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**The role of CLIL learners' aptitude when learning an L2 in
Extremadura: Study of the interrelationship between
language aptitude, L2 productive vocabulary and grammar in
Secondary school.**

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Abstract

The present MA dissertation presents a study about L2 aptitude and its relation to grammar and productive vocabulary. Whereas grammar has traditionally been the key issue in Second Language Learning, aptitude has been relegated to the background. The concept of language aptitude is considered unexplored and somewhat followed closely by the productive vocabulary, overshadowed by the receptive one. Nowadays CLIL has emerged as an educational approach, influencing the L2 learning process and its mastery. In order to further research on the topic and on the existing interrelationships between the aspects mentioned, a 1st year of Secondary Education group of students enrolled in a CLIL programme in Extremadura was asked to answer three questionnaires (MLAT-ES, LEX30, and, Dialang). The data obtained draw the nature of the existing links between second language aptitude, productive vocabulary and grammar proficiency, and so the way in which the context modifies the aspects mentioned. Unexpected results show non statistically significant but average correlations between all of these features, in which very high levels of L2 aptitude correlates positively with productive vocabulary, but negatively with grammar.

Key words: L2 aptitude, grammar, productive vocabulary, CLIL.

Resumen

El presente trabajo se centra en analizar la aptitud para aprender una segunda lengua y sus relaciones con la gramática y el vocabulario productivo. Mientras la gramática ha sido tradicionalmente considerada el concepto clave en el aprendizaje de una segunda lengua, la aptitud ha quedado relegada a un segundo plano. De forma similar a lo que ocurre con el concepto de aptitud lingüística, no muy estudiado, el vocabulario productivo ha quedado en gran parte eclipsado por el receptivo. Actualmente AICLE ha irrumpido como un enfoque educativo, influenciando el proceso de aprendizaje de una segunda lengua y su dominio. Con el fin de ahondar en este tema, un grupo de estudiantes extremeños de primer curso de Secundaria pertenecientes a una Sección Bilingüe completó tres cuestionarios (MLAT-ES, LEX30, Dialang). Los datos obtenidos establecen la naturaleza de las relaciones existentes entre la aptitud para aprender una segunda lengua, el vocabulario productivo y el dominio de la gramática, así como la manera en que el contexto modifica los aspectos mencionados. Resultados inesperados muestran una correlación media pero no significativa estadísticamente entre estas características, en los que una aptitud lingüística muy elevada correlaciona positivamente con el vocabulario productivo pero negativamente con la gramática.

Palabras clave: aptitud lingüística, gramática, vocabulario productivo, AICLE.

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1. Introduction

Second language learning is an area that has attracted a great amount of research, however, when it comes to the role of individual differences in the learning of an L2, the number of studies decreases. Most of the studies carried out just focus on motivation, but aptitude is also a very important individual difference that has been shown to affect L2 learning. However, there are not just these two but some other important factors influencing this process.

Although these terms are widely accepted as good predictors of success in SLA, not many studies establish correlations to other fields, just to language success in general.

Nowadays, the concept of aptitude in the field of Cognitive Psychology has been widely studied, but the conclusions are still not convincing (Dörnyei, 2006). In this sense, it seems to be understood as a number of cognitive factors, which makes us think that the concept of ‘language aptitude’ as such does not really exist. This is why several instruments to measure this ‘construct’ have been created, depending on the authors and their beliefs.

1.1. Justification

This study aims to explore the role aptitude in the second language learning process, specifically, how it relates to vocabulary and grammar proficiency in a group of secondary school learners enrolled in a CLIL (Content and Language Integrated Learning) programme in Extremadura. The focus is, therefore, on aptitude, one of the most important but understudied factors, which determines how well an individual learns a language. Analysing the relationship between aptitude and language success in the fields of both vocabulary and grammar seems a very interesting point to research in depth because of the shortage of studies conducted in this area.

First of all, this piece of research establishes a simple comparison between the most widely used instruments to measure the aptitude in order to use the most appropriate one in the current paper.

Secondly, this study tries to analyse the possible interrelationship between students’ L2 aptitude and their level on mastery of an L2 grammar and productive

vocabulary, since it has been proved to be almost unexplored. The theoretical framework first places special emphasis on language aptitude, grammar and productive vocabulary. Of key importance are these concepts and the relationships established between them to understand the language learning process. Then, some measuring instruments are presented and described in depth, so as they allow researchers to gather data about these linguistic features. The focus will be on the MLAT-ES, Lex30, and Dialang as the instruments used. Finally, an analysis of the data collection is presented in order to see and compare the results to those found by other studies in order to find out the type of relationship existed between the key concepts (language aptitude, grammar level and productive vocabulary mastery).

1.2. Objectives

1. To highlight the importance of aptitude when it comes to L2 learning in a CLIL context.
2. To analyse the CLIL context, emphasizing its development in Extremadura.
3. To explore the relationship between grammar proficiency and L2 learning aptitude.
4. To explore the relationship between productive vocabulary and L2 learning aptitude.
5. To find out if a high L2 learning aptitude influences grammar mastery and a good level of productive vocabulary.

1.3. Research questions

RQ1: Does a high aptitude to learn an L2 influence grammar and productive vocabulary knowledge of CLIL secondary school learners?

RQ2: Is there a relationship between aptitude to learn the L2 and productive vocabulary knowledge?

RQ3: Is there a relationship between aptitude to learn the L2 and grammar proficiency?

2. Theoretical framework.

2.1. Learning an L2 in Extremadura in a CLIL context.

The term 'CLIL' (Content and Language Integrated Learning) has gained importance during the last two decades in Europe so as it has characterised the new perspective of a multilingual education.

Since Coyle, Hood, and Marsh coined it in 1994, it was defined as a “dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language” (Coyle et al. 2010, p. 1). This concept is also considered an “umbrella” term because it encloses many different “educational approaches in which an additional language is used for the learning and teaching of both content and language” (Maljers, Marsh and Wolff, 2007:8).

As mentioned before, CLIL rose as a response to the needs of a globalised world in which many different languages coexist. Although nowadays English is considered a ‘lingua franca’, the truth is that the Content and Language Integrated Approach focuses not just on English but on many different languages as vehicles for teaching content-subjects, so as it is considered a multilingual approach.

When it comes to CLIL in Extremadura, it has been implemented through ‘Bilingual Sections’, mainly, since 2004-2005, when they were officially regulated. However, before these sections were even created, the Ministry of Education and Science and the British Council Institution already had an agreement (1996/1997) to integrate the English curriculum into the Spanish one and so certificate the linguistic competence in this second language at the end of the educational period.

Nowadays, Bilingual Sections and Bilingual Schools are starting to coexist since all new schools must offer a CLIL programme, although there are not many of them yet. The point of CLIL in the region is learning a second language and using it in order to learn new contents, as a vehicle (DOE, 2011).

CLIL has definitely consolidated in Extremadura and it keeps becoming more powerful in the region due to its expansion. Both schools and authorities encourage

commitment to CLIL development in order to promote positive results when it comes to foreign languages learning in an academic/formal context.

CLIL approach has been used to teach Maths and Natural Science to the sample of this current piece of work and so the results show its influence in the L2 knowledge, especially in the productive vocabulary, as will be shown below.

2.2. Learners' individual differences

Included in the field of psychology, a new subdiscipline traditionally called 'differential psychology', more frequently called 'individual differences research' has appeared. This new term makes reference to the "characteristics or traits in respect of which individuals may be shown to differ from each other" (Dörnyei, 2005, p. 1) and it will appear from now on as "IDs (Individual Differences)".

In broader terms, Individual Differences (IDs) concern anything that establishes differences among people. However, scientifically, stability gains relevance over time in order to reflect these differences: Differential psychology emphasizes individual variation from person to person only to the extent that those individualizing features exhibit continuity over time (De Raad, 2000).

Traditionally, individual differences have been mostly equated with personality and intelligence but the interpretation has always been broader.

Many different classifications exist in relation to the individual differences and so they focus on different aspects. On the one hand, the International Society for the Study of Individual Differences Research (Dörnyei, 2005, p. 12) highlights temperament, intelligence, attitudes, and abilities as the main focus areas. However in recent research, Cooper (2002) lists abilities, personality, mood, and motivation.

On the other hand, De Raad (2000) mentioned in the Encyclopedia of Psychology (sponsored by the American Psychological Association) a similar broad classification of characteristics that he considers IDs, such as attitudes, values, ideologies, interests, emotions, capacities, skills, socio-economic status, gender, height, and so forth.

When it comes to the pedagogic field, however, we should focus on some specific characteristics or features as part of the IDs distinction: personality-temperament, mood-, aptitude, and motivation to start with. As far as the L2 is

concerned, the features which tend to be highlighted are learning styles/cognitive styles and language learning strategies because of their relation to the learning process (how to learn) (Dörnyei, 2005, p. 7). According to Rosa (2011, p. 5), “aptitude and motivation have been considered two of the most valuable predictors of success in EFL, but little research has been conducted at the early stage of education”. Skehan (2002), for his part, concluded that language processing ability and handling decontextualized materials are two crucial components for the language learning success, and due to its relation to aptitude, this is an essential factor for L2 acquisition.

Going into detail about those features influencing the learning process we should focus on the following ones:

- **Personality:** “characteristics of a person that account for consistent patterns of feeling, thinking and behaving” (Pervin and John, 2001, p. 48), Dörnyei (2005) states that this characteristic is not one of the most important ones when referring to learning. Moreover, we need to distinguish between ‘temperament’ (this innate characteristic that we have inherently, “genetically”; Snow, Corno, and Jackson, 1996), and ‘mood’ (we experiment depending on our emotions and feelings; changing states; Cooper, 2002; Snow, Corno, and Jackson, 1996).
- **Motivation:** motivation, as Dörnyei (2005) points out is one of the most important variables influencing language learning success. This element establishes the ‘impetus’ and interest to learn something new and so it “can make up for considerable deficiencies both in one’s language aptitude and learning conditions” (Dörnyei, 2005, p. 65).

According to Gardner and Lambert and the results they obtained in a study carried out in 1972, “motivational factors can override the aptitude effect” (p. 65). Furthermore, specific populations (specially the social setting) can motivate its population to learn a L2 indirectly, in spite of their aptitude differences.

The motivational factor is not stable, as the aptitude is supposed to be, but it varies according to the personal goals of the subject studied. At this point, we can only focus on aptitude when it comes to language learning because of the different characteristics influencing the process, so whereas aptitude correlates

best with academic language skills, motivation seems to be related to the ability to use language for interpersonal communication (Clavel & Martí, 2011).

As far as motivation in language learning is concerned, there is a need to reinterpret the term proposed by Gardner, ‘integrativeness’. This is a hard task due to the difficulty to look for equivalents to different approaches and that is why different results have come up depending on the study carried out (Dörnyei, 2005). Whereas Gardner (1985) states that the integrative motivation in relation to L2 learning focus on the community, Dörnyei establishes that the identification can be broader, relating the term to the cultural and intellectual values associated with the language, so as with the current L2 (2005).

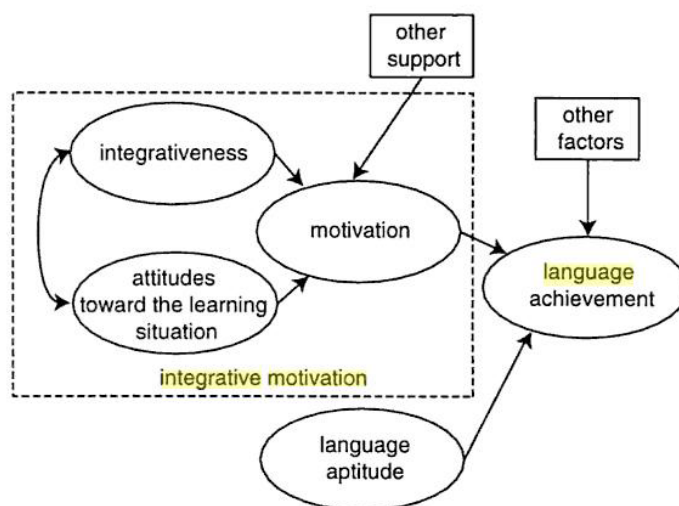


Figure 1. Basic model of the role of aptitude and motivation in second language learning (Gardner, 2001).

- **Learning styles and Cognitive styles:**

The concept ‘Learning styles’ refers to individual’s preferences or ways of learning; how an individual perceive the new information, interact with it and respond to it (Reid, 1995; Dörnyei, 2005). Those variations between “personal preferences” to learn tend to follow systematic patterns, however they represent a continuum which is sometimes difficult to separate because several styles can be adopted by one person. As Sternberg and Grigorenko (2001) state, these learning styles are not followed or adopted consciously, but without awareness and there are so open-ended that some scholars relate them to personality or have even named them personality-based learning styles. It is such a broad and

personal concept that it is almost impossible to establish a clear and definite categorization, but a general categorization of the different learning styles or 'sensory preferences' establishes three different ones; visual, auditory and kinaesthetic.

On the other hand, 'Cognitive Styles' are usually defined as "an individual's preferred and habitual modes of perceiving, remembering, organizing, processing, and representing information" (Dörnyei, 2005, p. 124). Because of its 'purer' condition, cognitive styles are devoid of any educational and situational/environmental interferences; as opposed to learning styles. As it is made up of two different elements (abilities –cognitive-, and styles), it can be pointed out that even both of them determines the student's performance, these terms correlate; so the higher the ability, the better the performance.

- **Language learning strategies:** according to the definition offered by Oxford related to language acquisition (2003, p. 8), language learning strategies are "specific actions taken by the learners to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations". On the other hand, from a general point of view, other scholars have also defined the term 'Learning strategies'; here we find the example developed by Weinstein, Husman, & Dierking, 2000, p. 727): "Learning strategies include any thoughts, behaviours, beliefs, or emotions that facilitate the acquisition, understanding, or later transfer of new knowledge and skills".

This characteristic may be controversial. Some authors do not consider them IDs. Dörnyei (2005, p. 162), for example states that "language learning strategies constitute an aspect of the learning process rather than being learner attributes proper." This same point of view is supported by Cohen (1998), who considers that learning strategies are learning processes that have been consciously selected by the individual.

Because of its major potential in language learning, it is generally pointed out the necessity to do some more research on this term in order to make the process easier to students.

- **Aptitude:** According to many different authors such as Sternberg (2002), Ehrman, and Oxford (1995), aptitude is a key variable when it comes to IDs

because of its correlation to academic success; especially in SLA. The term has generally been used as synonym of other ones such as ability or intelligence, and they practically mean the same although they have specific connotations when used isolated.

According to Dörnyei (2006) language aptitude could be related to human abilities, which would include a wide range of cognitively-based learner differences.

When it comes to L2 aptitude, Robinson (2001) was the first scholar to state and describe this term as a link of lower level skills or abilities that can be grouped into high-order cognitive factors.

Although many authors state the dynamic character of this feature (McLaughlin, 1990; Kormos, 2013), others consider aptitude a state characteristic of the learners (Skehan, 2002).

Aptitude, understood as the ability to learn a language that influences the progress during this process, is a variable of the Individual Differences that has not been researched in depth.

This piece of work, however, focuses on it and tries to explain its influence within the learning process, especially when it comes to second language learning. From now on, a wider explanation on ‘language aptitude’ will be provided in order to highlight its importance.

2.3. The importance of aptitude when learning a language

Language aptitude could be defined as an “innate ability to learn another language, which varies significantly from individual to individual” (Dörnyei, 2005, p. 33). However, as he states, the ‘language aptitude’ concept does not exist as a whole, because it actually refers to several cognitive factors integrated to create the learner’s capacity to master a FL.

According to Carroll (1974, p. 287), language aptitude is defined as “some characteristic of an individual which controls, at a given point of time, the rate of progress that he will make subsequently in learning a foreign language”. As far as R. Ellis, is concerned, this term is defined as “special propensity for learning an L2” (1994, p. 494).

The language aptitude research started approximately in the 1900, motivated to identify ‘untalented’ students in state schools. During the first period of research (1920s-1930s) the same tests were used and the ultimate goal was improving the language learning. Spolsky (1995) established two main approaches that have been followed since then: analytical (focus on cognitive abilities that are supposed to play an important role in language learning), and synthetic, (a more practical way to get information by carrying out ‘mini learning tasks’).

The second period of research (1950s-1960s) was ‘a golden time’ when it comes to language aptitude testing. Some authors stand out because of their creations: Carroll and Sapon on the one hand, and Pimsleur on the other. The first two authors developed the MLAT or Modern Language Aptitude Test; while the last one created the PLAB or Pimsleur Language Aptitude Battery; the most important tests to do research on language aptitude.

As far as the features of aptitude are concerned, McLaughlin (1990, p. 173) states “aptitude should not be viewed as a static personality trait; novices can become experts with experience”.

Following Kormos’ appreciation of aptitude (2013):

Although language-learning aptitude might seem to be a relatively stable individual characteristic when compared with other factors, such as motivational orientation and action control mechanisms, there seems to be some converging evidence that certain components of aptitude might improve in the course of language learning. (pp. 145-146).

However, Skehan’s position defends that “the truth of this matter is that there is simply not enough evidence to argue for the stability of aptitude with any certainty, but for now, following Carroll, we will assume that aptitude does not change with the seasons” (2002, p. 79).

Robinson, on the contrary, opposes to the traditional conceptualisation of language aptitude and proposes that it should be defined as a “dynamic” construct, involving cognitive abilities that influence the language learning when combined into high-order ones (2001).

A wide number of scholars (Sawyer, and Ranta, 2001; Miyake, and Friedman, 1998, Hitch and Baddeley, 1976) also point out the importance of working memory in language learning as foreign language aptitude because of its role in the temporary maintenance and manipulation of the information (Chan, Skehan and Gong, 2011).

In some cases aptitude is close related to ‘language awareness’ as well; which is even considered an ID. This is the case of James (1996), who defines this term as a higher cognition about the language that allows individuals to have skills and intuitions to learn a language.

Schmidt, as Van Lier did in 1996, established a relationship between awareness and aptitude, what was called “aptitude to learn”. This way, the emphasis is focused on the concepts “attention” and “noticing”, crucial for understanding how the learning process is carried out in the L2 (2012).

From the insights, it seems that language aptitude is likely to influence L2 acquisition or learning at any age; however, some studies such as Abrahamsson and Hyltemstam’s establish the existence of “small yet significant aptitude effects in child SLA” (2008, p. 481). Following this idea, Muñoz carried out a study using the MLAT-ES and found significant correlation with student’s skills, but not balanced. His research focused on a group of Spanish-Catalan bilingual young learners in the English classroom context (48 Primary school children in fifth and sixth grades). According to the outcomes “learners’ aptitude seems less strongly associated to speaking than to reading, listening, and writing (accuracy particularly), in order of increasing strength” (2014, p. 62).

2.3.1. Tests designed to measure aptitude.

There are two very well-know test designed to measure aptitude that have been widely used in research studies:

- The Modern Language Aptitude Test¹ (Carroll & Sapon, 1959) is based on trial-an-error process that took almost five years to be completed.

¹ See Appendix A for an outline of the MLAT.

Initially, many different tasks were established in order to tell good and bad language learners apart, and then a deep selection was made.

According to Carroll (1981), language aptitude includes four abilities:

1. Phonetic coding ability, which is the “ability to identify distinct sounds, to form associations between these sounds and symbols representing them, and to retain these associations” (Carroll, 1973, p. 105).
2. Grammatical sensitivity, defined as “the ability to recognize the grammatical functions of words (or other linguistic entities) in sentence structures” (Carroll, 1981, p. 105).
3. Rote learning ability, “the ability to learn associations between sounds and meaning rapidly and efficiently, and to retain these associations” (Carroll, 1981:105).
4. Inductive language learning ability, which is “the ability to infer or induce the rules governing a set of language materials, given samples of language materials that permit such inferences” (Carroll, 1981:105).

Later, in 1989, 1998, Skehan carried out some research to give further lights on Carroll’s aptitude definition and he then distinguished three different components instead of four; those were auditory ability (Carroll’s phonetic coding ability), linguistic ability (Carroll’s grammatical sensitivity and inductive language learning ability), and memory ability (Carroll’s rote learning ability).

- When it comes to Paul Pimsleur and his Language Aptitude Battery², it is important to highlight that he determines the ‘aptitude for learning a modern language’ (1996) in terms of three factors:
 1. Verbal intelligence, “the knowledge of words and the ability to reason analytically in using verbal materials” (p. 14).
 2. Motivation, a ‘problematic’ characteristic of the IDs.
 3. Auditory ability, defined as “the ability to receive and process information through the ear” (p. 14).

² See Appendix B for an outline of the Language Aptitude Battery.

In comparison to the MLAT, the PLAB focuses on auditory factors and less on memory (MLAT). It also contains two highlighted items ('Grade Point Average' and 'Interest in Foreign Language Learning') and include, as we have previously mentioned, the concept of 'Motivation' because, according to the author, "motivation proved to be significantly related to foreign language learning" (Pimsleur, 1996, p. 14).

As far as language aptitude is concerned and following Carroll's statements (1973), aptitude does not predict to what extent an individual can learn, but his/her 'rate of progress'; related to age. If we focus on L1 and L2 aptitude, it is widely accepted that an individual's L1 skills related to the capacity to master a SL.

Apart from the two previous tests described to measure language aptitude, other different ones have also been developed and used; some of the most important ones are:

- CANAL-FT: Cognitive Ability for Novelty in Acquisition of Language as applied to foreign language test. How people cope with novelty and ambiguity.
- LCDH: Linguistic Coding Differences Hypothesis. It states that someone's capacity to learn a L2 language is related to L1 linguistic coding skills.
- LLAMA: mainly based on the MLAT and used to gather data on students' language learning aptitude through their different variations.

A general comparison of the most used aptitude tests allow us to see the different aspects they are focused on, and some examples of the studies in which they have been used in order to measure language aptitude, as shown in the following tables:

Table 1

Most widely used language aptitude tests. Characteristics and examples

MOST WIDELY USED TESTS			
Test	Bases	Components involved	Examples of studies
MLAT (Carroll & Sapon, 1959)	Separates “good/bad” language learners.	Phonetic coding ability. Grammatical sensitivity (functions). Rote learning ability (sounds + meaning).	Brecht, Davidson, Ginsberg (1993). 658 grown students. Gender, age and more than one L1 influence the language learning aptitude. Studying abroad plays a part in it.
	More focused on memory and close to grammatical sensitivity.	Inductive language learning ability (rules). Skehan’s conception (3 components instead of four): Auditory ability, Linguistic ability, Memory ability.	Bain, McCallum, Bell, Cochran, Sawyer (2010). 95 Gifted/not gifted students; adults learning Spanish. Gifted had higher language aptitude, attitude and achievement
PLAB (Pimsleur, 1966)	Establishes a language battery to determine the aptitude. More focused on auditory factors.	3 components: Verbal intelligence, Motivation, Auditory ability.	Smemoe, Haslam (2013). Analysing the level of influence of the context in the development of learning strategies depending on the language aptitude level (60 students). The learning context does not influence the use of strategies. The aptitude correlated to pronunciation accuracy and pronunciation strategies affect comprehensibility. Strategy and aptitude do not affect pronunciation in the same way.

Source: Carroll & Sapon (1959), Pimsleur (1966), Brecht, Davidson, & Ginsberg (1993), Bain, McCallum, Bell, Cochran, & Sawyer (2010), and Smemoe & Haslam (2013).

Table 2

Recent language aptitude tests. Characteristics and examples

Test	Bases	Components involved	Examples of studies
RECENT TESTS CREATED FROM THE PREVIOUS ONES			
CANAL-FT (Grigorenko, Sternberg & Ehrman, 2000)	Cognitive Ability for Novelty in Acquisition of Language as applied to foreign language test. How people cope with novelty and ambiguity, (artificial language)	Selective encoding, Accidental encoding, Selective comparison, Selective transfer, Selective combination.	Thompson (2013). Relationship between language aptitude and previous language experience (79 Brazilian language learners). Results: previous language experience plays an important part in language aptitude (as a dynamic feature).
LCDH (Sparks & Ganschow, 1991)	Linguistic Coding Differences Hypothesis. Someone's capacity to learn a L2 language is related to L1 linguistic coding skills.	Focus on four aspects: Word recognition (speed) + listening comprehension, L1 literacy skills, L2 skills	(Sparks, Ganschow, 1999) Students with difficulties in the phonological/orthographic/syntactic components of the L1 tend to have difficulties in the L2. Von Worde (1998). Variety of groups in FL classrooms. Language learning aptitude is influenced by other factors (anxiety can negatively affect the language learning experience).
LLAMA. Mainly based on the MLAT (Meara, 2005)	Used to gather data on students' language learning aptitude.	LLAMA_B: <i>vocabulary learning</i> . LLAMA_D: <i>sound recognition</i> . LLAMA_E: <i>sound-symbol correspondence</i> . LLAMA_F: <i>grammatical inferencing</i> .	Kepinska, Struys (2012). 24 Dutch-French bilingual right-handed students (adults). Whereas the group with below language aptitude on word level displays more brain activity during the task, the reverse can be observed for the effect of language aptitude on sentence level (p.75).

Source: Grigorenko, Sternberg, & Ehrman (2000), Sparks & Ganschow (1991), Meara (2005), Thompson (2013), Sparks & Ganschow (1999), Von Worde (1998), and Kepinska & Struys (2012).

2.4. Vocabulary in an L2: Productive vocabulary

Research on vocabulary acquisition in an L2 has always been a complex topic because of the many factors involved. In spite of its difficulty, it is crucial to know the size of both productive and receptive vocabulary children have acquired in order to determine their level of L2 acquisition and knowledge, especially in educational contexts.

According to Read (1988), Laufer (1989), Nation (1990), and Meara (1996), knowing the vocabulary size known by students is one of the most important factors in L2 learning although it is difficult to be measured. There are also added problems we should deal with if measuring vocabulary size is the main aim of the research, such as having a clear idea of what a word is or what it means to know a word.

When it comes to lexical knowledge, most researchers agree that it can be seen as a continuum, made up of different levels and bands, in which subjects are placed depending on their knowledge of vocabulary. Scholars, such as Aitchison (1989) or Channell (1988), have assumed that passive vocabulary is larger than active one. Be that as it may, we should make a clear distinction between “knowing a word” and “using a word”, so it covers the whole process of both receptive and productive vocabulary. In order to use new words automatically in different contexts students must have learned them previously by interiorizing them. This way, both intentional and incidental learning are taken into account (N. Ellis, 1994).

According to this perspective, vocabulary is best learned in context (McCarthy, 1984), so students would be able to face different meanings from the same words frequently. Moreover, we must bear in mind that each student has a specific capacity and learning speed; which makes aptitude even more important when it comes to learning, and since most vocabulary is learned through reading, those who read well will learn wider amounts of vocabulary than those who have any delay (Hansen, McKinney, and Umeda; 2012). Some of them will be disadvantaged, which will cause a disparity among students, also known as ‘Matthew Effect’. Following Stanovich’s perspective (1986), there is a reciprocal relationship between vocabulary knowledge and reading comprehension. Whereas most students have the same reading speed, there can be some of them who are unable to follow this rate. It makes the volume of vocabulary learned vary from one student to the other and so this could mean that the “rich-get-richer”. The more skills a student has at a particular field, the better results he/she will

get. The gap between them, however, is quite small in the early grades and an early diagnostic assessment can avoid the Matthew Effect.

Although it is hard to differentiate between receptive or passive and productive or active vocabulary as Laufer pointed out (1990), we are going to focus on productive vocabulary because of its importance in the oral and written production, specially in order to be able to interact to each other in different contexts, and try to establish a correlation with aptitude factors, even though it remains unclear which differences in learners' skills would affect its size.

As far as productive vocabulary is concerned, Meara (1996) proposes that it comes up due to the connection between lexical items established in the mental lexicon. This way, a lexical network is created, in which both lexical and 'productive' items are included. These specific elements would 'light up' the rest of the items when they two come into contact; becoming accessible and so, productive vocabulary.

Following Schmitt's criterion (2010, p. 87), "productive knowledge involves knowing a lexical item well enough to produce it when it is needed to encode communicative content in speech or writing". Following this definition, this kind of knowledge would be a "usage-based" one, so that could be related to "form recall" as a skill-based and the first step in the productive mastery. According to Nation's definition (2001) 'productive vocabulary' makes reference to those words we are able to pronounce and write in a correct way, divide, classify depending on their antonyms or synonyms, use in a sentence or even relate with common associated words.

In spite of the existence of some studies that relate receptive vocabulary to individual differences (gender and learning styles specially; Brecht, Davidson, Ginsberg (1993) and Sternberg and Grigorenko (2001), there is a noticeable gap concerning research on the relation between productive vocabulary and individual differences.

The little existing research on productive vocabulary and aptitude establishes the necessity to go in depth in order to relate both of the factors and so understand and explain a successful vocabulary learning process.

Even though studies on productive vocabulary in L2 and CLIL can be found, there is a shortage of research covering productive vocabulary in relation to aptitude in CLIL contexts (involving an L2).

On the one hand, when it comes to learning style, research such as Parry's (1997), Sanaoui's (1995) or Gu's (2003) pointed out that employing an "analytic" approach, more structured than the "holistic" one, helps children to retain vocabulary more easily and effectively.

On the other hand, if the focus is on secondary education and the wide range of subjects taught, sex differences show a variety of results. Whereas females have better skills in general terms and are more willing to use new vocabulary strategies (Oxford, Lavine, Hollaway, Felkins, and Saleh, 1996; Gu, 2002; Young, and Oxford, 1997), males outperform in listening vocabulary (Boyle, 1987). Agustín and Terrazas (2012) focus on a secondary school as well, but paying attention to the EFL context. This study can be considered closer to ours. Their results conclude that both male and female students follow the same lexical learning, maybe because of a "homogeneous EFL school instruction", and tiny differences are just shown in the most complicated stages of development due to the physiological and psychological changes.

In spite of these outcomes, other scholars' results show that individual differences are non-significant when it comes to vocabulary knowledge (Hurlburt, 1954; Jiménez-Catalán, & Terrazas, 2005).

As far as aptitude is concerned, although there is just little evidence of their relation to vocabulary learning, a study by Hansen, McKinney, and Umeda (2012) with Japanese and Korean adults focused on individual differences affecting L2 vocabulary (re)learning. After a different time without being exposed to the language studied (English in this case), participants were exposed in a classroom context setting to a range of vocabulary that they were supposed to know. Results showed that the correlation established between vocabulary size and (re)learning was partly caused by an intervening factor: aptitude. Thus, those people with higher L2 aptitude would be "good language learners" and so learning, maintaining and relearning words would be easier for them.

This way, we could consider other factors to be integrated into the concept of aptitude such as memory span, which is essential for vocabulary acquisition. Although we should bear in mind that each child is different and they all can have different learning speeds, we can take Gu's idea of what being a good vocabulary learner mean: "good learners seem to be those who initiate their own learning, selectively attend to words of their own choice, studiously try to remember these words, and seek opportunities to use them" (2003; par. 73).

2.4.1. Tests designed to measure productive vocabulary

In order to measure productive vocabulary, many different tests have been created. The following table summarises the main ones:

Table 3

Productive vocabulary tests. Characteristics and basis.

Test	Author/s	Year	Characteristics
Lexical Frequency Profile: Vocabprofile	Laufer and Nation	1995	Test that shows the number/percentage of words used in written productions at different vocabulary frequency levels.
Productive Vocabulary Levels Test (PVLТ)	Laufer and Nation	1999	Diagnostic test which groups the predetermined target words produced by students (to complete given sentences) in four different frequency bands.
Lex30	Meara and Fitzpatrick	2000	Word association test in which students' produced words to 30 stimuli are analysed in order to determine the frequency of their appearance, and so their level of acquisition.
P-Lex	Meara and Bell	2001	Test to measure the characteristics of the vocabulary used in short writing tasks.

In order to carry out the study, the test used to measure productive vocabulary has been the Lex30. This is considered a very adequate test for the educational context since it is easy and quick to administer in the classroom. As mentioned before, this resource allows researchers to measure the 120 items produced by non-native English students (in this case) in response to 30 given stimuli (4 possibilities per word). Since the answers are not predetermined to be produced, it can somehow be considered a ‘free productive task’. However, as Meara and Fitzpatrick point out (2000, p. 22), “the stimulus words tend to impose some constraints on the responses, and Lex30 thus share some of the advantages of context-limited productive tests”.

2.5. Grammar and L2 learning

Knowing grammar has traditionally been one of the most, if not the most, essential elements when learning an L2 whereas learning vocabulary was traditionally neglected.

Due to the characteristic of English as an International Language, the interest for learning and teaching this language as an L2 has risen, and many opinions have been developed when it comes to the importance of grammar in this process.

This way, following Nazari and Allahyar’s idea (2012), we can distinguish different positions: on the one hand, some scholars defend that grammar must not be taught because it does not help students to get fluency and accuracy, and so we should pay attention to an ‘adapted’ grammar, which depends on some factors such as learners’ age, maturity or cognition and relates to comprehensible input (Krashen). On the other hand, there is a position that defends that grammar is the key element of language learning since it is the base of any language, and its direct formal instruction support our students’ learning process. Grammar is widely considered “to be the central part of a language... around which other parts such as pronunciation and vocabulary evolve” (Cook, 2008, p. 18). However, there are many other important elements around that are connected to each other through grammar. As far as its current importance is concerned, Cook (2008, p. 19) affirms that “students should learn to speak real language that people use, not an artificial form that nobody uses”.

In this respect it is important to highlight the idea of ‘interlanguage’ (Selinker, 1972) when learning a L2, a systematic and linguistic intermediate system between the L1-L2 that represents the acquisition process when learners try to express meanings in the L2; so it cannot be shown up when the student focuses on grammatical accuracy, but on the meaning of the outcome.

In relation to the distinction between semantics and grammar, scholars such as N. Ellis and Wulff (2008) defend the idea that nowadays grammar cannot come on its own; we need meaning to contextualize the form; otherwise it will not be useful. For innatists, for example, there is not real separation between grammar and vocabulary; they are a continuum that is called “construction”.

As it has been mentioned before, mastering grammar has been the main aim for decades, constituting the main focus of language teaching as a group of explicit syntax that conforms the language. However, in practice, syntactic structures are not acquired because they do not correspond to the reality of everyday life. Otherwise, these structures are associated to situations, constructions... and so they get a meaning. This way, they make sense for learners, which allow them to learn the ‘useful’ grammar.

At this point, going back to the idea of ‘constructions’ may help us understand the importance of teaching and learning grammar; this is, structures that appear together in the discourse and are highly recommended to acquire in order to get the meaning of conversations, and also being able to communicate and write (Li and Song, 2007).

Kinch (2011) points out the importance of learning the grammar of a second language in the natural context; this is, by using the language. His research showed that these students who have a better aptitude for learning a language have learned the L2 grammar through using it; in context, not in an educational environment (in class; by heart). Since children with a better L2 learning aptitude showed to have acquired grammar through the use of the L2, results proved that explicit grammar teaching was not related to language mastery.

However, if students have been able to learn a language without mastering its whole grammar; can it make us think that knowing grammar does not guarantee a successful L2 acquisition as it has been believed for years?

2.5.1. Test used to measure grammatical competence.

Even though grammar has traditionally been measured by L2 teachers, a new test to measure grammar in context, has been developed recently, this is Dialang, that has a specific section to measure grammatical competence.

Since grammatical competence needs to be measured in order to evaluate its mastery, Dialang was created by the Council of Europe in order to promote and implement the Common European Framework of Reference, which distinguish six different levels of competence in a foreign language (A1-A2, B1-B2, C1-C2), common for all the European space (Ambròs, Ramos, & Rovira, 2009).

This project consists of a technological programme that everyone can download and install freely. It just conforms an online diagnostic system that allows users to know (but not to certify) their own level of competence in every language skill for the fourteen languages available.

3. Study

3.1. Participants

The study sample consists of 20 students (1st grade of Secondary Education, 12-13 years old).

They are all enrolled in the CLIL section (1st year of Secondary Education) of the “Ruta de la Plata”, High School, placed in the rural village of Calamonte (Badajoz). This is their first year in a bilingual section and even though they are all together in the CLIL classes, they belong to different groups. Their level of English is not homogeneous in the class because of their previous and different experiences in Primary Education. However, it is important to highlight that this group of students has eight CLIL classes per week and three hours of English as a Foreign Language.

At the beginning, the research started with 26 children, however, not all of them were able to complete the three questionnaires needed to develop the study, and so this little part of the sample had to be dismissed.

A convenience sampling was chosen because of the shortage of time to carry out the research and the close relationship between the researcher and the School Centre.

This fact gave us the opportunity to access a group of students that covered all the characteristics needed to develop the study. Furthermore, the questionnaires used were three, which would have made the process really hard to develop with a bigger sample because of the short time available.

3. 2. Instruments

3.2.1. Aptitude (MLAT-ES).

In order to carry out this research, a variation of the traditional MLAT will be used. In this case, the version created for Spanish young students was administered.

The Modern Language Aptitude Test-Elementary Spanish (MLAT-ES) is an adaptation of the MLAT-E (for 3-7 grade learners), an outgrowth of the previous MLAT. The two last ones were created by Carroll and Sapon in order to establish an indication of probable degree of success in foreign language learning.

The current Spanish adaptation used in this MA dissertation was developed by Stansfield and Reed in 2005 in order to provide teachers and researchers with adapted tools that allow them to measure their non-native students' abilities (aptitude) when learning an L2.

The MLAT-ES requires more than an hour to be administered, according to its creators. Since students need to be given specific instructions, it is necessary to use a CD player (or tape one), and so for the 'listening' part at the end of the test. Otherwise, it could not be carried out.

The test is made up of four different parts that can be described as follows:

- Part 1: *Palabras ocultas* (hidden words). This first part of the Spanish adaptation measures both vocabulary knowledge in the L1 and sound-symbol association skill. It corresponds to 'Spelling Clues' of the MLAT.
- Part 2: *Palabras que se corresponden* (matching words). This is designed to measure grammatical sensitivity by using non-formal grammar terminology. Learners have to identify the role of a specific word in a sentence and find the word that does the same job in a sentence given. This part corresponds to 'Words in sentences' in the MLAT.

- Part 3: *Palabras que riman* (finding rhymes). This is a part created for the adaptation, so it has never been included in the MLAT. Students have to recognize speech sounds and identify a written word that sounds the same way (when pronounced aloud).
- Part 4: *Números en otro idioma* (number learning). This is the last part of the MLAT-ES. It consists of learning the name of some numbers in an artificial language. After some examples, examinees listen to numbers in the new language and they have to write down the number these names refer to. This part also pays attention to memory.

Once the test has been administered, teachers or researchers need to hand correct the booklets by using some templates provided by the MLAT-ES manual. When it comes to scoring, no deductions are made for errors or omissions. Moreover, the maximum possible scores (123) are as follows:

- Part 1: 30 points.
- Part 2: 30 points.
- Part 3: 38 points.
- Part 4: 25 points.

3.2.2. Productive vocabulary (Lex30).

The Lex30 is a tool created by Meara and Fitzpatrick (2000) that allows researchers and teachers to measure students' level of productive vocabulary. When it comes to measuring vocabulary, the receptive group has always been more studied than the productive one because it is quite a complex dimension.

Productive vocabulary level not only depend on the hours devoted to studying, but also to many other factors influencing, such as the context surrounding the learning process or the opportunities to use the new vocabulary that has been learned.

According to Meara and Fitzpatrick (2000, p. 20), "it is much more difficult to assess productive vocabulary knowledge than it is to assess receptive vocabulary knowledge... it tends to be so context-specific that it is difficult to calculate... the true size or range of the learner's productive vocabulary).

This test (Lex30) is, according to their creators, a word association task in which students are given a list of words considered stimulus, and they have to give responses to these stimuli. Since they are provided with 30 words, it is not considered a free productive task because children need to write down four words that come to their minds when reading every single word of the list. At the end, they will have produced a maximum of 120 words (120 scores if all the blanks are filled).

In order to develop the test, some criteria was taken into account:

1. The stimulus words are frequent. All of them are taken from Nation's first 1000 wordlist.
2. Stimulus words do not elicit specific responses, but a wide range of them. It depends on students' level, background and context.
3. The stimulus words are specifically selected in order to generate not common responses.

The words written by students need to be typed into a database of an Online Website (Lognostics- Lex30) in order to be lemmatized and use their base-forms to score the results.

3.2.3. Grammar (Dialang).

Dialang is considered one of the most important programmes or tools to evaluate and analyse someone's linguistic competence. It was created by a numerous group of European countries following the statements of the Common European Framework of Reference for Languages.

The skills and descriptors of the CEFRL establish different language levels in which a user can be depending on their competences (what can I do in a language?).

This way, the language levels have become standardized for all the European countries and this fact has made the creation of Dialang possible.

Dialang is a software that every user needs to download and install in the computer in order to use it. This is not an official or standardized measuring tool, but a diagnosis group of tests that measure our linguistic competence (in relation to the

CEFRL) according to reading, speaking, grammar, vocabulary and writing. The tests are available in 14 different languages, all of them European ones.

Every single test has been designed in order to provide users with information about their weaknesses and strengths. They all cover different levels, from the lowest to the highest one (A1- C2 according to the CEFRL).

Before starting the tests created for each skill or competence, the programme suggests a 'placement test' and a self-assessment in order to provide users with an adequate test, depending on their level.

As far as this MA dissertation is concerned, Dialang was first used to establish a starting point in order to know the students' linguistic level. Once their level was known, the adapted grammar test provided by the programme was printed and used in order to measure their mastery of grammar.

It was a 30-questions test in which students had to choose the correct answer among several options.

3.3. Data collection

In order to explain how the research has been carried out, the instruments involved in its development and the results obtained, this section has been divided into two different parts; tests administration and results analysis.

3.3.1. Tests administration.

From the very beginning of the study a close relationship with the school in which the study took place existed.

First of all, the management team was presented to the idea and the main aims of the research in order to provide them with enough information to consider our request of using their pupils as the sample of the current piece of work.

Once a confirmation was given, the researcher came into the classroom several times, so as students could meet her and then feel relaxed and confident when completing the questionnaires.

After this “introductory” process the sessions in which the tests were going to be administered began.

The first test carried out was the MLAT-ES (Cronbach’s alpha coefficient of reliability of 0.97) to measure language aptitude. This one was especially difficult to administer because of its length so two sessions were needed. Before starting, children were asked to be honest since it was not going to be taken into account by the teacher as part of the ‘everyday classroom tasks’.

Although they were asked to write down their names in the booklets for the researcher to be able to compare them with their other tests, their names would not appear in the statistical analysis or in the written piece of work; each student would be given a number to be identified.

Since this test has four different parts, three of them were carried out during the first session and the last one in the second session. Students were explained how to complete it and once everything was clear, the CD in which the instructions are explained was played. They had a limited period of time per part, indicated by the CD as well.

A week after having administered the first questionnaire, the second one was carried out (the grammar test).

As mentioned before, Dialang is a software in which users have to complete a ‘placement’ test and a self-assessment, so once the program has identified their language level (English in this case), it provides users with the correct tests depending on their level. Its Cronbach’s alpha coefficient of reliability (0.91) makes it acceptable and valid to measure the grammatical level.

During the week in which the test was administered some students of the class were chosen in order to measure their level of English through Dialang, so as the specific grammar tests for that sample could be provided and printed.

This pre-test took around one hour. Students had to go to the computer room, in which the programme had been installed and complete the pre-test. Once their level of English was shown, it was decided that they all had an A1, so, at the end, the A1 grammar test was printed.

The test was administered in one session. Again, they were asked to write down their names (although they were not going to appear in the study) and be honest.

The last test LEX30, which Cronbach's alpha coefficient of reliability is 0.84 (Meara and Fitzpatrick, 2000), was administered to measure productive vocabulary competence. It was carried out a week after the Dialang, so students would not feel tired or overwhelmed. It took just one session, and children were asked to be honest and write down what they knew.

Since this test contains 120 gaps, examinees are supposed to fill them all. However, they were told not to complete all of them just by copying words already provided or the same words already written because it would not score, so if any words came to their minds, they were able not to write anything.

Every student was given a sheet with the stimulus words and the gaps to complete.

3.3.2. Results analysis.

In order to analyse the results from the three tests administered, different aspects were taken into account:

- The results from the MLAT-ES booklet were taken by using some templates for each single part provided by the manual. Once the results were scored, it was necessary to write the scoring for each part and the global one, in order to be able to compare them with the normal distribution of the data (percentiles).
- In order to know students' scoring when it comes to the grammar test (Dialang), it was necessary to correct the tests and give one point per correct answer. At the end, the sum of the points gave the total scoring.
- The words written down by examinees in the LEX30 (productive vocabulary) were measured by taping every single response within a computerized database that matched with a vocabulary frequency band database and provided the researcher with the specific scoring of each word.

Once the results of the three tests were taken. The data were transcribed to the SPSS v.22 for Mac.

3.4. Results

Since the current MA dissertation tries to find out if any relationship exists between the aptitude (language aptitude) and the grammar and productive vocabulary level of the students, the following sections present a collection of data that give answer to the research questions posed at the beginning of this piece of work and explain students' results.

The programmes used to analyse the data were SPSS v.22 for Mac and Excel (figures and graphics).

3.4.1. Descriptive analysis.

The first point that should be highlighted is the fact that students' level of aptitude is quite high and it follows a normal distribution of the data when the MLAT-ES scoring (of which mean is 112.50) is compared to the percentiles of a normal distribution; as can be seen in Figure 2.

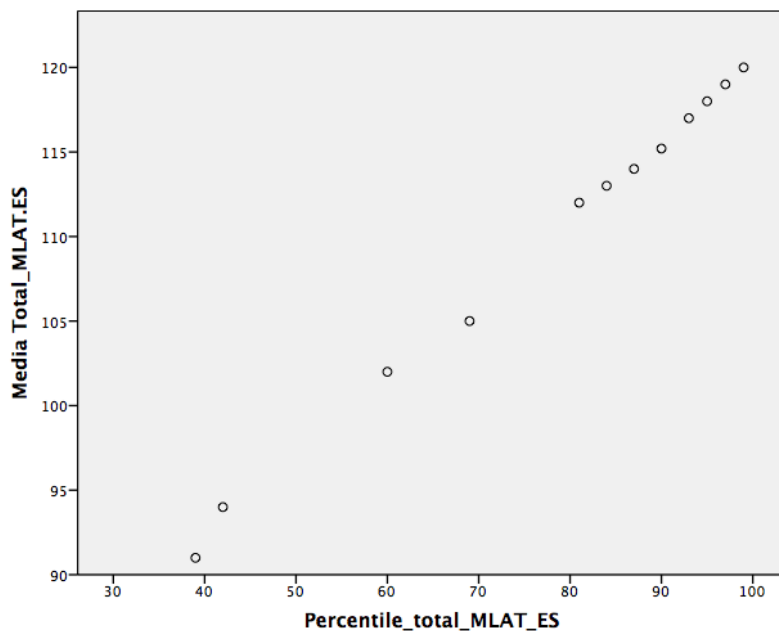


Figure 2. Lineal regression of MLAT-ES results (language aptitude).

If we take into account that the MLAT-ES is made up of four different parts³, a very good aptitude level of the sample to learn the English language seems to be shown, as can be seen in Figure 3⁴.

Whereas students' mean in 'hidden words' is 27.45 (max. 29), they obtained a mean of 26.25 in 'matching words' (max. 30), 35.85 in 'finding rhymes' (max. 38), and 22.95 in 'number learning' (max. 25).

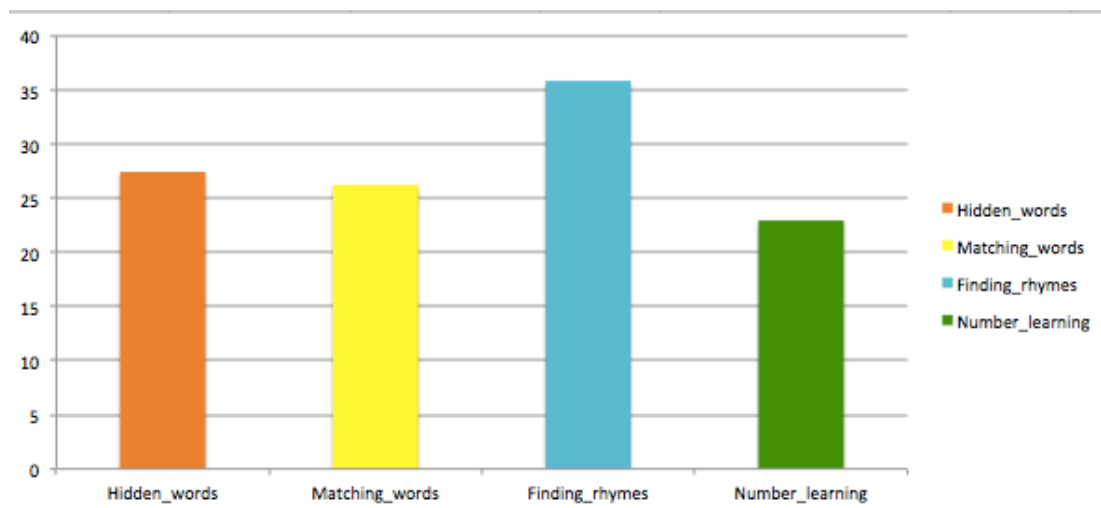


Figure 3. Graphic results of the four parts of the MLAT-ES.

When it comes to the grammar and productive vocabulary tests, the results are not so encouraging. Although students show an excellent level of aptitude, this does not happen with the other two tests.

It seems that students' level of grammar and productive vocabulary is average; especially the grammatical one.

Both results are about in the middle level of the results expected (students' mean of grammar showed by the Dialang grammar test is 17.30 out of 30; and productive vocabulary mean scoring is 27.05 out of 40).

³ See Appendix C (Descriptive Statistics of the four parts of the MLAT-ES)

⁴ See Appendix D (Figure 9: Distribution of the MLAT-ES students' results divided into its four parts).

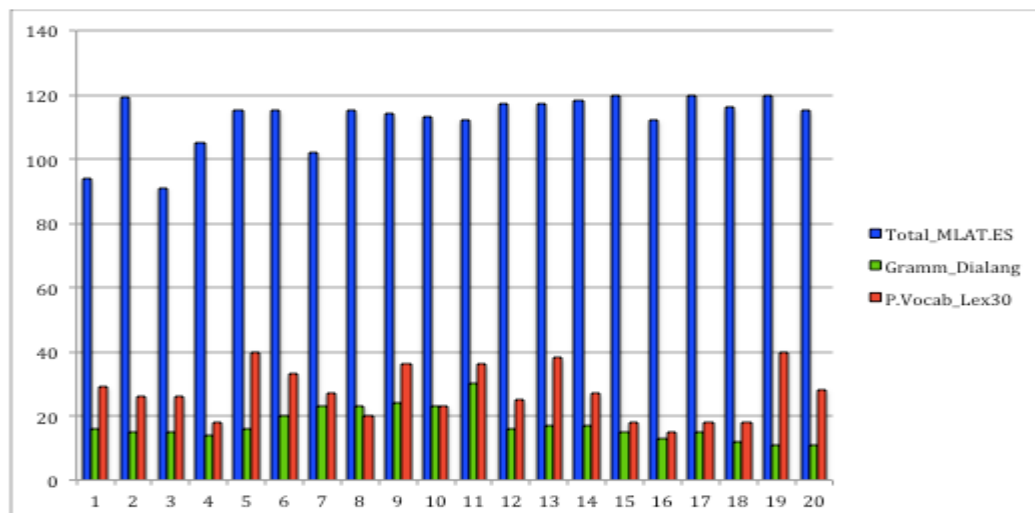


Figure 4. Comparison of students' results (aptitude, grammar, productive vocabulary)

As far as the relationships between the results obtained in the grammar and productive vocabulary tests (Dialog and Lex30) and the parts of the MLAT-ES related to these two competences ('hidden words' or aptitude to learn new vocabulary, and 'matching words' or grammar aptitude), the following descriptive analysis has been developed:

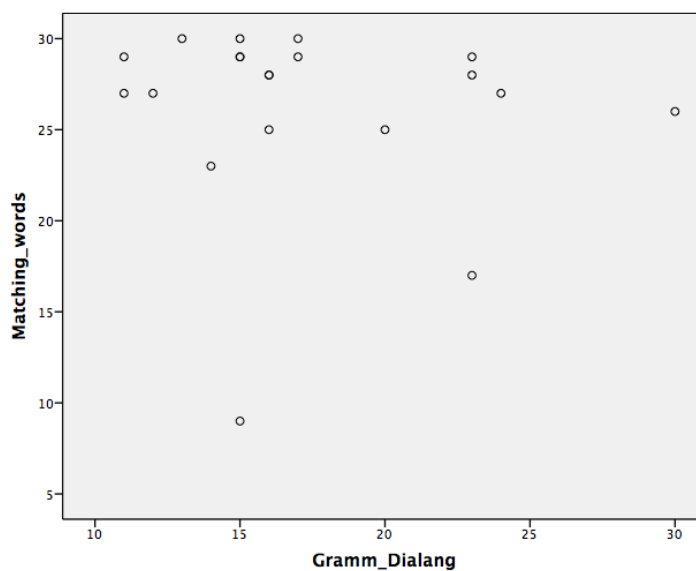


Figure 5. Lineal regression of student's grammar competence/ aptitude.

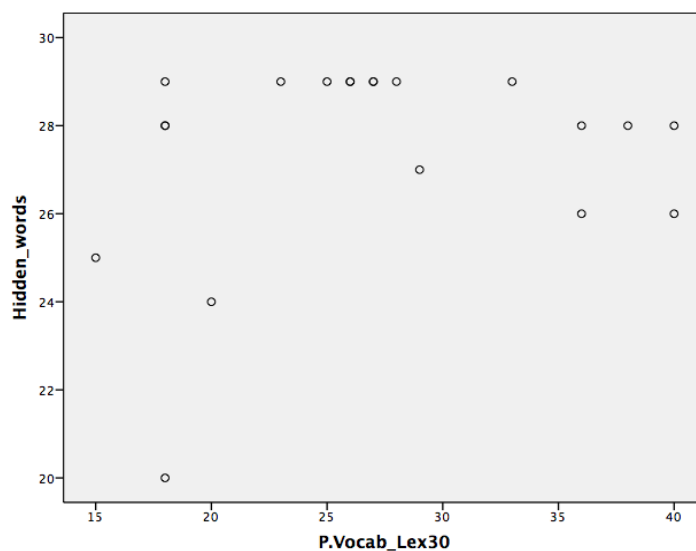


Figure 6. Lineal regression of students' vocabulary competence/ aptitude.

Seeing figures 5 and 6, it can be highlighted that the results obtained in the tests do not have a lineal correlation.

This way, results from the productive vocabulary test (Lex30) do not follow the same evolution as results from the vocabulary part in the MLAT-ES (aptitude), 'hidden words', as can be seen in Figure 7.

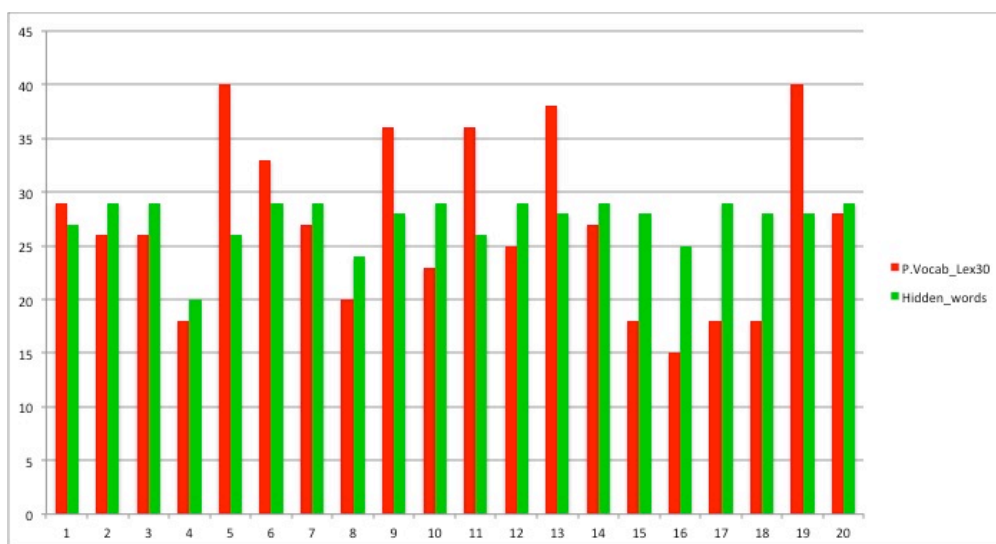


Figure 7. Comparison of students' results (productive vocabulary level/ aptitude for vocabulary)

In the same way, results from the grammar test (Dialang) do not follow the same evolution as results from the vocabulary part in the MLAT-ES (aptitude), 'matching words', as shown in Figure 8.

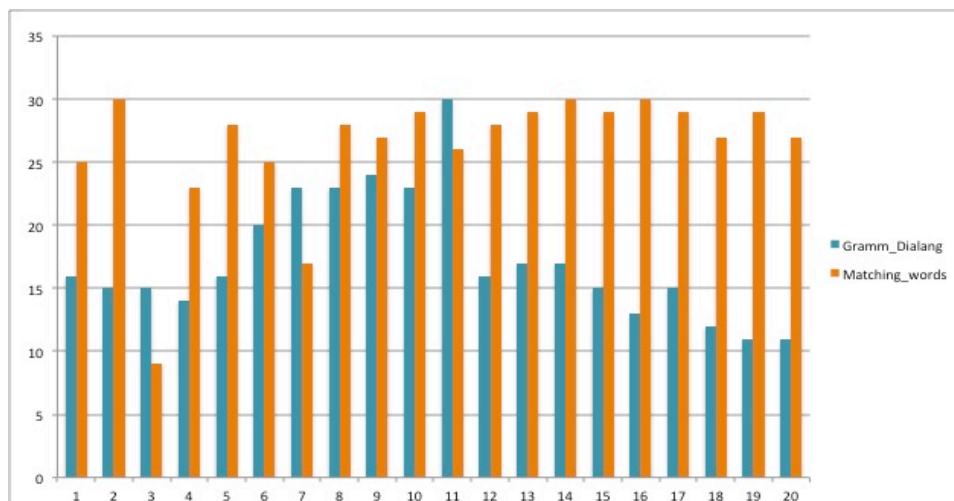


Figure 8. Comparison of students' results (grammar level/aptitude for grammar).

Taking into account the results provided by the previous Figures, it must be highlighted that, although students have a very high level when it comes to language aptitude and so, as regards the two different parts of aptitude concerning vocabulary and grammar, they do not have such a high level as far as productive vocabulary and grammar mastery is concerned.

In the light of the results, it can be thought that their average levels of grammar and productive are caused because of the previous input received, their short age, and the early academic stage in which they are.

Comparing the productive vocabulary results obtained by Lex30 and its correspondent part of the aptitude test (hidden words; Figure 7), it can be appreciated a variation of the scoring, maybe because they come from different groups and their vocabulary levels are different. The data do not follow a normal and homogeneous development, and some extreme differences can be seen among the students. These all aspects can be the result of their short age or a poor command of a wide range of words, although they can be interested in learning them.

On the other hand, it can be seen in Figure 8 that students do not follow a normal evolution either when it comes to grammar. In this case, comparing the results from the grammar test (Dialang) and its correspondent part of the aptitude test (matching words), it can be highlighted that results vary a lot from ones to others and results from the aptitude test are much higher, which could mean that their aptitude is very high, but they do not master L2 grammar.

3.4.2. Statistical analysis.

Some statistical analysis was carried out in order to support, statistically, the results obtained through the descriptive analysis of the data collected.

Since the aim of this study was analysing the relationships between the aptitude aspects related to language learning and the results obtained by the development of a grammar and a productive vocabulary tests (Dialang and Lex30) the statistical test used was Pearson product-moment correlation coefficient.

The basis of this statistical evidence is analysing if two or more items correlate and in which way they do, so any parametric or non-parametric statistic has been carried out because the point of this research is not comparing groups, but establishing (or not) relationships.

Since students have shown to have an excellent level of language aptitude (Table 4), different relationships can be analysed.

Table 4

Descriptive statistics. Comparison of students' results: aptitude, grammar and productive vocabulary.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total_MLAT.ES	20	91	120	112.50	8.249
Gramm_Dialang	20	11	30	17.30	4.996
P.Vocab_Lex30	20	15	40	27.05	7.950
Valid N (listwise)	20				

First of all, as in the previous section, the focus is on the relationship between the language aptitude test (MLAT-ES) and the two other ones (grammar, measured through Dialang and productive vocabulary, measured by Lex30).

As Table 5 shows, the correlations established between productive vocabulary and language aptitude (.050) were stronger than those among language aptitude and grammar.

As mentioned before, the correlation between language aptitude and grammar was very low (-0.96), and negative, i. e., it shows that the higher the aptitude of these particular learners, the worse the grammar level (and the other way round).

Table 5

Statistical correlation between MLAT-ES, Dialang, Lex30. Results.

		Correlations		
		Total_MLAT.ES	Gramm_Dialan g	P.Vocab_Lex30
Total_MLAT.ES	Pearson	1	-.096	.050
	Correlation			
	Sig. (2-tailed)		.688	.834
	N	20	20	20
Gramm_Dialan g	Pearson	-.096	1	.258
	Correlation			
	Sig. (2-tailed)	.688		.272
	N	20	20	20
P.Vocab_Lex30	Pearson	.050	.258	1
	Correlation			
	Sig. (2-tailed)	.834	.272	
	N	20	20	20

Although the correlations are not significant (<5%) and so these data can be the result of random processes or circumstances, they provide researchers with some important information that will be discussed in depth within the following section, such as the fact that having a good aptitude does not seem to determine a good level of grammar, in particular, or productive vocabulary either.

Following the same structure as in the previous part of the MA dissertation, a statistical analysis has been developed in order to analyse the correlations between the productive and grammar tests and their correspondent parts of the MLAT-ES.

Whereas the correlation between the productive vocabulary test (Lex30) and the aptitude to vocabulary test (hidden words) is quite low (.231), the relationship between the grammar test (Dialang) and the aptitude to grammar test (matching words) shows an extremely low and negative correlation (-.097), as can be appreciated in Tables 6 and 7.

Table 6

Statistical Correlation between productive vocabulary test (Lex30) and its correspondent part of the aptitude test (hidden words).

Correlation LEX30/Hidden words (MLAT-ES) - vocabulary

		Vocabulary_Lex	
		30	Hidden words
Vocabulary_Lex30	Pearson Correlation	1	.231
	Sig. (2-tailed)		.326
	N	20	20
Hidden_words	Pearson Correlation	.231	1
	Sig. (2-tailed)	.326	
	N	20	20

Table 7

Statistical correlation between grammar test (Dialang) and its correspondent part of the aptitude test (matching words).

Correlations			
		Gramm_Dialang	Matching_words
Gramm_Dialang	Pearson Correlation	1	-.097
	Sig. (2-tailed)		.685
	N	20	20
Matching_words	Pearson Correlation	-.097	1
	Sig. (2-tailed)	.685	
	N	20	20

Again, the correlations are not statistically significant (<5%). Taking into account the current results, no solid interrelationship between the aptitude to learn a language and the students' productive vocabulary and grammatical level can be solidly confirmed because they could be the result of random processes.

3.5. Discussion

Once the data have been analysed some important conclusions can be drawn. As mentioned before, this piece of writing's aim was analysing the existing or non-existing relationships between the language aptitude and the grammar and productive vocabulary levels of a group of 20 CLIL students (1st year of Secondary Education) in Extremadura.

The first important conclusion, mentioned previously, is that the sample taken to carry out this study presents a very good level of aptitude, high and adapted to the normal distribution of the data, according to the scoring and the percentiles of the MLAT-ES test. This good level may come from the students' own interest to learn a language, from the English input received or the importance given to English language in their contexts. Be that as it may, language aptitude seems not relate to productive vocabulary and grammar mastery, which is surprising.

As shown in Figure 3 and Table 4, the level of these students is almost the maximum allowed in this test (and so in every single part of the MLAT-ES). This could have influenced the decision of being enrolled in the Bilingual section of the school in order to learn the specific subjects (Maths and Natural Science) through English.

However, these high results in relation to L2 aptitude do not correlate with a particularly high level of vocabulary and, especially, with a command of grammar.

As far as grammatical competence is concerned, these children's level is average but, surprisingly, the correlation shows a negative relationship between language aptitude and grammar, although it is not significant (which might be caused by the low number of participants; their age or the way in which they have learned grammar). This is, however, a very important point since it highlights the random condition between language aptitude and grammar mastery.

Against traditional beliefs and according to the current results, the better the language aptitude, the worse the grammatical level and the other way round. Taken together, these results would be suggesting that a good command of grammar might not be necessarily related to a high aptitude to learn an L2.

It has also to be taken into account that this is the students' first year in a CLIL section so they have just studied English as EFL and probably, partly learning by heart

the grammatical rules in order to complete exams (as it happens in their current English as EFL class).

In the case of the relationship between aptitude and productive vocabulary, the results were also quite unexpected. Although the correlation is higher and positive, it is not statistically significant either. This could be the result of the small size of the sample as well. Furthermore, students come from different classes, and so they could have different language backgrounds. This could also be the reason why results draw such noticeable differences, as shown in Figure 7, where scoring varies a lot among the students. Examinees' productive vocabulary level is still low, and results do not establish a relationship between the level of language aptitude and vocabulary mastery. This way, results obtained could be suggesting that Lex30 is not the best test for such a young sample, because they were not able to recognize some of the 'stimulus words' provided, and so a free productive vocabulary test could have been better for them; such as a composition.

Nevertheless, it is quite interesting that the correlation between language aptitude is stronger than that with grammar, although it is not statistically significant.

It is maybe quite soon to expect any improvement because they are just in the 1st year of Secondary Education and so, too young. Taking into account that they have just received input from the English as a Foreign Language class, in which case most of the time available is devoted to grammar and non-contextualized lists of words, their current results when it comes to productive vocabulary could be understood.

However, there is an important aspect to focus on. Since this sample belongs to a CLIL classroom, it was noticed that some of their produced words were CLIL-subject specific ones, such as lesser kestrel, monera, mushroom, kingdom, multiply, times, fraction or even proportion; words which are not expected in this academic level. Even though these words are unexpected at this level, they do not make students' productive vocabulary levels increase because they have just been provided in a few cases in which most of the answers did not score because of their belonging to very low frequency bands.

4. Conclusions

At this point, once the data have been analysed, some comparisons to other studies and results can be carried out by taking into account the research questions and the objectives placed at the beginning of the research.

As mentioned in the theoretical framework there is a shortage of research on this topic. However, if we compare the results obtained in the current piece of work with those presented in the few studies that have analysed this topic in the literature, few similarities can be established. In contrast to Abrahamsson and Hyltemstam's results (2008), the students that conform the sample of the current study show a high level of language aptitude, but this does not seem to influence the L2 acquisition since their levels of productive vocabulary and grammar proficiency are not very high.

In the same way, our results do not match with Muñoz's idea (2014), whose results show a significant correlation between language aptitude and students' skills; which, in our case, can be the result of a small sample or a short age of the participants. In her study (aptitude in the English classroom), students were already bilingual (Spanish-Catalan) and this could also relate to the good results because they are supposed to have been using different skills in order to learn languages. However, the students that conform our sample are monolingual and have been recently enrolled in the Bilingual section, as mentioned before, so they have not been able to develop their skills enough to make the language aptitude correlates to any of the aspects studied; which could be one of the causes of the results obtained.

When it comes to grammar, it is important to mention that it has been considered the "central part of a language... around which other parts such as pronunciation and vocabulary evolve" (Cook, 2008, p. 18). In contrast to this conception, the results obtained show low levels of mastery and negative correlations to language aptitude. This way, if language aptitude tends to influence language motivation to learn a language and so it engages students in language learning the truthfulness of this statement should be questioned nowadays.

On the contrary, it can be seen from the data obtained that grammar is not the central element of the language learning. Moreover, as mentioned before, its negative correlation show a weak and random relationship to language aptitude, which match with Kinch's study (2011), who points out that explicit grammar teaching and learning do not relate with language mastery. He states that grammar should be learned as part of

the language learning process but not as the central part of it. According to his results, children who learn grammar through its usage in a contextualised way, show a better L2 learning aptitude.

Since the students of the current research have been receiving English input from the English as a Foreign Language class, as mentioned before, they may have been exposed to grammatical rules and structures in an isolated way, which has probably influenced the lack of grammatical knowledge and caused their low mastery of grammar, if applicable.

As far as productive vocabulary is concerned, students' level of competence is not very high either. Some aspects might have influenced, such as the Matthew Effect (Stanovich, 1986), learning the words in a non-contextualised way or studying lists of words by heart, although there are not evidences supporting these ideas because these aspects have not been properly monitored from the beginning of the research. However, some aspects such as the small sample and the age of the students could affect the results directly.

According to McCarthy (1984) and Schmitt (2010) vocabulary is best learned in context, so they need to know the lexical item in depth to produce it. On this question, this study found that examinees had produced a wide range of words related to their specific CLIL subjects (Maths and Natural Science). This is an important focus to highlight since it matches previous studies' results and support the idea of being able to produce learned vocabulary when it has been acquired in context.

This way, most of the children were able to fill the gaps with connotation, not the expected words to some stimulus ones (even though sometimes the answers did not relate to the word). This is the case of 'Maths' and 'subtract' (Rest) or 'monera', 'lesser kestrel', and 'kingdom' (Habit), which show a clear influence from the context in which the words are learned and makes clear that contents learned through the CLIL approach have been internalised by these students.

Besides, it partially explains why students have been blanked at some words and so they have not filled the gaps provided. It seems that many of them were not able to understand or remember the meaning of specific given stimulus words (dig, hold, obey, or trade), which could influence the poor scoring. The different answers among the students may be the result of their belonging to different classes, and so they would have not received the same input.

All of these mentioned ideas support Hansen, McKinney and Umeda's outcomes in relation to language aptitude and productive vocabulary (2012), which state that the factor of aptitude influences vocabulary learning when it happens in context.

Although statistically significant correlations are not established in the current piece of work, it seems that learning in context can be a solid aspect influencing the level of productive vocabulary, which correlation with language aptitude is higher than the correlation between language aptitude and grammar.

CLIL could be especially useful when good levels of language aptitude are shown and students have been exposed to a high quantity of qualified input of the L2 for a long time. Moreover, it also seems to be useful when it comes to productive vocabulary because it allows children to learn the contents in specific subject-contexts, while they use the L2.

As far as grammar is concerned, it is apparently not as important as it has traditionally been thought since results have shown that having a good grammatical competence does not equate with having a good aptitude for learning languages.

Some limitations were found when planning and developing the present piece of work and so they could be taken into account in order to develop future research on this topic.

First of all the limited number of participants can be highlighted. Some results may be influenced by the sample and it would be interesting to carry out the study with a higher sample or analyse other groups from different contexts. This sample represents a rural area, but result could not be the same if the study is developed in an urban one. Comparisons between the two areas would be interesting as well.

As a second limitation that can be highlighted is that it would be interesting to analyse the quality of input received in previous terms and sessions in order to know the students' background.

On the other hand, other variables could be analysed, such as gender, years receiving L2 instruction or learning styles; although this is quite difficult to be taken into account with a high ratio of pupils per class. Moreover, some specific aspects such as the Matthew Effect could be taken into account in order to see how the individual learning differences influence the language aptitude and the levels of grammar and productive vocabulary.

Finally, students have recently been enrolled in the Bilingual section and this fact seems to influence the quantity of qualified English input received. Until now, they have just learned English in the English as a Foreign Language class, but not in a contextualised way. In the light of the results, context tends to influence the learning process and it would be interesting to research in depth on this. Furthermore, carrying out a longitudinal study with the same sample could be useful in order to analyse how being in a CLIL section influences students' aptitude, grammar and productive vocabulary level. A post-test could be done. Since this sample has started in the CLIL section this school year it would be stimulating to know their evolutions when it comes to these aspects. In relation to grammar mastery, it is supposed that students in Bilingual sections are learning grammatical rules and structures step by step, unconsciously, and so they should gain knowledge and improve their mastery.

5. References

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6. Appendices.

Appendix A. Carroll's MLAT

Table 3.1. The Modern Language Aptitude Test (MLAT)

The MLAT is a paper-and-pencil test battery, composed of five parts. Its administration takes about 60-70 minutes. The standardization of the administration is insured by the use of recorded material that includes the instructions and the phonetic material for certain parts (Parts 1 and 2). The five constituent sections are as follows:

1. **Number Learning:** Subjects hear some numbers in a new language (only numbers 1-4, 10-40 and 100-400), and are provided with some auditory practice to learn them. Then they must translate 15 numbers between 1 and 400 into English.
2. **Phonetic Script:** First students hear a set of short nonsense words while they follow their printed phonetic script, which is presented in fairly simple and regular symbols. Then they hear one word at a time and must choose from four printed alternatives. The whole task includes 30 sets of four words each.
3. **Spelling Clues:** This part looks like a vocabulary test in that subjects must choose, from five alternatives, the word which is nearest in meaning to a test word, thus the results depend on vocabulary knowledge in one's first language. A unique feature of the task is that the test word is not spelled normally but phonetically. There is a total of 50 test words.

E.g., ernst

A. shelter

D. slanted

E. impatient

B. sincere

E. free

4. **Words in Sentences:** This test measures 'grammatical sensitivity.' First subjects are presented with a key sentence in which a word or phrase is underlined. In the sentence (or sentences) following the key sentence, five alternative words or phrases are underlined. Subjects must select the one that performs the same function as the underlined word in the key sentence. There are altogether 45 key sentences.

E.g., Mary is cutting the APPLE.

My brother John is beating his dog with a big stick.

A

B

C

D

E

5. **Paired Associates:** In this test students have a total of four minutes to memorize 24 Kurdish/English word pairs. Retention is tested by means of a multiple choice test in which subjects must choose the proper equivalent for each Kurdish word from five English alternatives. All the distracters are selected from the 24 English words contained in the original list, which makes the test more difficult.

Appendix B. Pimsleur's Language Aptitude Battery.

Table 3.2. The Pimsleur Language Aptitude Battery (PLAB)

The PLAB is a paper-and-pencil test battery, composed of six parts. Its administration takes about 60 minutes. The standardization of the administration is insured by the use of recorded material that includes the instructions and the phonetic material for certain parts (Parts 5 and 6). The six sections are as follows:

1. **Grade Point Average:** Students have to report the grades they last received in English, history, mathematics, and science.
2. **Interest in Foreign Language Learning:** On a five-point scale, students are to indicate their degree of interest in studying a modern foreign language.
3. **Vocabulary:** The individual's word-power in English is measured in a multiple choice format. 24 fairly difficult adjectives are listed, followed by four words each for the student to choose the synonym from.

E.g., prolonged

- | | |
|---------------------|---------------------|
| A. <i>prompt</i> | C. <i>difficult</i> |
| B. <i>decreased</i> | D. <i>extended</i> |

4. **Language Analysis:** Subjects are presented with a list of words and phrases in a fictitious language, and their English equivalents. From these they must deduce how to say other things, and select the correct answer from alternatives provided. There are 15 English phrases to be 'translated' into the fictitious language, each followed by alternative 'translations' to choose from.

E.g., The list below contains words from a foreign language and the English equivalents of these words.

Gade father, a father
Shi horse, a horse
Gade shir le Father sees a horse.
Gade shir la Father sees a horse.
be carries

Using the above list, figure out how to say each of the statements below. As soon as you decide how to say a statement, look at the four answers given beneath it and choose the one which agrees with yours.

A horse carried Father

- | | |
|------------------------|------------------------|
| A. <i>gade shir be</i> | B. <i>gade shir ba</i> |
| C. <i>shi gader be</i> | D. <i>shi gader ba</i> |

- 5. **Sound Discrimination:** Subjects are taught, by means of a tape recording, three similar sounding words in a foreign language. Then they hear 30 sentences spoken in the language and must indicate which of the three words each sentence contains.
- 6. **Sound-Symbol Association:** Subjects hear a two- or three-syllable nonsense word and must indicate which of four printed alternatives it is.

Appendix C. Distribution of the MLAT-ES results divided into its four parts.

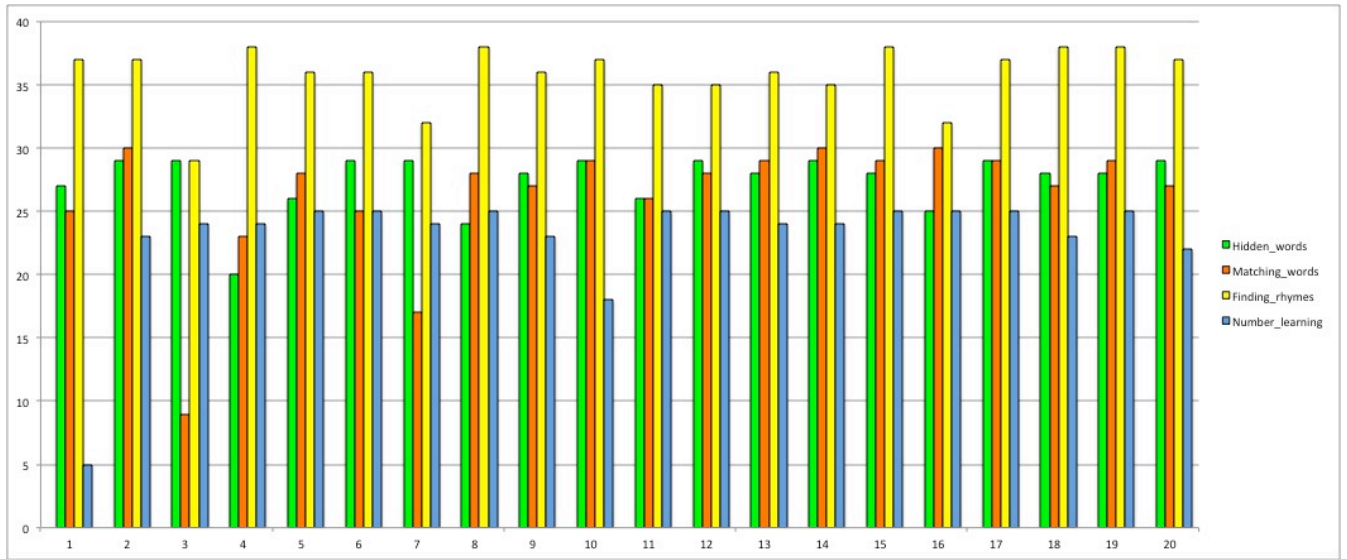


Figure 9: Distribution of the MLAT-ES results divided into its four parts.

Appendix D. Descriptive statistics of the four parts of the MLAT-ES (Graphic results of the four parts of the MLAT-ES.).

Table 8

Descriptive statistics of the four parts of the MLAT-ES supporting Figure 3 (Graphic results of the four parts of the MLAT-ES.).

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total_MLAT.ES	20	91	120	112.50	8.249
Hidden_words	20	20	29	27.45	2.305
Matching_words	20	9	30	26.25	5.067
Finding_rhymes	20	29	38	35.85	2.390
Number_learning	20	5	25	22.95	4.536
Valid N (listwise)	20				