when handling large amounts of data collected by the Llama programs. Each test taker will be identified by the program with a five letter code, called Halter Code. This code consists of the first three letters of the test taker's family name, and the first two letters of their given name. Additionally, the researcher also registered the scores obtained by each participant in all four sections of the aptitude test. The interpretation of the scores is based on the parameters described for each subtest, which in general indicates that the higher the score, the strongest the presence of the aptitude components, namely vocabulary learning ability, sound recognition ability, sound-symbol association ability, and grammatical inferencing ability.

3.2.2. The Attitude/Motivation Test Battery

The Attitude/Motivation Test Battery (AMTB) was employed in order to identify attitudes and motivation in English language learners. This version of the instrument is mainly designed to be used with secondary school

students learning English as a foreign language so no modifications were made to the instrument in order to collect the data needed to fulfill the objectives of this study. The instrument is composed by 104 statements which are distributed among twelve scales. Scales include scores for the following constructs: interest in foreign languages, parental encouragement, motivational intensity, English class anxiety, English teacher evaluation, attitudes towards learning English, attitudes toward English-speaking people, integrative orientation, desire to learn English, English course evaluation, English use anxiety and instrumental orientation. Such scales belong to five main constructs that compose the battery that measures motivation: Attitudes toward the learning Situation (ALS), Integrativeness (INT), Motivation (MOT), Language Anxiety (ANX), and Instrumental Orientation (INO). For young students, there is an extra measure, called Parental Encouragement (PE). Constructs and scales of the AMTB are organized in the following table 2 below:

Table 2. *AMTB Battery: Constructs and Scales*

Construct	Scales
Motivation	Motivational Intensity (10 items)
	Desire to learn the language (10 items)
	Attitudes toward learning the language (10 items)
Integrativeness	Integrative orientation (4 items)
	Interest in foreign languages (10 items)
	Attitudes toward the target language community (8 items)
Attitudes toward the Learning Situation	Language teacher evaluation (10 items)
	Language course evaluation (10 items)
Language Anxiety	Language class anxiety (10 items)
	Language use anxiety (10 items)
Instrumentality	Instrumental orientation (4 items)
Additional measure	Parental encouragement (8 items)

Specific items reflect the constructs that are part of the AMTB. The first, motivation is fundamentally composed by three items that assess effort and persistence, the desire to learn the language, and affective reactions to learning that language (see table 2). The second, integrativeness, involves the individual's orientation to language learning that focuses on communication with members of the other language group, a general interest in foreign groups, especially through their language, and favorable attitudes toward the target language group (see table 2). This construct reflects an openness to other cultures in general, and the target culture, in particular. Attitudes toward the learning situation refer to affective reactions to any aspect of the language class and intend to measure a class "atmosphere", the quality of the materials, availability of such materials, the curriculum, the teacher, etc. The fourth construct considers anxiety as a result from more general forms of anxiety such as trait anxiety, previous unnerving experiences in language lessons, or concern about deficiencies in language knowledge and skill. The last construct of the AMTB, instrumentality, refers to conditions where the language is being studied for practical or utilitarian purposes. An additional measure is included if younger language learners are being assessed. This scale assesses the extent to which students feel their parents support them in their language learning process.

An overall measure of motivation can be obtained out of a calculation of the aggregate scores. Aggregates scores are based on the item mean-level scores so that, on a seven point scale, aggregate scores vary from 1 to 7.

The 104 statements that are part of the battery are presented in a random order and are responded to on a six alternative scale. The alternatives and their assigned relative values for the positively keyed items are strongly disagree (1), moderately disagree (2), slightly disagree (3), slightly agree (5), moderately agree (6) and strongly agree (7). For those scales with less than 10 items, all are positively keyed. For those scales with 10 items, five are positively keyed while five are negatively keyed so that disagreement indicates a high level. The values assigned for negatively keyed items are distributed backwards in contrast to the positively keyed items (i.e., 1=7, 2 =6, 3= 5, etc.).

Scores obtained for each scale of the AMTB can be interpreted as indicated by Gardner's technical report (Gardner, 1985). The battery is composed of 12 scales with different scoring. Scales like interest in foreign languages, motivational intensity, English class anxiety, English teacher evaluation, attitudes toward learning English, desire to learn English, English course evaluation, and English class anxiety consist of ten multiple choice items, and thus have a maximum score of 70 each. If the maximum score is reached it indicates that the construct measured by each scale is clearly present or exists according to the participant's perception. In other words, supposing that the highest score is obtained for the desire to learn

the language scale it shows that the participant feels a strong desire to learn the language.

Unlike the previous scales, the parental encouragement and attitudes toward English-speaking people scales comprise eight multiple choice items each, and have a maximum of 56 points each. In the case that the maximum score is obtained in any of these scales it can be interpreted as the participant reporting to possess the features described by such scales. That is to say, having the maximum in a scale like attitudes toward the target language community indicates a positive attitude toward the target language community. Finally, the integrative orientation and instrumental orientation scale is composed of four items each, and have a maximum score of 28 points. Reaching the maximum punctuation in the integrative orientation can be interpreted as endorsing integrative reasons for studying the language, while obtaining the highest score in the instrumental orientation scale indicates that there are practical reasons for learning the language.

In order to obtain the final motivation score, also known as integrative motivation, indications given by Gardner (2009) were followed. The level of motivation was the result of an aggregate computation of the four mean aggregate score of each of the four constructs that integrate the battery. In other words, the scores obtained from the constructs of the battery, language anxiety (ANX), attitudes toward the learning situation (ALS), integrativeness (INT), and motivation (MOT), were used to obtain a score that characterized integrative motivation in the following way:

IM = INT + ALS + MOT - ANX

3.2.3. Achievement in foreign language learning

Participants' achievement in language learning was determined based on the content of an English optional course. This elective course took place during the first and second semester of the year 2015 once a week.

Academic achievement was determined based on the average of the marks at the end of the course. Additionally, the average marks corresponding to the two terms in which the course was divided into were also considered. The average mark obtained at the end of the first term corresponds to reading comprehension, while the average obtained at the end of the second term corresponds to the achievement obtained in terms of the listening comprehension skill. These grades are obtained through tests that are based on the tasks included in the Key English Test (KET) for reading and listening comprehension. KET is an English language examination provided by Cambridge English Language Assessment.

The reading and listening tasks represented the topic of each of the instructional units of the course for the first and second term correspondingly. Hence the activities corresponding to each unit were aimed at practicing the exam style tasks.

The reading comprehension tasks are five, thus the first term of the course was divided into five instructional units based on such tasks. The

first task tests the ability to understand the main message of a sign, notice or other very short text. The second task tests vocabulary knowledge, while the next task tests the ability to understand the language of the routine transactions of daily life. Task four tests the ability to understand the main ideas and some details of longer texts. The texts employed in task four are authentic, such as newspaper and magazine articles and collections of short stories, but adapted. The fifth task tests knowledge in the area of grammatical structures and usage in the context of a reading text. The texts used in this task are also adapted from newspaper and magazine articles, encyclopedia entries and other authentic sources.

The listening comprehension tasks are also five, thus the second term of the course was also divided into 5 units. Task number one tests the ability to identify simple factual information in five separate short conversational exchanges. The factual information elicited corresponds to prices, numbers, times, dates, etc. Then, task two tests the ability to identify simple factual information in one longer conversation. This conversation is usually an informal one between two people usually about daily life or free-time activities. The third part tests the ability to identify simple factual information in an informal conversation between two people. The last part focuses on the ability to extract specific information from a dialogue or monologue and write it down. The dialogue or monologue corresponds to neutral context like shops, or schools.

The input employed for the listening comprehension activities corresponds to written or adapted texts by item writers and recorded in a studio to simulate real spoken language (Cambridge ESOL, 2015)**.**

In summary, the average for the course, although limited to receptive skills, constitutes a reasonable indicator of general achievement. This is so because the objectives, activities and instruments to assess the foreign language learning process of the English course were based on the listening and reading comprehension sections of the international examination KET.

3.3. Data collection procedures

The batteries employed to gather aptitude and motivation data correspond to the Attitude/Motivation Test Battery and LLAMA Language Aptitude Test. Initially, the participants were asked to take both tests by the end of the second term of the year 2015. First, the paper based AMTB was completed by all the twenty-seven participants. Then, the computer based aptitude test was completed in groups of 4 or 5 depending on the computers available. Unfortunately, it was not possible to collect all of the aptitude data during the second term of the year 2015, so the aptitude data gathering process was resumed during the first term of the year 2016. The academic achievement data was collected by the end of the year 2015, in order to have full access to the complete record of the participants' language learning course average marks. After the motivation and aptitude scores

were identified, as well as the participants' language achievement, they were correlated as explained in 3.4 below.

3.4. Data analysis

The study reported in this thesis aims at identifying the relation between individual differences, namely motivation and aptitude, and academic achievement in foreign language learning. Previous research in this area has shown that aptitude and motivation are the two individual variables that can most accurately predict success in second or foreign language learning (Skehan, 1991; Doryei, 2001; Gardner, 2005). According to this evidence, it was expected that variables would behave similarly, that is to say, aptitude and or motivation variables in relation to achievement variables should increase or decrease in the same direction. .

The analysis was applied using the Spearman's Rho, a non-parametric test used to measure the strength of association between two variables (Stangroom, 2017). According to this test, if the value for *r* is 1, it indicates that there is a perfect positive correlation, while there is a perfect negative correlation if the value for *r* is -1. The correlation was performed by using the Spearman's Rho Calculator (Stangroom, 2017). This is a free online correlator that is usually used to measure the strength and direction of the relationship between two variables.

After the data collection procedure was concluded, results were organized in excel spreadsheets in the form of tables.

The calculation of the results was carried out using an online calculator for correlations Spearman's Rho Calculator (Stangroom, 2017). Correlations between each of the variables were calculated.

In order to provide a more precise look into the way motivation and aptitude behave in relation to achievement in language learning, correlations between the internal components of each variable were also calculated. More specifically, inner constructs of the AMTB were correlated to internal units of the LLAMA battery and achievement. Hence, scores for motivation components, integrativeness, attitudes toward the learning situation, language anxiety, motivation and instrumentality, were correlated to scores of language learning aptitude components measured in this study, namely vocabulary learning, phonetic memory, sound-symbol correspondence and grammatical inferencing. At the same time, the motivation components previously mentioned were correlated with the participants' achievement, which was composed by their achievement in the area of listening comprehension and reading comprehension. The same correlation calculation was carried out between achievement components and language learning aptitude areas.

3.5. Analysis Criteria

According to the aims of this study, high, significant correlations were interpreted as evidence of the relationship there is between motivation and aptitude in relation to achievement in foreign language learning. In this sense, correlations in the range of 0.20 and 0.60 were considered as relevant in the analysis of the results obtained for the internal constructs of the AMTB and LLAMA batteries, and the components of achievement.

This is in line with previous studies that indicate that "correlations of aptitude or motivation with language achievement range (mostly) between 0.20 and 0.60, with a median value a little above 0.40." (Dornyei & Skehan, 2003, p. 589). Similarly, Ellis (2004) states that research based on batteries that measure aptitude have revealed consistent correlations with language achievement in the order of 0.40 or higher.

In terms of motivation, research performed by Skehan (1991) summarizes results obtained by Gardner regarding the relation between motivation and achievement. In this regard it was reported that correlations are around 0.30 to 0.46, which indicate a consistent and important relationship (p. 282).

Regarding the criteria for correlations between individual differences, namely motivation and aptitude, no parameters were set since aptitude and motivation do not show particularly high correlations with one another (Donyei & Skehan, 2003).

Considering the criteria previously described, the next section will present and elaborate on the correlational results between motivation and aptitude, and achievement.

Chapter 4: Results

The report of the results obtained in this study is organized into two parts. The first part focuses on a description of the results obtained from the observed statistical correlations between the measures of aptitude, motivation and achievement in language learning. The second part presents the results obtained from the correlational analysis between the subcomponents of motivation, aptitude and achievement scores.

4.1. Motivation, Aptitude and Achievement.

As shown in Table 3 below, it is possible to see that the correlation coefficient between the participants' level of motivation, as measured by the AMTB, and aptitude results, obtained from the LLAMA test battery, are 0.10. Regarding motivation levels and academic achievement in language learning, it is possible to observe a coefficient of 0.54, which is also statistically significant. As for the results obtained between achievement and aptitude it can be observed that there is a non-significant correlation of 0.31.

Table 3. *Correlations between Motivation, Aptitude and Achievement*

	Motivation	Aptitude	Achievement
Motivation	-	0.10	0.54*
Aptitude		-	0.31
Achievement			-

*$p < .05$.

These results indicate that out of the two individual differences, which are the subject of this study, motivation is the one that showed the highest correlation and the only statistically significant result in relation to language learning achievement. This supports the idea that motivation influences foreign language learning for the participants of this study. More specifically, this supports the idea that integrative motivation, as represented by the constructs that are part of the battery, are associated with academic achievement in foreign language learning.

4.2. Motivation, Aptitude and Achievement Subcomponents.

Correlations between AMTB and LLAMA subcomponents are presented below in Table 4. As results indicate, none of the statistical correlations

obtained can be considered as statistically significant. This suggests that the amount of motivation to learn a foreign language is not influenced by the individuals' level of language learning aptitude.

Table 4. *Correlation between AMTB and LLAMA Components*

	LLAMA B	LLAMA D	LLAMA E	LLAMA F
MOT	0.06	0.16	0.15	0.21
INT	-0.03	0.22	-0.14	0.05
ALS	-0.09	0.20	0.19	0.04
ANX	-0.07	-0.06	0.14	0.09
INO	0.006	0.23	0.19	-0.04
PE	-0.07	0.18	0.28	0.06

$*p < .05$

Table 5 below presents the results obtained from the correlation between the internal constructs of the AMTB and achievement in foreign language learning. It is possible to see that only three of the constructs belonging to the AMTB battery, namely integrativeness, attitudes toward the language situation and anxiety, correlate significantly to reading comprehension. Regarding the results obtained from the statistical correlation between listening and AMTB constructs, no significant correlations were found.

These results suggest that even if there is an overall relation between motivation and achievement (see section 4.1), the degree to which motivation subcomponents influence reading and listening comprehension is not the same.

Table 5. *Correlation between Subcomponents in AMTB and Academic Achievement*

	Reading	Listening
MOT	0.34	0.20
INT	0.42*	0.34
ALS	0.45*	0.33
ANX	-0.39*	-0.31
INO	0.36	0.26
PE	0.10	0.11

$*p < .05$.

The results presented in table 5 can be interpreted as evidence supporting the idea that certain specific motivation subcomponents, namely integrativeness, attitudes toward the language situation and anxiety, influence the extent to which individuals will succeed in an area of language learning like reading comprehension. On the other hand, the fact

that listening does not correlate to any of the motivation subcomponents suggests that listening comprehension achievement is not influenced by this individual difference or any of its components.

Table 6 below summarizes the results obtained from the correlational analysis between the internal components of the LLAMA battery and achievement components. It can be observed that there is no significant correlation between LLAMA E and F and the achievement subcomponents. The association between LLAMA D and reading is not considered statistically significant as well. On the other hand, reading correlates significantly with LLAMA B. Listening is also found to correlate significantly with LLAMA B and D.

Table 6. *Correlation between LLAMA and Academic Achievement Components*

	Reading	Listening
LLAMA B	0.41*	0.44*
LLAMA D	0.37	0.42*
LLAMA E	-0.14	-0.17
LLAMA F	0.26	0.31

$*p < .05$.

Results (see table 6) suggest that there is little relationship between language aptitude, as measured by the LLAMA battery, and foreign

language learning achievement in reading and listening comprehension. Correlations between the sections of the battery and reading suggest that language aptitude would not influence achievement in reading comprehension is irrelevant.

Unlike most of the battery, only LLAMA B correlated with reading comprehension, indicating that the degree to which learners will be able to succeed in reading comprehension is determined by their vocabulary learning abilities.

On the other hand, scores from the sections of the battery partly correlate with listening comprehension achievement. These results indicate that the abilities to learn vocabulary and recognize spoken patterns, as measured by LLAMA B and D respectively, are related to achievement in listening comprehension. In contrast, the abilities of making sound associations and inducing of inferring the rules of a language, namely LLAMA E and F respectively, are not related to listening comprehension achievement or will not influence the extent to which learners will achieve in this skill.

In summary, results suggest that the role of motivation was greater than the influence of language aptitude in the levels of achievement of the learners in the group examined. Still, after correlating the constructs of the AMTB and achievement in reading and listening comprehension it was possible to see that only some constructs correlated significantly to achievement, more specifically with reading comprehension. In contrast,

listening comprehension achievement seems not to depend on motivation. On the other hand, correlations between LLAMA subtests and achievement in listening and reading indicate that there are some constructs of aptitude that are related to achievement. More precisely, vocabulary learning and oral language patterns recognition show significant correlations with listening and reading, indicating that their underlying constructs are related to achievement in both areas of foreign language learning achievement.

In general, these results suggest that motivation has an influence on the degree to which individuals learn a foreign language as measured by their academic achievement. Additionally, results indicate that there are also some specific aptitude and motivation subcomponents that are directly associated to the two components of achievement in language learning considered in this study. Hence, chapter 5 below will be devoted to the discussion of these results and their implications in relation to the issues discussed in the Theoretical Framework.

Chapter 5: Discussion

The study in this thesis aimed at identifying the relation between language aptitude, motivation and achievement of foreign language learners. In order to do so, test batteries for motivation and aptitude were employed to measure aptitude and motivation levels in foreign language learners. It was also necessary to identify participants' level of achievement in order to have an indicator of the academic performance in a foreign language learning course. After participants' level of motivation, aptitude and achievement were measured, a series of statistical correlations were calculated between the scores obtained for the variables of the study.

As the results of this study (see section 4.1) indicate, motivation influences the extent to which language learners achieve as this variable showed the strongest correlation with academic achievement. At the same time the most statistically relevant finding is that aptitude behaved very differently from typical research in which aptitude is seen as one of the strongest predictors of language learning success (Gardner, 1985; Dornyei & Skehan, 2003; Dornyei, 2005; Ellis, 2004; Muñoz, 2014). In this particular context, the association between aptitude, as measured by LLAMA, and language learning achievement was not statistically significant. Surprisingly though, it was possible to identify that some of the components of achievement, namely reading and listening comprehension, are related to specific subcomponents of motivation and aptitude.

The results of the study will be discussed in this chapter in relation to the main objective and the theoretical framework of this study. The organization of this chapter considers two parts: the first part is devoted to elaborating on the results presented in section 4.1. The aim is to determine how they behave, and to compare those results to those of previous studies. The second section of this chapter focuses on the analysis of the results obtained from correlations amongst the constructs of motivation and aptitude in relation to the components of achievement, listening and reading comprehension (see section 4.2).

Likewise, the points presented in this chapter should be discussed considering certain constrains. Some of them are the sample used in this study, as well as the current status of the aptitude battery employed in this study.

5.1 Motivation and Aptitude in Foreign Language Learning

Previous research in the area of individual differences has supported the idea that typically there is a close relationship between motivation, aptitude and success in second or foreign language learning. For instance, previous studies mainly carried out by Carroll (1960) demonstrated that there were significant correlations between aptitude test scores and measures of second-language achievement (Gardner, 1960). In addition, Gardner (1960) proposed that not only aptitude could be pointed as a main factor that influences success in the acquisition of a new language, but also motivation.

Thus, foreign language aptitude and motivation have been pointed as the most consistent predictors for language learning success (Skehan, 1991; Gardner, 2001; Dornyei & Skehan, 2003) (See section 2.1 for details).

Results obtained in this study partially match with what has been typically reported in previous studies. On the one hand, results suggest that there is a relation between motivation and achievement in foreign language learning. As the results in section 4.1 indicate, motivation seems strongly related to indicators of achievement for the group of participants in the study. These results support Gardner's socio educational model (1974) as measured by the AMTB. More importantly, they support the idea that the AMTB can also provide consistent results in L2 foreign language contexts.

As the results in this study suggest that motivation is related to achievement, which is in line with evidence provided by Gardner & Masgoret (2003), it supports the idea that the battery measures what it claims to measure. In this respect, Gardner & Masgoret (2003) reported as an additional finding that regardless of the nature of the learning environment, whether it is second or foreign learning, the findings should be relatively similar.

In terms of the relation between motivation and aptitude, it was possible to observe that there was no significant relation (see section 4.2). In this regard, Dornyei & Skehan (2003) report that motivation and aptitude do not particularly correlate with one another. Nevertheless, it must be considered

that such observations have been made considering specific batteries, namely AMTB and MLAT. However, a different battery has been employed to measure aptitude in this study, LLAMA, which happens to be loosely based on Carroll's work (Meara, 2005). All in all, the results would support Dornyei and Skehan's (2003) claim regarding the relation between motivation and language aptitude. In other words, even though this study employs a different battery to measure aptitude, it is still possible to observe that there is no relation between motivation and aptitude.

Results also revealed that the relationship between language achievement and aptitude is weak as average aptitude scores and achievement did not correlate significantly (see section 4.2). In this regard, previous research (Gardner, 1985; Dornyei & Skehan, 2003; Dornyei, 2005; Ellis, 2004; Muñoz, 2014) has typically reported that language aptitude is one of the most consistent predictors of success in foreign or second language learning, along with motivation. Studies based on MLAT results have revealed consistent correlations with language learning achievement in the order of 0.40 or higher (Ellis, 2004).

There are two plausible reasons why results reported in this study differ from previous research. First, regardless of LLAMA's validity issue reported by Meara (2005), there are differences between both aptitude batteries that may result in different scoring patterns. One difference is found in the constructs that are part of each aptitude battery. Though most of LLAMA (Meara, 2005) is loosely based on Carroll's battery, Meara

(2005) indicates that there is one original section, LLAMA D. This section, which is not based on Carroll's work, was designed to test the ability to recognize short stretches of spoken language. In addition, LLAMA F measures an aspect of aptitude, namely explicit inductive learning ability, which is not directly measured by Carroll's battery. Thus, aptitude results can vary considering that the abilities that are measured by MLAT and LLAMA are not necessarily the same or are not measured in the same way MLAT does.

Besides, the results obtained in this study could also be due to differences in the test taking procedure between this study and previous ones. This is a real possibility, as there are no further suggestions in Meara's manual (2005) on how to prepare the collection of aptitude data. In this regard, the LLAMA manual is not explicit in certain matters, such as the conditions that must be considered to ensure the quality of the data gathered. The lack of explicit specifications about the testing conditions can also be found in a few studies about this battery (Granena, 2013; Rogers et al., 2016).

Despite having compared motivation and aptitude, the objective of this study is not stablishing which of the two individual variables being investigated can be labelled as the best language learning predictor but to obtain a deeper insight into their relationship with language learning achievement by looking into the subcomponents of the variables. Therefore, the subcomponents of motivation and aptitude variables, as measured by

their corresponding batteries, and the subcomponents of achievement, namely reading and listening comprehension, will be analysed in section 5.1.

5.1. Internal components

This section of the discussion is devoted to the analysis of the results obtained between the components of the LLAMA and the AMTB batteries in relation to the foreign language learning achievement data. A discussion about the results found between the internal components of the AMTB and achievement in listening and reading will be presented first, followed by a discussion about the results obtained between LLAMA components and achievement in listening and reading comprehension. Correlations between motivation and aptitude components will not be further discussed since it has been previously stated that they do not tend to correlate particularly high between each other (Dornyei & Skehan, 2003). Consequently, results obtained between the constructs of the AMTB and the constructs of LLAMA fall within expected, indicating that there is no relevant relationship between motivation and aptitude.

5.2.1. Examining AMTB constructs

As stated in section 4.1, the study identified a positive significant correlation between motivation and achievement in language learning. If we consider previous research in the realm of individual differences, the

correlation observed in this study is in line with expectations in relation to results reported for motivation and achievement in language learning.

The constructs of motivation measured by the AMTB are six, namely motivation (MOT), integrativeness (INT), attitudes toward the learning situation (ALS), language anxiety (ANX), instrumentality (INO) and parental encouragement (PE) which is only considered in the case of young learners. The first four constructs (MOT, INT, ALS and ANX) are the ones employed to obtain the aggregate score of integrative motivation that was correlated to achievement (see section 4.1), while the other two constructs namely, parental encouragement and instrumental orientation, correspond to further motivational scales (see section 3.2.2 above). At the same time, the internal components of achievement in foreign language learning considered in this study were listening and reading comprehension skills.

In case of using the AMTB with young learners the parental encouragement (henceforth PE) scale is included. PE is an extra component that aims at assessing the extent to which students feel their parents support them in their language study. Previous research by Gardner (2007) indicates that parental encouragement is not a significant correlate of English grades. Similarly, results obtained in this study indicate that the correlation between PE and reading and listening is not statistically significant. Results in this study confirm that the association between the role of parental attitudes and participants' achievement for listening and reading is not relevant. One possible explanation for this is that parents' influence might decrease over

time, becoming less influential as compared to what it was for the learner at an earlier age. So, considering that the participants of this study are no longer children, but teenagers, it seems reasonable to find there is no statistical relation between the construct of parental encouragement and foreign language learning achievement.

Instrumental orientation (henceforth INO) is a construct that reflects the practical or utilitarian value assigned to learning a language. The hypothesis underlying this variable is that learners who see instrumental value in learning a language, such as English, do better than those who see it as less important (see section 3.2.2). Results in this study indicated no statistically significant correlation with any of the components of achievement. On the other hand, the observed correlations of .26 for listening, and .36 for reading, match what has been described in previous research. These results support the idea that learning a foreign language for practical reasons is related to academic achievement. Contrary to PE, it seems that the role of instrumentality is stronger as individuals get older. In this sense Gardner (2007) concludes that as age increases instrumental orientation takes on a slightly more important role. In line with Gardner's claim, it can be observed that correlations between achievement components and PE in this study are weaker than the correlation between achievement components and INO. Additionally, it would be important to consider that the participants in this study are in a stage of life in which they begin to see the utilitarian value of tools such as a foreign language, which can also explain partly the

correlations between achievement and constructs like PE and INO found in this study.

The construct anxiety (henceforth ANX) represents the components that interfere with learning. In the AMTB, language anxiety is assessed by two scales, Language Class Anxiety and Language Use Anxiety. In this regard, it is expected that a motivated individual should reflect low levels of anxiety. Consequently, Gardner (2005) indicates that individuals who experience high levels of language anxiety will tend to do more poorly on the measures of achievement. This would be indicated by a negative correlation between ANX and achievement in foreign language learning. According to the results obtained in this study, it can be observed that despite obtaining negative correlations, as described in previous research (Gardner, 2005, 2007), the correlation is not significant for listening comprehension. The results between achievement in reading and ANX may be an indication that language learners were less anxious about this receptive skill. In other words, even though both are receptive skills, listening is an area of foreign language learning in which learners are likely to feel they have less control. In this sense Vandergrift (2007) indicates that listening is often perceived as the most difficult skill to learn given to its implicit nature and the temporary access to the input. Therefore, even if both receptive skills correlate negatively with ANX, the correlation between listening and ANX is not significant. This seems to indicate that learners

tend to experience higher levels of anxiety in relation to listening given to the complexity of this skill.

Attitudes toward the learning situation (henceforth ALS), refer to the learners' reaction to formal instruction, in which language teacher and course perception are involved. In other words, this construct is the result of the contribution that some elements related to class experiences, such as curriculum or teacher's performance, can have in promoting higher levels of motivation (Gardner, 2005). Despite results reported by Gardner (2007) indicating that there are low correlations between ALS and grades in English, statistically significant correlations were obtained for reading in this study. Thus, it may be that learners' perception of their educational environment in the context of this study has an unexpected effect on their achievement in foreign language learning in general terms.

Consequently, it could be suggested that in the context of this study the influence of the teacher and the learning materials play an important role as part of the learners' motivation and therefore their language learning achievement. In particular, the context in which the participants of this study learn a foreign language like English provides them with two different instances to practice and study the language: a core and an elective English course. It might be that, as a consequence of the age factor already discussed in this chapter in relation to the PE construct, students become more aware of the effort exerted by the teachers in designing the language lesson and choosing the appropriate materials for students to learn. In other

words, as PE is not relevant given to the age of the participants, it is this maturation the one that makes them realize and appreciate the conditions in which they are learning to the extent that makes them succeed, as measured by their academic achievement.

Integrativeness (henceforth INT) is a complex construct that can be defined as the individual's openness to taking on various elements or characteristics of another cultural/linguistic community (see section3.2.2). In the AMTB this construct is assessed by three scales: integrative orientation, interest in foreign languages and attitudes toward the target language community. It is expected that individuals with high levels of integrativeness do not focus on their own ethno-linguistic community as part of their own identity, but instead there is a great deal of willingness to acquire certain features of the target language group as theirs.

According to Gardner (2007), students that experience this openness to cultural identification, and positive attitude and interest in English speaking communities achieve higher grades in English than those who are less willing to grasp characteristics of another cultural community. Somehow differently, the results of this study partially match these previous observations. While the relationship between INT and reading is statistically significant, INT cannot be pointed as strongly related to listening. In other words, a high level of willingness to grasp features that belong to the target language group would not imply that participants' level of achievement will be high at least regarding listening at least in this

context. One possible reason is that language learners get the change of stablishing a connection and thus some kind of cultural identification through reading, while it is much harder to do this through listening since, as described before, this is a language skill that produces higher levels of anxiety. At the same time such levels of anxiety would prevent learners from stablishing a connection, and thus some kind of cultural identification through this skill.

Furthermore, this openness to the set of features that are part of a language is not only related with cultural matters, but also with more specific components of language. In this respect, Gardner (2005) proposes that also words, pronunciation, and grammar are salient characteristics of another cultural community, and thus the individual's openness to other cultures will influence his/her motivation to learn a language. It is possible to speculate that such a difficult task as getting hold of the previously mentioned elements of language is much more difficult when such elements are being presented to the learner in an aural format. In other words, the nature of the listening skill has probably influenced the way that achievement and integrativeness usually relate.

Unlike the previous construct, the motivation measure (henceforth MOT) refers to a combination of the individual's attitudes, aspirations and effort with respect to learning a second or foreign language. Consequently, the motivation measure is composed of three scales in the AMTB: desire to learn the language, attitudes towards the language, and motivational

intensity. For the purposes of this study, the aggregate score of these three scales was correlated with achievement in listening and reading results. As reported in section 4.2 the correlations between motivation and academic success in listening and reading are not statistically significant. This suggests there is a certain mismatch concerning integrativeness and its role as a supporting construct for motivation. Still, it was possible to notice that there is certain coherence regarding the results for listening. As previously discussed, similar results were obtained between listening and INT. Regarding this topic, Gardner (2005, 2007) proposes that constructs such as attitudes toward the language situation and integrativeness contribute directly to the measure of motivation. In other words, the measure of motivation in the AMTB battery is supported by other constructs like integrativeness. In this sense, it would be expected that if there is a relationship between achievement and integrativeness, the same would be true for achievement and motivation. Hence, if integrativeness is one of the constructs that serve as a major support to motivation and the correlation between integrativeness and achievement is weak, then it could be expected that the relation between motivation and achievement would be weak too. Put differently, this would be a case in which individuals' achievement in foreign language learning is not particularly related to integrativeness, hence neither with the motivation component of the battery.

While there is no record of similar results on Gardner's research (2007), as he states that it has been well documented that the measure of motivation

would be more highly related to achievement than would integrativeness or attitudes toward the language situation (Gardner, 2005), it could be speculated that learners' motives for learning the language are not purely based on the language itself.

In order to conclude this section and clarify as much as possible the way the measures of the AMTB behave, a contrast between the results in this study and previous research (introduced in section 2.3.2) are presented. If we consider the aggregate measures of all six constructs that are part of the battery and compare the results of this study to previous research (Gardner, 2007) it is possible to identify some differences. In a study that correlated English grades with all six measures of the AMTB it was found that the highest correlate was the measure of motivation, and then followed by anxiety and instrumental orientation (Gardner, 2007). Additionally, results indicated that the lowest correlates corresponded to attitudes toward the language situation and parental encouragement.

Similarly, results in this study indicate that parental encouragement is not related to the level of success in English learning. Both, listening and reading presented very low correlations in this study. Very differently to previous research, motivation was not the highest correlate in this study, in fact it was one of the lowest correlates along with parental encouragement. Instead, attitudes toward the learning situation, followed by integrativeness and anxiety were the highest significant correlates in the case of reading comprehension achievement. Regarding listening, results are organized in

the same order as reading, but none of the subcomponents of the AMTB correlated significantly with listening achievement. As results indicate, it seems that the degree to which learners will achieve in listening comprehension is not influenced by any of the AMTB subcomponents.

While it is no surprise that parental encouragement does not correlate to achievement in general terms, results indicate that achievement in listening seems to have no relation with overall motivation, as measured by all the AMTB scales. One possible explanation for these results could be the nature of the input employed to measure listening comprehension, as the input might be perceived as unrealistic, though intended to resemble real life situations. In this regard, as listening achievement was measured based on the international examination KET the input responds to the description provided in Cambridge Key for Schools: Handbook for teachers. The Handbook describes the listening input as "written or adapted by item writers specifically for the test and recorded in a studio to simulate real spoke language. The listening texts are recorded on CD, and each text is heard twice." (Cambridge ESOL, 2015, p. 23). The artificial form of the input employed to measure listening comprehension could decrease the level of motivation participants as they might feel that there is little resemblance to real life communication.

All in all, these results indicate that learners' reasons for learning a language could be rooted on factors that are external to them, rather than a pure explicit, intense desire toward language learning. That is to say, their

intention is driven also by environmental or social factors like the language teacher, the language course and the target culture.

5.2.2. Examining LLAMA constructs.

In order to analyze the relationship between aptitude and achievement in foreign language learning the LLAMA battery was employed. After examining results between achievement and the aggregate score of all of the components of the aptitude battery it was possible to determine that, by statistical standards, the association between these two variables would not be considered statistically significant.

The results of this study contrast with previous research in which it has been stated that aptitude works as one of the best predictors of foreign or second language learning success. Most of such research has been carried out employing instruments such as MLAT or PLAB. On the other hand, LLAMA is an aptitude battery that has recently become available and even if it has been used in an increasing number of studies in the SLA field (Granena, 2013; Jackson, 2014; Rodgers et all, 2016), it has not been extensively standardized. Thus, it seemed necessary to explore the nature of this battery and its relation to foreign language achievement by analyzing each of its four sub-tests and how they relate to foreign language outcomes.

In this case only some of the constructs measured by the sub-test correlated significantly with achievement in foreign language learning.

More specifically, one of the four sub-tests employed to measure aptitude is LLAMA B. This sub-test is loosely based on the original vocabulary learning subtask of Carroll and Sapon (1959) called paired-associates test. In LLAMA B, test-takers have to learn as many words as possible by associating them with a target image. In relation to this study, correlations between this section of aptitude and achievement in reading and listening are significant.

The relation obtained in this study between the area of aptitude measured by LLAMA B and reading and listening is in line with expectations. Such expectations are related to the elements assessed in the examination employed to identify participants' achievement in foreign language. In order to identify such levels of achievement assessments were designed based on Cambridge's KET examination. One of the sections of the KET examination considered so as to measure achievement in reading dealt directly with vocabulary (see section 3.2.3). In this sense it seems reasonable to expect reading and the vocabulary section of the aptitude battery to be related to each other.

On the other hand, even if the format of the tasks employed to assess listening did not explicitly assess vocabulary, there is a direct relation between the listening skill and vocabulary. In a study about lexical and grammatical knowledge in reading and listening comprehension, Mecartty (2000) concludes that the language learner who has strong lexical knowledge is a good reader and also a good listener. Thus, significant

correlations between achievement and the ability to learn vocabulary, as measured by LLAMA B, are related in a way that aptitude for vocabulary learning will support and facilitate the comprehension of written and oral texts.

Moreover, it could be assumed that the ability to associate words to images, as measured by LLAMA B, has a certain degree of relationship to achievement in certain language learning areas like reading and listening. This is supported by Cook (2008), as he states that vocabulary impinges on all areas of language acquisition and is not just learning sets of words and meanings. Therefore, one way to interpret the results is by considering that if vocabulary is involved in all areas of language acquisition, this area of aptitude will certainly be related to the decoding of information in oral or written formats, as measured in reading and listening comprehension.

LLAMA D is a section of the aptitude battery that measures the ability to recognize patterns in spoken language. Unlike the other sections of the battery, this is not based on Carroll and Sapon's work (1959). According to Meara (2005), this ability should help individuals recognize the small morphological variations that many languages use to signal grammatical features. In this particular context, it can be observed that there is significant correlation between the LLAMA D and achievement in listening, while the results for achievement in reading and this section of the battery are not statistically significant. One possible reason for the results can be given to the relationship that is established between the ability to

recognize stretches of spoken language and the listening ability. In this sense Meara (2005) establishes that if someone can distinguish patterns in spoken language, then it is more likely to recognize words when they are heard for the second time. As Speciale, Ellis, & Bywater (2004) conclude, this helps people to acquire vocabulary, indicating that the consolidation of new words is partly the result of the phonological short-term store capacity. That is to say, the relation that was determined between achievement in listening and the sound recognition construct, as measured by LLAMA D, falls into expected results since the ability to recognize sounds is directly related to decoding information in an aural format (Muñoz, 2014).

LLAMA E is a sound-symbol correspondence task and it is an adaptation of the original sound symbol correspondence test that appeared in Carroll & Sapon's MLAT (1959). The aim of this section of the battery is to measure the ability to work out relationships between sound and symbols. Similarly, LLAMA D and E assess participants' phonological capacities. Regarding the results between the ability of phonemic coding, measured by LLAMA E, and achievement, weak negative correlations were obtained for achievement in reading and listening. It is possible to think that if LLAMA E measures abilities in the realm of sounds, it should have at least matched the outcomes for the listening skill, instead the relation here is negative. Rogers et al. (2016) indicates that LLAMA E needs to be re-examined given to the high scores obtained regardless of how the groups are calculated. Similarly, he also reports that Carroll (1990) found that

scores in the phonetic discrimination task of the MLAT (the equivalent for LLAMA E) also were negatively skewed, suggesting that the test was too easy (as noted by Rogers et al., 2016, p. 23). Thus, even if the main aim of this study is not analyzing the performance of the participants regarding the ability to establish connections between sound and symbols, it must be emphasized that previous research (Rogers et al., 2016) has already suggested that scores could be biased in this section of the LLAMA battery and thus, it needs to be re-considered.

The last section of the LLAMA battery deals with the ability to infer the rules of an unknown language by means of pictures and short sentences. Based on the results in this study, it seems that there is little relation between this ability and achievement since correlations for listening and reading are not statistically significant. Conversely, Muñoz (2014) indicates that grammatical abilities, though measured by MLAT-E, show high correlations with reading, and listening in a decreasing order of strength.

Even if the reading skill measured by tests that are based on the KET examination, contemplates a section which explicitly focuses on grammatical abilities (see section 3.2.3), it would have been expected this area of aptitude to match reading outcomes. Concerning the relation between grammatical aptitude and listening, results are not surprising. In this sense Muñoz (2014) suggests that listening requires less explicit grammatical knowledge than reading or writing. In other words, it seems that the grammatical ability would not play a major role in listening

outcomes. In the context of this study this can be interpreted as an indication that the ability to infer grammatical patterns is not directly related to reading or listening, probably because the instruments employed to measure both skills do not directly tap into the grammar inferencing ability, but rather tap into overall understanding of simple written and oral information.

After analyzing each construct of the LLAMA battery in relation to achievement in foreign language learning it is possible to suggest that some battery components are related to some of the different skills in foreign language learning like listening or reading.

Despite of the results of this study that suggest that motivation is related to success in foreign language learning, and that aptitude seems to be out of the learning success equation it seems reasonable to conclude that this is partly a reflection of the context of this study. Whether motivation to learn a foreign language like English is based on integrative or instrumental motives, learners display several of the features described in Gardner's theory of motivation in foreign language learning. In the context of the study it was difficult to find a learner that does not see at least one reason why they should not learn a foreign language. It could be that this is directly connected to the extent that a construct like Attitudes toward the Language Situation was identified to be related to the participants' academic achievement, which is not common in previous research (Gardner, 2007).

This suggests that there is in fact a genuine interest in learning despite of what the academic results might be.

On the other hand, while aptitude seems to be independent from academic success in foreign language learning in this context, features of language aptitude in this particular context in terms of what is described by Carroll (1989) can also be observed. The innate ability to pick a new language is reflected in the context of this study in terms of the relative small amount of time that some learners exhibit when learning English, which at the same time usually matches their academic success.

In general, it can be concluded that even if motivation, as well as aptitude, have been typically found to be strong predictors of language success, results obtained in this study identify motivation as the individual difference that most strongly relates to foreign language learning. Consequently, overall aptitude, as measured by LLAMA, seems to be weakly related to achievement in foreign language learning. In this regard, the current status of the battery and the reduced number of studies and information regarding the aptitude battery makes it difficult to speculate about the results in this study. Still, it must be considered that this battery measures areas of aptitude that are not directly measured by other batteries like MLAT or PLAB, namely the ability to recognize spoken patterns (LLAMA D) and the ability to infer grammatical features (LLAMA F) (as indicated in 3.2.1). Additionally, a clear example of the current experimental status of the battery comes from Rogers et al. (2016)

regarding LLAMA E and how this section should be re-examined as scores tend to be too high.

On the other hand, the way in which the aptitude results in this study and previous research differ could be due to differences in the data collection procedure. Additionally, the results discussed in this chapter should be interpreted considering the reduced sample size. As the sample examined in this study only included 27 people, having a reduced number of participants could hinder the generalization of the results of this study.

Next chapter synthesizes the main points covered in this study, as well as reconsidering the limitations of it. Additionally, suggestions for further research are also included along with some final comments.

Chapter 6: Conclusion

The topic of this study is set within the context of individual differences and their influence in language learning. Two of these individual differences have been typically found to be the strongest predictors of foreign or second language learning success. Thus, the attempt of this study was not only to identify the relation between language aptitude, motivation and achievement particularly in a foreign language learning context, but also to examine motivation and aptitude components in relation to reading and listening skills achievement.

This chapter is organized in four parts. First, the findings regarding the objectives of the thesis will be summarized. Then, limitations of the study and suggestions for future research will be included. Finally, this study concludes with a final comments section.

6.1. Main findings

Based on the results of this study regarding the relation between motivation, aptitude and achievement in foreign or second language learning it can be concluded that motivation was the individual difference that showed the strongest correlation with language learning outcomes in the data set under examination. As results indicate, motivation seems to be closely related to learning a foreign or second language as English. Thus, the results previously described can be considered as the reflection of the

generalizability of Gardner's socio educational model as measured by the AMTB.

Unlike previous research, aptitude and achievement yielded weak correlations. Such statistical results would indicate that in this particular context aptitude is not responsible for the degree to which learners will succeed in foreign language learning as determined by their academic achievement. One possible reason for this is that the exploratory nature of the battery employed in this study, LLAMA, might have had some effect in the results. It could be that the weak correlation between achievement and language aptitude is rooted in some of the subtests of the battery. While the battery is mostly based on Carroll's work, it contains an original subtest that measures phonetic implicit memory, and another subtest that specifically addresses explicit inductive ability in grammar. Hence, these two subtests, which differ from typical aptitude measures, could be related to the extent to which the results in this study vary from typical research. Still, it would be unsafe to state that aptitude as measured by LLAMA has no influence in achievement in foreign language learning considering that data gathering procedure could have influence the results as well.

Consequently, the exploration of how the internal components of the motivation and aptitude battery relate to the components of academic achievement in foreign language learning proved to be very informative. In this analysis, correlations between the internal constructs of motivation and achievement were mostly in line with expectations. In particular, the

association between the role of PE and participants' achievement for listening and reading seems to show little relationship, since correlations are not statistically significant nor are in the range described by previous research. As for the relation between INO and outcomes in reading and listening, results support the idea that learning a foreign language for practical reasons is not statistically related to achievement in the two areas of foreign language learning. Still, results match what is considered as relevant by previous research (see section 2.3.2).

Based on the results for the construct of anxiety it can be proposed that levels of anxiety ANX are significant in relation to reading but not for listening, indicating that listening causes more anxiety among learners than reading. As for the construct of ALS, it may appear that learners' perception of their educational environment is perceived and relevant to the degree that influences their academic achievement. Thus, it could be suggested that in this particular context the influence of the teacher and the learning materials enhance learners' motivation and therefore their language learning achievement in the area of reading, probably because of the way the curriculum and materials are structured by the teacher. Somehow differently, the construct of integrativeness (INT) seems to be more related to reading than listening. It might be possible that such a difficult task as grasping information is much more difficult when it is being presented to the learner in an aural format rather than a written format. Finally, the relationship between the construct of motivation (MOT) and the outcomes

in reading and listening appeared as not statistically significant, though they still range between results considered as relevant in previous research (see section 2.3.2).

Moreover, none of the AMTB constructs correlate significantly with listening achievement, indicating that such motivation constructs do not influence the extent to which a learner will achieve in listening comprehension. One possible explanation for this could be the nature of the input employed to measure listening comprehension. In this regard, listening comprehension achievement was measured by tests that were based on the international examination KET, and even if standardized examinations intend to provide input that resembles real life situations, the input could have been perceived as unrealistic. Thus, the artificial form of the imput employed to measure lstening comprehension could have decreased the level of participants' motivation as they might feel that there is little resemblance to real life communication (see section 3.2.3).

Regarding the aptitude battery and its relation to foreign language achievement, each of its four sub-tests and how they relate to foreign language outcomes were analyzed. The relation obtained in this study between the domain of aptitude measured by LLAMA B and reading and listening is in line with expectations. Correlations between this section of aptitude and achievement in reading and listening are statistically significant. Thus, it can be concluded that the ability to associate words to images, as measured by LLAMA B, would have a certain degree of

relationship to achievement in certain language learning skills like reading and listening. It was also possible to determine that there is a statistically significant correlation between the LLAMA D and the listening skill. One possible reason for such similar results can be given to the relationship that is established between the ability to recognize stretches of spoken language and vocabulary. On the other hand, weak negative correlations were obtained for reading and listening in relation to LLAMA E. In this sense, previous research has suggested that there is something about the LLAMA section that measures phonetic ability, which needs to be examined. Finally, it seems that there is a discrete relation between the ability to infer grammar patterns, as measured by LLAMA F, and achievement since correlations for listening and reading are not statistically significant but still among the results described in previous research. Thus, it is possible to suggest that the battery components are partially related to some of the different skills in foreign language learning such as listening or reading probably given to the experimental nature of the battery that was employed.

In summary, it can be concluded that even if motivation and aptitude have been typically found to be strong predictors of language success, results obtained in this study identify motivation as the individual difference that has the strongest relation to foreign language learning. As far as this research study is concerned, a correlation of .54 ($p<.05$) was obtained between motivation and academic outcomes in foreign language learning, indicating that both seem to be strongly related. This suggests that

motivation influences the extent to which a learner will be able to succeed in a language course as measured by their academic achievement.

On the other hand, aptitude, as measured by LLAMA, seems to be weakly related to achievement in foreign language learning. Surprisingly though, after examining aptitude subcomponents it is possible to suggest that abilities like vocabulary learning and phonetic memory, as measured by their corresponding LLAMA section, are related to achievement in reading and listening comprehension. Unfortunately, the current status of the battery and the reduced number of studies or information about it make it difficult to speculate about the results provided by this battery in relation to aptitude.

6.2. Limitations to the study

The results presented and discussed in this study should be analyzed mainly considering constraints in terms of sample size and materials employed.

Among the limitations of the study is the need to address a wider number of participants, since the sample examined in this study included 27 people. Having a small number of participants makes it difficult to generalize the results obtained in this study to be considered in future studies in different contexts.

As for the materials, the concern is related to the effect that LLAMA battery might have had on the results obtained for aptitude. It was stated

from the beginning that the battery employed to measure aptitude should not be used at high stakes given to the experimental nature of it (Meara, 2005). Since this battery is still under examination, it would be unsafe to generalize based on the results obtained. One clear example of the current experimental status of LLAMA is the conclusion reached by Rogers et al. (2016) regarding one of the sections of the battery. The study suggests that LLAMA E should be re-examined given to the high scores obtained regardless of how the groups are calculated.

6.3. Suggestions for further research

One aspect of aptitude that requires future research is the need to keep on exploring the use of new batteries like LLAMA. In this sense, it would be useful to ensure that the aptitude data gathering process is carried out as carefully planned as possible. Unlike the AMTB technical report, the LLAMA manual is not explicit in certain matters, such as the conditions that must be considered so as to ensure the quality of the data gathered (as noted in 5.1). The lack of explicit instructions about the testing conditions can also be observed in the few studies regarding this battery (Granena, 2013; Rogers et al., 2016). Thus, it could be suggested that a few elements should be managed when proceeding to use this test battery.

First, the group of participants sitting for the test should be carefully considered taking two aspects into account: equipment and environment. Due to the computer based format of the battery, it is necessary to consider

that the group of participants will depend on the number of computers available to the researcher. It is advisable to contemplate an appropriate number of computers that would allow a number of participants to sit for the aptitude test at the same time allowing to collect the data quickly but also allowing for a disciplined environment among test-takers can also be assured.

It seems also necessary to consider this number of participants since it is important to monitor the development of the test taking procedure. In this regard at least one examiner should be considered to provide instructions, answer doubts or care for possible disruptions. Any extraneous noise or disruption could influence participants' performance and therefore damage the final results of the study. All these previous suggestions should allow neutralizing any interfering variable that could damage the data gathering process.

6.4. Final comments

In addition to the orientations for further research, this study could contribute to the individual differences area by providing an insight into the subcomponents of the batteries employed in this study, as well as the constituents of academic achievement in language learning.

While most of the previous studies (see section 2.1) have focused on how aptitude and motivation are consistent predictors of achievement in

language learning, one important contribution of this study is the identification of certain aptitude and motivation subcomponents that seem to be related to achievement in reading and listening comprehension.

Results obtained between the motivation and language learning achievement subcomponents suggest that the listening comprehension skill is not influenced by this individual difference, since none of the constructs measured by the motivation battery correlated significantly with the skill. On the other hand, three of the motivation battery constructs, namely integrativeness, attitudes toward the language situation and anxiety, correlate significantly with reading comprehension. These results suggest that the extent to which individuals will succeed in the reading comprehension as measured by their achievement is influenced by those three subcomponents.

Results obtained between the aptitude and achievement subcomponents suggest that both reading and listening comprehension are partly influenced by this individual difference. As results suggest, it seems that two of the aptitude subcomponents, as measured by the LLAMA battery, would influence the extent to which learners would succeed in language learning as measured by achievement. More specifically, the ability to learn vocabulary, as measured by LLAMA B, would be directly related learners' achievement in reading comprehension. On the other hand, two constructs would directly influence achievement in listening comprehension, namely the ability to learn vocabulary and phonemic memory ability.

Chapter 7: References

Bachman, L. F. (1990). Fundamental considerations in language testing. Oxford University Press.

Bachman, L. F., & Palmer, A. S. (1996). Language testing in practice: Designing and developing useful language tests. Oxford: Oxford University Press.

Brown, H. D. (2004). Language assessment: Principles and classroom practices. Allyn & Bacon.

Cambridge English Language Assessment. (2015). Key for schools: Handbook for teachers. Cambridge: Cambridge ESOL.

Carroll, J. B. (1964). The prediction of success in intensive foreign language training. Training research and education, 87-136.

Carroll, J. B. (1989). The Carroll model: A 25-year retrospective and propesctive view. Educational research, 26-31.

Carroll, J. B. (1990). Cogitive abilities in foreign language aptitude: Then and now. En T. S. Parry, & C. W. Stainsfield, Language aptitude reconsidered (págs. 11-29). Center for applied linguistics.

Carroll, J. B., & Sapon, S. M. (1959). Modern language aptitude test: MLAT. New York: Psychological Corporation.

Carroll, J. B., & Sapon, S. M. (1987). Modern language aptitude test: Form A. : Psychological Corporation.

Cook, V. (2008). Second language learning and languageteaching: Learners as individuals. London: Hodder Education.

Dornyei, Z. (1998). Motivation in second and foreign language learning. Language Teaching, 117-135.

Dornyei, Z. (2005). The psychology of the language learner: Individual differences in second language acquisition. New Jersey: Lawrence Erlbaum Associates, Inc.

Dornyei, Z., & Skehan, P. (2003). Individual differences in second language learning. En C. J. Doughty, & M. H. Long, The handbook of second language acquisition (págs. 589-630). Blackwell Publishing Ltd.

Ellis, R. (1994). The study of second language acquisition. Oxford University Press.

Ellis, R. (2004). Individual differences in second language learning. En A. Davies, & E. Catherine, The handbook of applied linguistics (págs. 525-551). Blackwell Publishing Ltd.

Gardner, R. C. (1960). Motivational Variables in Second-Language Acquisition. McGill University.

Gardner, R. C. (1985). Social psychology and second language learning: The role of attitudes and motivation. London: Edward Arnold.

Gardner, R. C. (1985). The attitude/motivation test battery: Technical report.

Gardner, R. C. (2001). Language learning motivation: The student, the teacher, and the researcher. Texas papers in foreign language education, 1-18.

Gardner, R. C. (2004). Attitude/motivation test battery: International AMTB research project. Canada: The University of Western Ontario.

Gardner, R. C. (2005). Integrative motivation and second language acquisition. London, Canada: The University of Western Ontario.

Gardner, R. C. (2007). Motivation and second language acquisition. Porta Linguarum, 9-20.

Gardner, R. C. (2009). Gardner and Lambert (1959): Fifty years and counting. London, Canada: The University of Western Ontario.

Gardner, R. C., & MacIntyre, P. D. (1993). On the measurement of affective variables in second language learning. Language Learning, 157-194.

Granena, G. (2013). Cognitive aptitudes for second language learning and the LLAMA language aptitude test. En G. Granena, & M. Long, Sensitive

periods, language aptitude, and ultimate L2 attainment (págs. 105-129). John Benjamins Publishing Company.

Krashen, S. D. (1981). Aptitude and attitude in relation to second language acquisition and learning. Individual differences and universals in language learning aptitude, 155-175.

Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, motivation, and second language learning: a meta-analysis of studies conducted by Gardner and associates. Language learning, 123-163.

Meara, P. (2005). LLAMA language aptitude test: The manual . Swansea: Lognostics.

Mecartty, F. H. (2000). Lexical and grammatical knowledge in reading and listening comprehension by foreign language learners of spanish. Applied Language Learning, 323-348.

Mowrer, O. (1950). Learning theory and personality dynamics: Selected papers. Oxford: Ronald Press.

Muñoz, C. (2014). The association between aptitude components and language skills. En M. Pawlak, & L. Aronin, Essential topics in applied linguistics and multilingualism (págs. 51-68). Poland: Springer International Publishing.

Parry, T. S., & Child, J. R. (1990). Preliminary investigation of the relationship between VORD, MLAT and language proficiency. En T. S. Parry, & C. W. Stansfield, Language aptitude reconsidered (págs. 30-66). Center for Applied Linguistics.

Petersen, C. R., & Al-Haik, A. R. (1976). The development ofthe defense language aptitude battery. En Educational and psychological measurement (págs. 369-380).

Pimsleur, P. (1966). Pimsleur language aptitude test. New York: Harcourt, Brace, Jovanovic.

Pimsleur, P. (1988). Pimsleur language aptitude battery. Test critiques, 438-445.

Robinson, P. (2002). Individual differences and instructed language learning. Amsterdam: John Benjamins Publishing Company.

Robinson, P. (2012). The Routledge Encyclopedia of second language acquisition. New York: Routledge.

Rogers, V., Meara, P., Aspinall, R., Fallon, L., Goss, T., Keey, E., et al. (2016). Testing Aptitude: Investigating Meara's (2005) LLAMA tests. EUROSLA yearbook, 179-210.

Skehan, P. (1991). Individual differences in second language learning. Studies in second language acquisition, 275-298.

Sparks, R., & Ganschow, L. (2001). Aptitude for learning a foreign language. Annual review of applied linguistics, 21, 90-111.

Speciale, G., Ellis, N. C., & Bywater, T. (2004). Phonological sequence learning and short-term store capacity determine second language vocabulary acquisition. Applied psycholinguistics, 293-321.

Stangroom, J. (2017). Social Science Statistics. Retrieved January 2017, from http://www.socscistatistics.com/tests/spearman/Default.aspx

Wen, Z., & Skehan, P. (2011). A new perspective on foreign language aptitude research: building and suporting a case for "working memory as language aptitude". Ilha do Desterro: A journal of English language, literatures in English and cultural studies, 15-43.

Chapter 8: APPENDICES

8.1 Appendix A: llama language aptitude test: instrucciones

Esta es una prueba que mide niveles de aptitud para aprender una lengua extranjera.

La prueba se encuentra dividida en cuatro secciones. La primera sección, llamada Llama B medirá sus habilidades para aprender vocabulario. La segunda sección, llama D, está diseñada para identificar si pueden reconocer segmentos de sonido. La tercera, llamada Llama E, medirá su habilidad para relacionar sonidos y símbolos. La última parte, Llama F, mide las capacidades gramaticales.

Por favor, escuche atentamente las instrucciones para realizar la primera prueba.

Antes de comenzar la prueba presione click en los dos espacios que se encuentran en la parte superior izquierda de la ventana, complete cada espacio con su nombre y apellido respectivamente.

Haga click en el ícono que dice Llama B. A continuación podrán ver una ventana que les muestra varios dibujos. Su tarea es memorizar los nombres de la mayor cantidad de dibujos presentes en la ventana. Usted tendrá 2 minutos para memorizar los nombres correspondientes a cada dibujo. Para poder acceder a los nombres de cada dibujo y memorizarlos usted solo debe hacer click sobre cada uno de ellos. Usted puede clickear sobre los objetos y acceder a los nombres de cada uno las veces que quiera pero no podrá tomar notas. Luego de que los 2 minutos hayan finalizado usted deberá comenzar a identificar cual es el dibujo que corresponde al nombre que se le mostrará en pantalla. El reloj al centro del panel le indicará cuando se acaben los dos minutos. Cuando el tiempo para memorizar haya acabado se emitirá un sonido.

Para comenzar la prueba presione el botón de flecha que se encuentra en la parte superior derecha. Recuerde que su tarea es aprender la mayor cantidad de nombres correspondiente a los 20 objetos que se encuentran en la ventana durante los dos minutos disponibles. Cuando haya terminado el periodo para memorizar haga click en la flecha que se encuentra al centro de la ventana. Cuando haga click en este botón el programa le mostrara un nombre y usted deberá elegir la imagen correspondiente a ese nombre haciendo click sobre dicha imagen. Si su respuesta esta correcta escuchara el sonido ding, y si su respuesta es incorrecta escuchara el sonido bleep.

Tiene dos minutos para hacer consultas sobre el funcionamiento de la prueba.

Por favor comience con la primera prueba.

Por favor, escuche atentamente las instrucciones para realizar la segunda prueba.

Haga click en el ícono que dice Llama D. Primero, ingrese su nombre en los casilleros que se encuentran en la parte superior izquierda de la ventana. Para comenzar usted deberá presionar la flecha que se encuentra en la parte superior derecha de la ventana. Una vez que usted haga click en la flecha escuchará un set de 10 palabras en un idioma que usted no conoce. Usted deberá escuchar atentamente estas 10 palabras. Después de escuchar las 10 palabras comenzará la prueba. Durante el período de prueba usted escuchara muchas palabras dentro de las cuales se encontraran las 10 palabras que escucho anteriormente. Usted deberá reconocer e identificar dentro de este grupo las 10 palabras que escucho antes de comenzar la prueba. Presione la flecha que se encuentra al centro de la ventana para comenzar a escuchar las palabras. Si usted cree que la palabra escuchada corresponde a una de las 10 que escuchó antes de comenzar la prueba presione la carita feliz. Si usted cree que la palabra escuchada es una nueva palabra, que no corresponde a una de las 10 anteriormente escuchada presione la carita triste.

Si usted tiene alguna pregunta debe realizarla ahora.

Comience por favor.

Por favor, escuche atentamente las instrucciones para realizar la tercera prueba.

Haga click en el icono que dice Llama E. Primero, ingrese su nombre en los casilleros que se encuentran en la parte superior izquierda de la ventana. Usted tiene dos minutos para aprender el sistema de deletreo de los sonidos de un lenguaje. Durante el periodo de dos minutos usted podrá hacer click en cada botón y escuchar el sonido asociado a cada símbolo cuantas veces estime necesario. Los símbolos en cada botón representan la escritura del sonido. Durante el periodo de dos minutos usted puede tomar notas de la información.

Cuando el periodo de dos minutos termine, usted escuchará un sonido que le indicará que la prueba ha comenzado. La prueba está compuesta de 20 ítems. Presione la flecha que se encuentra en el centro de la venta. El programa le indicara una palabra y le mostrara dos símbolos. Uno de los dos deletreos esta correcto y el otro incorrecto. Usted deberá clickear el deletreo que corresponda a la palabra que escucho. Posteriormente siga haciendo click en la flecha del centro para repetir el procedimiento.

Si usted tiene alguna pregunta debe realizarla ahora.

Comience por favor.

Por favor, escuche atentamente las instrucciones para realizar la última prueba.

Haga click en el icono que dice Llama F. Primero, ingrese su nombre en los casilleros que se encuentran en la parte superior izquierda de la ventana. Usted tendrá 5 minutos para aprender lo que más pueda sobre un lenguaje. Haga click en los botones que se encuentran en el centro de la pantalla. Por cada botón que usted presione una imagen y una frase, que describe la imagen aparecerán. En esta parte de la prueba usted

puede tomar notas de los patrones que observe por cada imagen. Un sonido le indicara cuando el tiempo de aprendizaje haya concluido. La prueba está compuesta de 20 ítems.

Cuando la prueba comience el programa le mostrará una imagen y dos frases. Una frase esta gramaticalmente correcta y la otra contiene un error gramatical. Haga click en la frase que usted cree esta correcta. Repita la acción nuevamente hasta completar la prueba.

Si usted tiene alguna pregunta debe realizarla ahora.

Comience por favor.

8.2 Appendix B: Consent form

FORMULARIO DE CONSENTIMIENTO INFORMADO PARA PADRES

Estimado Sr(a). Apoderado:

A través del presente formulario de consentimiento informado se le comunica que su hijo/a ha sido invitado a participar en la investigación titulada “Aptitude and Motivation in SLA”, que será realizada por la profesora Claudia Mansilla Ojeda para optar al grado académico de Magister en Lingüística Inglesa de la Universidad de Chile.

Este formulario tiene como objetivo entregarle toda la información necesaria para que Ud. decida si desea o no que su pupilo participe de esta investigación. Si usted está de acuerdo en que su hijo/a participe, se le solicita que firme el presente consentimiento y se le dará una copia para que la guarde.

El propósito de este estudio es determinar cuál es la relación entre aptitud y motivación, y el logro académico obtenido al finalizar el ramo electivo inglés social comunicativo.

Este estudio permitirá identificar, tanto los niveles de aptitud, como los niveles de motivación en los participantes dentro del estudio, y finalmente lograr determinar si existe una correlación entre los niveles de aptitud y motivación, y los logros académicos obtenidos al final del programa electivo de inglés.

La participación de su hijo/a consistirá en la toma de dos instrumentos para recopilar la información necesaria. Se le pedirá que conteste una batería de preguntas relacionadas a la motivación que está compuesta de 104 preguntas de opción múltiple, la actividad tendrá una duración de 45 minutos, y se llevará a cabo en las dependencias del establecimiento el día 10 de Diciembre. Además se le pedirá que rinda una prueba de

aptitud, en formato computarizado, que consta de cuatro secciones, la cual tendrá una duración de 30-45 minutos, y se realizará en las dependencias del establecimiento los días 10 y 11 de Diciembre. Ambas evaluaciones tendrán lugar durante las horas de inglés común y electivo.

La participación de su pupilo en esta investigación es importante porque contribuirá a profundizar el conocimiento respecto de por qué estudiantes de una segunda lengua difieren en el éxito con el cual logran adquirir dicha lengua.

El que Ud. decida que su hijo/a participe de este estudio no conlleva riesgos para su salud ni su persona debido a que las actividades anteriormente descritas se llevarán a cabo dentro del establecimiento y del horario de actividades de los participantes tienen habitualmente dentro de éste. Las pruebas que los participantes deberán rendir no tendrán ningún efecto o influencia sobre sus resultados académicos en ninguno de los subsectores relacionados.

La participación de su hijo/a es totalmente confidencial, ni su nombre ni su RUT ni ningún tipo de información que pueda identificarla aparecerá en los registros del estudio, ya que se utilizarán códigos. El almacenamiento de los códigos estará a cargo del investigador Responsable. Solo la persona responsable de esta investigación y el profesor patrocinador tendrán acceso a los resultados obtenidos en cada uno de los procedimientos.

Si Usted no desea que su que su hijo/a participe no implicará sanción. Además su hijo/a tiene el derecho a optar por retirarse de este estudio en cualquier momento y la información recogida hasta el momento será descartada del estudio y eliminada.

Su hijo/a no se beneficiará inmediata o directamente de participar en este estudio, sin embargo, la información que pueda obtenerse a partir de su participación será de utilidad para obtener un conocimiento sobre el rol de la aptitud y la motivación en la

adquisición del inglés como segunda lengua en la educación secundaria. Asimismo, el participar en este estudio no tiene costos para su hijo/a y no recibirá ningún pago monetario por estar en este estudio.

Los resultados del estudio serán utilizados con fines científicos. Una vez finalizada la investigación Usted podrá conocer los resultados. La información será almacenada en formato digital y quedará bajo el resguardo del responsable de esta investigación.

Si tiene dudas o consultas respecto de la participación de su hijo/a en el estudio puede contactar a los investigadores responsables de este estudio, Claudia Mansilla Ojeda, quien trabaja en el establecimiento Colegio Patrona Señora de Lourdes, cuyo correo electrónico es c.mansilla@colegiopatrona.cl

Si durante la investigación Usted desea manifestar comentarios o preocupaciones relacionadas con la conducción de la investigación o preguntas sobre sus derechos al participar en el estudio, puede dirigirse al profesor patrocinador de esta investigación Dr. Daniel Muñoz Acevedo, teléfonos: 9787065 (Departamento de Lingüística), ó 9787004 (Escuela de Postgrado), e-mail: damunoz@uchile.cl.

Quedando claro los objetivos del estudio, las garantías de confidencialidad y la aclaración de la información, acepto voluntariamente la participación de mi hijo/a en este estudio.

8.3 Appendix C: AMTB

Attitude/Motivation Test Battery:

International AMTB Research Project

(English version)

****Note: This is the English-language version of the Attitude/Motivation Test Battery (AMTB) for use with secondary school students studying English as a foreign language. The items comprising each scale are presented in the 'AMTB item-key' document. The AMTB has been translated and used in our research in Brazil, Croatia, Japan, Poland, Romania, and Spain (Catalonia). Some findings from this research are presented in the document 'Integrative Motivation and Second Language Acquisition' (CAAL Talk, 2005). All of the documents mentioned above are available on this website. Copies of the AMTB in the other languages can be obtained from R. C. Gardner.**

R. C. Gardner, Ph.D.
The University of Western Ontario, Canada

Following are a number of statements with which some people agree and others disagree. Please circle one alternative below each statement according to the amount of your agreement or disagreement with that item. The following sample item will serve to illustrate the basic procedure.

a. Spanish football players are much better than Brazilian football players.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

In answering this question, you should have circled one alternative. Some people would have circled "Strongly Disagree", others would have circled "Strongly Agree", while others would have circled any of the alternatives in between. Which one you choose would indicate your own feeling based on everything you know and have heard. Note: there is no right or wrong answer.

1. I wish I could speak many foreign languages perfectly.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

2. My parents try to help me to learn English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

3. I don't pay much attention to the feedback I receive in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

4. I don't get anxious when I have to answer a question in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

5. I look forward to going to class because my English teacher is so good.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

6. Learning English is really great.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

7. If Japan had no contact with English-speaking countries, it would be a great loss.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

8. Studying English is important because it will allow me to be more at ease with people who speak English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

9. I have a strong desire to know all aspects of English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

10. My English class is really a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

11. I would get nervous if I had to speak English to a tourist.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

12. Studying foreign languages is not enjoyable.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

13. I make a point of trying to understand all the English I see and hear.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

14. I don't think my English teacher is very good.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

15. Studying English is important because I will need it for my career.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

16. I never feel quite sure of myself when I am speaking in our English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

17. Knowing English isn't really an important goal in my life.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

18. I hate English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

19. I feel very much at ease when I have to speak English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

20. I would rather spend more time in my English class and less in other classes.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

21. I wish I could read newspapers and magazines in many foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

22. My parents feel that it is very important for me to learn English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

23. I don't bother checking my assignments when I get them back from my English teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

24. I feel confident when asked to speak in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

25. My English teacher is better than any of my other teachers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

26. I really enjoy learning English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

27. Most native English speakers are so friendly and easy to get along with, we are fortunate to have them as friends.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

28. Studying English is important because it will allow me to meet and converse with more and varied people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

29. If it were up to me, I would spend all of my time learning English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

30. I think my English class is boring.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

31. Speaking English anywhere makes me feel worried.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

32. I really have no interest in foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

33. I keep up to date with English by working on it almost every day.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

34. The less I see of my English teacher, the better.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

35. Studying English is important because it will make me more educated.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

36. It embarasses me to volunteer answers in our English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

37. I sometimes daydream about dropping English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

38. I would rather spend my time on subjects other than English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

39. It doesn't bother me at all to speak English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

40. I wish I could have many native English speaking friends.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

41. I enjoy the activities of our English class much more than those of my other classes.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

42. I would really like to learn many foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

43. My parents feel that I should continue studying English all through school.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

44. I put off my English homework as much as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

45. I am calm whenever I have to speak in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

46. My English teacher has a dynamic and interesting teaching style.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

47. English is a very important part of the school programme.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

48. My parents have stressed the importance English will have for me when I leave school.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

49. Native English speakers are very sociable and kind.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

50. Studying English is important because it will enable me to better understand and appreciate the English way of life.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

51. I want to learn English so well that it will become natural to me.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

52. To be honest, I really have little interest in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

53. Native English speakers have much to be proud about because they have given the world much of value.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

54. It would bother me if I had to speak English on the telephone.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

55. It is not important for us to learn foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

56. When I have a problem understanding something in my English class, I always my teacher for help.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

57. My parents urge me to seek help from my teacher if I am having problems with my English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

58. My English teacher is one of the least pleasant people I know.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

59. Studying English is important because it will be useful in getting a good job.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

60. It worries me that other students in my class seem to speak English better than I do.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

61. I'm losing any desire I ever had to know English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

62. Learning English is a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

63. I would feel quite relaxed if I had to give street directions in English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

64. I like my English class so much, I look forward to studying more English in the future.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

65. If I planned to stay in another country, I would try to learn their language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

66. My parents are very interested in everything I do in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

67. I tend to give up and not pay attention when I don't understand my English teacher's explanation of something.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

68. I don't understand why other students feel nervous about speaking English in class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

69. My English teacher is a great source of inspiration to me.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

70. I plan to learn as much English as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

71. I would like to know more native English speakers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

72. Studying English is important because I will be able to interact more easily with speakers of English..

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

73. I would like to learn as much English as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

74. To be honest, I don't like my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

75. I would feel uncomfortable speaking English anywhere outside the classroom.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

76. Most foreign languages sound crude and harsh.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

77. I really work hard to learn English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

78. I would prefer to have a different English teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

79. Studying English is important because other people will respect me more if I know English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

80. I get nervous when I am speaking in my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

81. To be honest, I really have no desire to learn English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

82. I think that learning English is dull.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

83. I would feel comfortable speaking English where both Japanese and English speakers were present.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

84. I look forward to the time I spend in English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

85. I enjoy meeting people who speak foreign languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

86. My parents encourage me to practise my English as much as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

87. I can't be bothered trying to understand the more complex aspects of English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

88. Students who claim they get nervous in English classes are just making excuses.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

89. I really like my English teacher.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

90. I love learning English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

91. The more I get to know native English speakers, the more I like them.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

92. I wish I were fluent in English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

93. I have a hard time thinking of anything positive about my English class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

94. I feel anxious if someone asks me something in English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

95. I would rather see a TV program dubbed into our language than in its own language with subtitles.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

96. When I am studying English, I ignore distractions and pay attention to my task.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

97. My English teacher doesn't present materials in an interesting way.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

98. I am sometimes anxious that the other students in class will laugh at me when I speak English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

99. I haven't any great wish to learn more than the basics of English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

100. When I leave school, I will give up the study of English because I am not interested in it..

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

101. I would feel calm and sure of myself if I had to order a meal in English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

102. English is one of my favourite courses.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

103. My parents think I should devote more time to studying English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

104. You can always trust native English speakers.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

8.4 Appendix D: Data sets for Aptitude

		LLAMA B	LLAMA D	LLAMA E	LLAMA F
1	Aranzazu Hernandez	30	5	40	0
2	Barbara Rojas	35	20	40	20
3	Benjamín Arevalo	60	35	50	60
4	Constanza Velasquez	25	40	100	30
5	Cristobal Pino	45	50	50	0
6	Diego Muñoz	50	25	90	40
7	Fabiana Labraña	40	45	80	70
8	Fabiola Garces	35	35	70	0
9	Fernanda Contreras	55	15	80	80
10	Fernanda Valderrama	30	20	70	0
11	Francisca López	35	15	70	20
12	Ivana Estuppa	55	20	70	10
13	Javiera Bozo	55	15	50	20
14	Javiera Cerda	35	20	80	0
15	Javiera Muñoz	65	40	100	70
16	Joaquín Mascaro	70	25	100	60
17	Joaquín Solis	75	35	100	50
18	Joel Rivera	55	25	40	80
19	Jorge Quevedo	45	0	80	0
20	Josefa Aliste	35	40	70	0
21	María José Díaz	60	30	80	70
22	María José Silva	70	40	40	70
23	Pamela Caniulao	45	10	70	20
24	Rocio Piña	45	55	100	30
25	Sofia Barsotti	40	0	90	50
26	Vanessa Rodriguez	55	45	90	90
27	Vicente Guzmán	40	15	60	30

8.5 Appendix E: Data sets for Motivation Scales

	Scale	Integrative Orientation				Attitudes toward English-Speaking People							Interest in Foreign Languages										
	Questionnaire Item No.	8	28	50	72	7	27	40	49	53	71	91	104	1	21	42	65	85	12	32	55	76	95	INT
1	Aranzazu Hernandez	7	6	7	7	6	5	7	5	1	6	6	2	7	7	7	7	6	6	7	7	3	3	125
2	Barbara Rojas	7	6	5	6	6	5	5	6	3	5	3	2	7	3	5	5	5	5	6	6	6	7	114
3	Benjamín Arevalo	7	7	7	7	7	6	7	5	6	7	7	6	7	7	7	7	7	7	7	7	1	7	143
4	Constanza Velasquez	7	7	6	7	6	6	7	7	5	6	7	6	7	5	7	7	6	7	7	7	3	7	140
5	Cristobal Millar	7	7	7	7	7	6	7	6	3	6	7	2	7	7	7	7	7	7	7	7	7	7	142
6	Diego Muñoz	7	6	5	7	6	5	7	6	2	7	6	3	7	5	6	7	7	6	7	7	6	7	132
7	Fabiana Labraña	6	7	6	7	7	6	7	7	5	7	7	6	7	7	7	7	7	7	7	7	7	2	143
8	Fabiola Garces	7	7	7	7	5	5	7	5	5	7	5	5	6	5	7	7	7	7	7	7	7	7	139
9	Fernanda Contreras	7	6	6	6	7	3	5	5	2	5	5	5	7	6	6	6	3	6	7	6	5	3	117
10	Fernanda Valderrama	7	7	7	7	7	5	7	6	7	7	7	1	7	7	7	7	7	7	2	7	3	7	136
11	Francisca López	6	7	6	7	1	3	6	5	3	6	5	5	6	7	7	6	5	5	6	7	5	7	121
12	Ivana Estuppa	6	3	3	6	6	5	5	3	2	6	3	3	6	6	6	6	6	6	6	6	3	2	104
13	Javiera Bozo	7	7	6	7	6	5	7	6	5	7	6	3	7	5	7	7	7	6	7	7	5	7	137
14	Javiera Cerda	7	7	7	6	6	3	7	5	2	6	3	3	7	5	7	7	5	7	7	7	6	7	127
15	Javiera Muñoz	6	6	6	5	5	5	2	5	3	6	5	3	6	5	3	7	1	5	6	6	7	1	104
16	Joaquín Mascaro	7	7	5	7	6	6	6	7	5	7	6	7	5	5	5	6	7	6	6	6	3	6	131
17	Joaquín Solís	6	7	7	7	7	5	7	7	1	7	5	3	7	7	7	7	7	6	7	7	7	7	138
18	Joel Rivera	7	7	6	7	7	5	6	5	5	7	6	1	7	7	7	7	7	7	7	7	5	7	137
19	Jorge Quevedo	7	6	5	5	6	3	5	5	3	5	3	2	7	6	6	5	5	5	6	2	5	5	107
20	Josefa Aliste	3	7	6	6	3	5	2	5	3	6	6	3	2	3	7	7	5	3	7	6	7	3	105
21	María José Díaz	7	6	6	7	7	5	6	6	3	6	6	3	7	7	7	6	5	6	7	7	6	7	133
22	María José Silva	7	6	7	7	6	5	7	6	6	5	5	5	7	6	7	7	5	7	7	7	3	7	135
23	Pamela Caniulao	7	7	7	6	2	5	6	5	5	7	6	5	5	2	3	6	7	5	6	7	3	5	117
24	Rocio Piña	7	7	5	7	6	3	7	2	3	7	6	5	7	7	7	7	7	7	7	1	3	7	125
25	Sofia Barsotti	6	6	5	5	6	5	6	5	5	6	7	5	7	7	7	6	7	7	7	7	7	7	136
26	Vanessa Rodriguez	7	3	5	5	2	2	3	5	5	5	3	3	3	6	3	7	5	5	6	7	3	7	100
27	Vicente Guzmán	7	7	6	7	7	5	6	6	6	7	2	5	7	6	6	6	6	7	7	7	5	7	135

	Scale	motivational intensity										Desire to learn English										Attitudes toward learning English										
	Questionnaire Item No.	3	13	23	33	44	56	67	77	87	96	9	17	29	37	51	61	73	81	92	99	6	18	26	38	47	62	70	82	90	100	**MOT**
1	Aranzazu Hernandez	6	7	6	6	3	5	3	7	2	5	6	2	3	7	7	2	7	7	7	6	6	6	6	3	7	7	7	6	6	7	165
2	Barbara Rojas	6	6	3	2	5	2	3	3	3	5	5	5	2	2	3	5	5	5	6	6	6	6	2	3	6	6	5	5	1	3	125
3	Benjamín Arevalo	2	7	1	6	7	7	7	6	7	2	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	191
4	Constanza Velasquez	3	7	2	5	3	5	2	6	2	5	7	7	5	6	7	7	7	7	7	7	7	7	7	6	7	7	7	6	6	7	174
5	Cristobal Millar	2	1	1	7	1	6	7	5	1	1	7	7	6	7	7	7	7	7	7	7	7	7	7	5	6	7	7	7	7	1	162
6	Diego Muñoz	3	6	2	5	5	6	7	5	2	3	6	7	3	7	7	7	7	7	7	7	6	7	6	5	7	7	7	7	6	7	174
7	Fabiana Labraña	3	6	3	5	7	6	6	7	3	5	7	6	5	7	7	7	7	7	7	7	7	2	6	6	6	7	7	7	7	7	180
8	Fabiola Garces	6	6	3	3	6	5	5	5	5	3	5	6	3	3	7	7	7	7	7	7	6	7	6	5	6	7	7	7	5	6	168
9	Fernanda Contreras	3	6	6	2	2	5	3	2	6	3	6	6	5	2	6	3	6	6	7	6	6	3	5	3	6	7	7	6	5	7	146
10	Fernanda Valderrama	6	7	1	1	7	6	7	7	1	7	6	6	5	3	7	7	7	7	7	7	7	7	7	2	6	6	7	7	6	7	174
11	Francisca López	6	5	3	1	3	5	3	7	5	5	6	6	1	5	7	2	7	6	7	5	5	6	6	2	6	7	7	5	5	6	150
12	Ivana Estuppa	6	6	3	2	5	6	5	6	5	6	5	5	2	5	5	6	6	5	6	6	5	5	3	6	2	6	6	5	6	5	150
13	Javiera Bozo	5	7	2	1	6	6	6	3	2	6	6	6	3	6	7	7	7	7	7	7	6	6	5	7	7	7	7	7	7	7	173
14	Javiera Cerda	3	5	2	3	5	6	7	6	2	3	6	7	5	7	7	7	7	7	7	7	6	7	6	6	7	7	7	7	7	7	176
15	Javiera Muñoz	7	3	7	3	7	7	7	7	1	5	5	5	3	5	5	7	7	7	6	7	5	2	5	6	5	7	6	7	5	7	166
16	Joaquín Mascaro	6	6	3	3	3	6	3	5	5	5	6	7	5	3	6	5	7	6	6	7	7	7	6	7	7	7	7	7	6	7	171
17	Joaquín Solis	5	7	3	6	6	1	7	5	2	6	6	7	3	7	7	7	7	7	7	7	7	7	7	3	7	7	7	7	6	7	178
18	Joel Rivera	3	7	2	7	2	6	7	3	5	3	6	7	3	7	7	7	7	7	7	7	7	7	7	3	7	7	7	7	7	7	176
19	Jorge Quevedo	3	6	5	2	5	3	3	5	5	3	6	5	2	5	5	3	6	6	6	5	6	5	5	2	3	6	6	5	5	5	137
20	Josefa Aliste	5	3	5	3	6	5	6	6	5	3	3	2	1	7	7	6	7	3	7	7	7	7	6	7	6	7	6	7	6	7	163
21	María José Díaz	6	7	3	3	5	7	6	3	3	3	5	3	3	7	7	7	7	7	7	7	6	7	7	6	7	7	6	7	6	7	172
22	María José Silva	2	7	3	6	3	3	7	1	3	5	6	7	5	7	7	7	7	7	6	7	7	7	7	3	7	7	7	7	6	7	171
23	Pamela Caniulao	2	5	2	5	3	3	6	3	2	3	6	1	5	2	2	3	7	6	5	3	6	7	6	6	7	5	3	7	5	6	132
24	Rocio Piña	3	7	3	2	3	6	3	7	2	7	7	7	5	5	7	7	7	6	7	7	6	7	7	6	7	7	7	7	6	7	175
25	Sofia Barsotti	7	7	3	5	6	6	6	7	2	6	5	5	5	6	5	7	6	7	7	7	6	7	7	6	3	7	6	7	7	7	178
26	Vanessa Rodriguez	3	6	5	2	2	5	1	1	5	3	2	3	2	3	5	6	3	6	5	5	2	7	3	3	7	7	5	3	3	6	119
27	Vicente Guzmán	2	6	1	3	6	7	7	6	7	1	6	7	5	7	7	7	6	7	6	6	7	8	7	5	7	7	6	7	6	6	176

	Scale	English teacher evaluation										English course evaluation										
	Questionnaire Item No.	5	14	25	34	46	58	69	78	89	97	10	20	30	41	52	64	74	84	93	102	**ALS**
1	Aranzazu Hernandez	2	7	6	3	5	3	7	3	5	3	7	2	3	6	6	5	6	5	3	6	93
2	Barbara Rojas	5	6	5	3	6	5	2	3	5	5	6	6	6	2	6	2	2	1	6	1	83
3	Benjamín Arevalo	6	3	5	7	5	6	6	1	3	2	7	7	7	5	7	5	7	3	6	6	104
4	Constanza Velasquez	6	7	6	7	5	7	5	7	7	7	7	6	7	6	2	6	7	5	6	6	122
5	Cristobal Millar	3	7	6	7	6	6	6	2	6	3	3	7	6	6	7	6	7	5	6	7	112
6	Diego Muñoz	3	6	3	7	5	6	2	6	5	6	7	7	3	5	7	6	7	2	6	6	105
7	Fabiana Labraña	3	7	5	7	5	7	3	5	7	7	7	6	7	5	3	6	7	5	7	3	112
8	Fabiola Garces	5	7	5	6	5	7	5	7	7	3	6	3	7	3	7	5	7	3	7	3	108
9	Fernanda Contreras	6	6	6	3	5	7	5	7	6	3	6	2	3	3	3	3	5	2	2	1	84
10	Fernanda Valderrama	7	7	6	7	7	7	6	7	7	7	7	2	7	6	6	6	7	6	7	5	127
11	Francisca López	5	7	3	5	6	7	3	5	6	2	6	3	2	3	3	3	3	5	5	2	84
12	Ivana Estuppa	3	6	2	6	2	3	5	5	5	6	3	3	5	2	5	2	3	2	2	1	71
13	Javiera Bozo	7	7	5	7	5	6	5	6	6	6	7	3	6	3	6	5	7	5	7	5	114
14	Javiera Cerda	5	7	3	7	5	2	2	6	5	6	7	7	7	3	2	6	7	2	7	5	101
15	Javiera Muñoz	6	7	5	7	7	7	7	7	7	7	5	3	6	3	6	6	7	6	3	5	117
16	Joaquín Mascaro	6	7	6	6	5	3	6	3	6	6	7	7	5	3	5	5	7	5	2	5	105
17	Joaquín Solis	6	7	5	6	7	7	5	7	6	7	7	3	7	5	6	7	7	3	7	3	118
18	Joel Rivera	6	7	6	6	5	7	6	7	7	5	7	5	5	3	7	7	7	5	7	6	121
19	Jorge Quevedo	5	6	6	5	5	5	3	5	5	3	7	2	3	3	5	3	5	3	5	2	86
20	Josefa Aliste	2	7	6	2	6	7	3	7	7	7	7	3	7	7	7	6	7	5	6	5	114
21	María José Díaz	5	6	2	7	2	6	5	6	6	2	7	5	7	5	7	2	6	5	7	5	103
22	María José Silva	7	7	6	5	6	2	5	7	6	6	6	2	3	5	2	5	6	2	6	5	99
23	Pamela Caniulao	6	3	3	6	7	6	5	7	6	6	5	5	5	5	3	6	6	5	5	3	103
24	Rocio Piña	6	6	3	6	7	6	1	2	6	2	6	6	6	6	7	7	6	7	7	6	109
25	Sofia Barsotti	7	7	5	7	5	6	5	7	7	6	7	7	7	6	6	5	7	5	7	7	126
26	Vanessa Rodriguez	5	5	5	3	6	7	5	7	6	3	7	3	6	3	5	3	3	2	6	2	92
27	Vicente Guzmán	7	7	6	7	7	7	6	7	7	7	7	6	7	6	7	5	7	5	7	6	131

	Scale	English class anxiety										English use anxiety										
	Questionnaire Item No.	4	16	24	36	45	60	68	80	88	98	11	19	31	39	54	63	75	83	94	101	**ANX**
1	Aranzazu Hernandez	3	5	2	6	2	6	2	6	3	5	7	6	6	2	2	2	6	3	6	2	82
2	Barbara Rojas	6	6	5	7	7	6	7	7	6	3	6	7	6	7	7	7	7	7	2	7	123
3	Benjamín Arevalo	1	1	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	1	1	1	26
4	Constanza Velasquez	5	6	5	7	6	5	6	5	7	6	6	3	5	3	2	5	5	7	5	5	104
5	Cristobal Millar	1	1	1	1	1	1	1	1	2	1	7	1	1	1	1	1	1	1	1	1	27
6	Diego Muñoz	2	3	3	2	6	2	7	3	5	3	5	6	2	2	3	5	3	3	5	5	75
7	Fabiana Labraña	5	7	6	5	6	6	7	2	7	6	3	3	3	5	1	6	2	2	3	6	91
8	Fabiola Garces	2	7	5	6	5	7	6	6	6	5	3	3	3	3	3	5	5	6	5	3	94
9	Fernanda Contreras	6	7	7	7	7	7	7	7	2	7	6	7	6	6	6	6	6	5	6	3	121
10	Fernanda Valderrama	7	7	6	7	6	7	7	7	7	7	7	6	3	6	3	6	7	6	3	6	121
11	Francisca López	1	7	7	7	7	6	7	7	7	6	6	3	7	7	7	7	6	2	7	3	117
12	Ivana Estuppa	2	7	7	7	7	2	7	7	6	7	7	7	1	5	6	7	7	7	7	7	120
13	Javiera Bozo	6	7	7	6	6	6	7	6	7	7	6	6	3	3	3	6	6	3	5	5	111
14	Javiera Cerda	2	6	3	5	3	2	5	5	5	6	5	6	2	2	5	3	7	3	6	5	86
15	Javiera Muñoz	5	7	7	7	7	5	7	7	7	7	7	5	7	7	5	7	7	7	1	1	120
16	Joaquín Mascaro	5	6	5	5	6	3	7	5	7	5	6	1	5	5	5	5	2	2	2	3	90
17	Joaquín Solis	3	5	3	2	6	1	1	5	2	1	5	3	1	1	7	6	1	5	1	5	64
18	Joel Rivera	1	5	3	2	5	1	5	5	7	3	5	3	3	5	3	6	6	5	5	5	83
19	Jorge Quevedo	6	6	3		3	5	6	6	5	5	5	5	5	2	5	5	3	3	3	3	84
20	Josefa Aliste	3	2	3	3	3	3	7	3	3	2	3	2	1	1	3	3	1	1	3	5	55
21	María José Díaz	6	7	5	5	6	5	6	6	7	6	6	6	5	7	3	6	5	6	6	5	114
22	María José Silva	2	6	2	5	3	3	7	5	7	5	5	5	6	2	3	5	5	1	5	6	88
23	Pamela Caniulao	5	6	2	6	5	7	7	7	2	6	7	5	5	3	3	7	6	3	3	5	100
24	Rocio Piña	3	6	7	6	7	7	5	6	6	6	7	3	6	5	6	6	7	7	7	6	119
25	Sofia Barsotti	3	6	2	3	3	3	5	6	5	7	6	2	2	2	3	6	2	3	6	2	77
26	Vanessa Rodriguez	1	6	6	7	6	3	6	5	7	1	7	6	6	3	7	6	6	2	5	5	101
27	Vicente Guzmán	3	5	3	3	3	1	2	3	7	1	6	3	2	3	2	5	5	3	2	2	64

	Scale	parental encouragement								
	Questionnaire Item No.	2	22	43	48	57	66	86	103	PE
1	Aranzazu Hernandez	1	7	6	6	2	6	7	6	41
2	Barbara Rojas	6	6	6	5	6	6	6	6	47
3	Benjamín Arevalo	6	7	7	7	1	1	6	2	37
4	Constanza Velasquez	6	7	7	7	6	7	7	7	54
5	Cristobal Millar	7	7	7	7	7	7	7	6	55
6	Diego Muñoz	2	7	7	7	6	6	7	7	49
7	Fabiana Labraña	6	6	6	6	6	6	6	6	48
8	Fabiola Garces	5	6	7	6	7	5	5	5	46
9	Fernanda Contreras	6	6	6	6	7	5	6	3	45
10	Fernanda Valderrama	1	2	6	3	5	2	2	2	23
11	Francisca López	2	7	7	7	6	5	5	7	46
12	Ivana Estuppa	1	6	3	2	5	1	2	2	22
13	Javiera Bozo	1	7	6	7	5	2	7	6	41
14	Javiera Cerda	7	7	7	7	6	6	7	6	53
15	Javiera Muñoz	7	7	7	7	7	7	7	3	52
16	Joaquín Mascaro	7	7	6	7	5	5	7	7	51
17	Joaquín Solis	6	7	7	7	6	5	6	3	47
18	Joel Rivera	5	7	7	7	6	5	6	5	48
19	Jorge Quevedo	5	7	5	6	5	5	6	3	42
20	Josefa Aliste	3	2	6	1	2	7	3	2	26
21	María José Díaz	6	6	6	6	2	3	3	5	37
22	María José Silva	5	5	6	5	1	2	5	1	30
23	Pamela Caniulao	5	7	7	6	6	5	2	6	44
24	Rocio Piña	3	7	7	7	7	3	5	5	44
25	Sofia Barsotti	6	7	6	3	5	2	3	6	38
26	Vanessa Rodriguez	1	7	7	6	2	5	5	5	38
27	Vicente Guzmán	6	7	6	6	6	6	6	5	48

	Scale	Instrumental Orientation				
	Questionnaire Item No.	15	35	59	79	
1	Aranzazu Hernandez	7	5	7	5	24
2	Barbara Rojas	5	6	6	5	22
3	Benjamín Arevalo	7	7	7	6	27
4	Constanza Velasquez	6	6	7	5	24
5	Cristobal Millar	7	7	7	6	27
6	Diego Muñoz	7	7	7	6	27
7	Fabiana Labraña	5	7	7	6	25
8	Fabiola Garces	7	7	7	5	26
9	Fernanda Contreras	7	5	7	3	22
10	Fernanda Valderrama	7	7	7	6	27
11	Francisca López	7	6	7	3	23
12	Ivana Estuppa	2	3	2	2	9
13	Javiera Bozo	7	6	7	3	23
14	Javiera Cerda	7	7	7	5	26
15	Javiera Muñoz	7	3	7	5	22
16	Joaquín Mascaro	7	7	7	6	27
17	Joaquín Solis	7	7	7	5	26
18	Joel Rivera	7	5	7	5	24
19	Jorge Quevedo	5	6	6	2	19
20	Josefa Aliste	2	6	5	7	20
21	María José Díaz	7	6	7	5	25
22	María José Silva	7	6	7	2	22
23	Pamela Caniulao	7	7	7	3	24
24	Rocio Piña	7	7	7	5	26
25	Sofia Barsotti	7	6	7	5	25
26	Vanessa Rodriguez	7	6	7	1	21
27	Vicente Guzmán	6	7	6	1	20

8.6 Appendix F: Data sets for achievement

		Achievement	Reading	Listening
1	Aranzazu Hernandez	5.3	5.5	5.3
2	Barbara Rojas	4.7	4.4	4.8
3	Benjamín Arevalo	6.6	6.8	6
4	Constanza Velasquez	5.3	6.1	4.8
5	Cristobal Millar	6.7	7	7
6	Diego Muñoz	6	7	4.3
7	Fabiana Labraña	3.9	4	3.8
8	Fabiola Garces	5	4.8	5.3
9	Fernanda Contreras	4.8	4.2	4.5
10	Fernanda Valderrama	5.8	6.4	5
11	Francisca López	3.6	4.4	3
12	Ivana Estuppa	3.8	3.4	3.2
13	Javiera Bozo	5.5	6.4	4.8
14	Javiera Cerda	4.4	3.5	4.5
15	Javiera Muñoz	5.7	6.4	5.5
16	Joaquín Mascaro	5.7	6.3	5.5
17	Joaquín Solis	6.4	6.6	6.5
18	Joel Rivera	6.7	7	6.5
19	Jorge Quevedo	4.5	4.4	4
20	Josefa Aliste	5.3	5.3	4.5
21	María José Díaz	6	6.6	5.5
22	María José Silva	6.7	7	6.3
23	Pamela Caniulao	4.9	4.7	4.8
24	Rocio Piña	5.6	6.4	5.3
25	Sofia Barsotti	4.5	4.4	4.5
26	Vanessa Rodriguez	5.2	5.5	5.8
27	Vicente Guzmán	6.3	6.6	5.8