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Theory of Overregularization in Language Acquisition

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Authenticity Statement

“I do hereby attest that I am the sole author of this project/thesis and that its contents are only the result of the readings and research I have done”

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ABSTRACT I

The present study focuses on the age of acquisition of the irregular past tense of the verbs in English and Spanish by looking at the different views that explain this process. *Overregularization* is the stage in which children produce verbs that are irregular in Spanish and English applying the rule of regular verbs in the past tense in both languages. The *Tolerance Principle* by Yang (2001) provides a developmental theory that includes the debate in linguistics and cognitive development for the past tense formed in the lexicon or in the syntax. Children learn the past tense at a very early age. The *Tolerance Principle* can also be extended to second language learners of all ages, including adults.

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CHAPTER 1. Introduction and Aim of Study

In the present study, the objective is to review the different models of the acquisition of the irregular past tense verb forms in English and Spanish, and examine the age at which this form is acquired at the two languages by attending to the phenomenon of *overregularization* that occurs in the acquisition of the irregular past tense forms of English and Spanish.

According to the APA Dictionary of Psychology, *overregularization* is a transient error in linguistic development in which the child attempts to make language more regular than it actually is. An example is saying **brokeed* instead of broken in English.

In this Chapter 1, I will present the description of the regular and irregular verbs in Spanish and English in order to know how they change in the past tense of both languages and in Chapter 2, I will present the different models in history and developmental studies that explain how the irregular forms of the past tense are acquired in English and Spanish. In Chapter 3, I will present the data of natural speech that contains the irregular past tense verb forms in English and Spanish from monolingual children in the Child Language Data Exchange System (CHILDES) database. (MacWhiney, B. 2000). In Chapter 4, I will discuss the results of the age of acquisition of the irregular past tense in English and Spanish, and Chapter 5 will contain the conclusions of the study.

Regular Verbs in Spanish

The verb models of the regular conjugation verbs in Spanish are: *amar*, (love) *temer* (fear), and *partir* (leave). The verbs that are regular in Spanish end in *-ar*, *-er* and *-ir*. Next, I present the first, second, and third conjugation of each sample verb of the regular verbs in Spanish in Appendix I. Each ending in the conjugations of the regular verbs in Spanish concords with the number and person of the person (grammatical subject) and expresses the mood, tense and verbal aspect.

The regular verb *amar* (love) corresponds to the first conjugation of the regular verbs in Spanish (see Appendix I for the conjugation of this verb in all the tenses in Spanish). The regular verb *temer* (fear) corresponds to the second conjugation of the regular verbs in Spanish (also in Appendix I). The regular verb *partir* (leave) corresponds to the third conjugation of the regular verbs in Spanish. (Appendix I).

There are two groups of regular verbs in Spanish: those verbs that have an orthographic accent in their conjugation and finish in *-iar* and *-uar* such as *anunciar* (announce), and *actuar* (act) and those verbs that have in their roots the thematic vowels of /ai/ /au/ /ei/ and /eu/ such as *aislar* (isolate), *causar* (cause), *peinar* (comb) and *adeudar* (owe).

In Appendix I, there is the conjugations of these regular verbs, starting with the verb of *anunciar* (announce). For this verb, the /i/ that precedes the ending is not prosodic in all the forms of this verb. In Appendix I, there is also the conjugation of those regular verbs that have in their roots the thematic vowels of /ai/ /au/ /ei/ and /eu/ such as *aislar* (isolate), *causar* (cause), *peinar* (comb) and *adeudar* (owe).

Irregular Verbs in Spanish

Irregular verbs in Spanish have a unique paradigm, for example: *ir* (go) or *ser* (be), and, *acertar* (get right) or *agradecer* (to be thankful) are verb models of conjugation for other irregular verbs in Spanish. Irregular verbs in Spanish do not follow the same pattern of the conjugation of the regular verbs in Spanish. The root of the irregular verbs in Spanish and their endings change in their conjugation. In Spanish, there are some irregular verbs that describe meteorological phenomena and that are always conjugated in the third person such as *llover*, (rain) *nevar*, (snow) *granizar*, (hail) and others like *suced*, (occur) *soler* (used to) or *ocurrir* (happen) that are always conjugated in the third person as well.

The irregular verbs in Spanish change in the following tenses: present tense of the indicative mood, present tense of the subjunctive mood, and the imperative mood, for example: *vengo*, *venga*, *vengan* with the verb of *venir* (come) in the conjugation of the first person, and third person singular, and first-person plural. They also change in the perfect preterite of the indicative mood, imperfect preterite of the subjunctive mood, and the future of the subjunctive mood: *vine*, *viniera*, or *viniere* in the conjugation of the first-person singular and, third person singular. Finally in the future of the indicative mood and the simple conditional: *vendré* and *vendría* for the first-, and third-person singular.

In Spanish, there are phonetic alternations in the irregular verbs. These are irregularities between vowels, or between a vowel and a diphthong, for example: *pedir* / *pido* (ask) and *contar* / *cuentan* (count). There is an alternation for the vowel /e/ and /i/ in the conjugated form *pido* and an alternation of the vowel /o/ for the diphthong /ue/ in the conjugated form *cuentan* in the conjugation of the third person plural.

There are also irregularities between consonants, for example: *agradecer* / *agradezco* and *conducir* / *conduje* (drive), in the conjugation of the first person. There is an alternation for the consonant of /c/ to /z/ and for the consonant of /c/ to /j/. The irregularities can also be in vowels and in consonants: *maldecir* / *maldiga* (curse) and *caber* / *quepo* (fit). Here the alternation is between the ending of the infinitive *maldecir* and *maldiga* for the third conjugation (/e/ and /i/ respectively) and between the consonants /c/ and /q/ for the infinitive in *caber* and the conjugation of the first person *quepo*.

Other verbs like *leer* (read), *creer* (believe) or *proveer* (provide) are irregular verbs because the vocalic sound /i/ when it is between vowels at the end of the verb for the conjugation, it is transformed in the consonantal sound /y/. For example: *leyó* and *leyera* for the conjugation in the third person for the preterit and the conjugation for the third person in the preterit for the subjunctive mood.

There are some substitutions of vowels and consonants in the conjugations of irregular verbs in Spanish. Some examples of these substitutions that occur in the conjugations of the irregular verbs are:

- 1) Change of /e/ for /i/ in the root of the verb *medir* (measure) in *mido*, *midió* and *midamos*.
- 2) Change of the /o/ for the diphthong /ue/ in the root of the verb *soñar* (dream) in *sueño*, *sueña*, *sueñan*,
- 3) Change of /e/ for the diphthong /ie/ in the root of the verb *entender* (understand) in *entiendo*, *entiendas*, *entiendan*.
- 4) Change or addition of some consonants in the endings of the verb *salir* (exit) in *salgo*, *salgamos*, in the endings of the verb *crecer* (grow) in *crezcas*, *crezcamos*, in the ending of the verb *reducir* (reduce) in *reduje*, *redujiste*, and *redujeran*.
- 5) Change of /e/ for /i/ or for /d/ in the root of the verb of *venir* (come) in *vendré*, *vendrás*, *vendremos*.
- 6) Addition of /y/ in the conjugation of the first person in the present tense of the indicative mood in the following verbs: *ser* (soy), *ir* (voy), *estar* (estoy) that in English are be (am), go (go) and be (am).
- 7) Loss of a consonant or a vowel in the conjugation of future, for example: *hacer* (do) (*haré*, *haremos*, *harán*).
- 8) Change of /i/ for /y/ in the verb of *huir* (*huyó*, *huyamos*, *huyó*) that in English is flee.

Please see Appendix 1 to see the tenses of the different forms in Spanish.

Next, I present the conjugation of the irregular verbs *ir* (go) and *ser* (be) that have a unique paradigm and the conjugation of the irregular verbs *acertar* (get right) and *agradecer* (to be thankful) that are the model for other irregular verbs in Spanish, and of the verb *leer*, (read) that is also irregular, in which the vocal sound /e/ changes for the consonantal sound of /y/. See Appendix I for their

conjugations. The irregular verbs *acertar* (to get right), *agradecer* (to be thankful) and *leer* (read) are models of irregular verbs and there is the conjugation pattern in Appendix I.

Regular Verbs in English

Regular verbs in English are formed with the suffix *-ed* that marks the past simple tense in that language. See Appendix II for the conjugation of sample regular verbs such as *play* in English in the past tense. If the regular verb in English ends in /e/ or any other vowel + /y/, the consonant /d/ is added, for example the verb: *like*, changes to *liked* in the past tense and the verb *enjoy* changes to *enjoyed*. See Appendix II for a list of other verbs that end in /e/ and any other vowel + /y/. If a verb in English ends in a consonant + /y/, the /y/ is changed orthographically for /i/ to add the *-ed* suffix of the past tense. See Appendix II for a list of regular verbs in English that end in consonant + /y/ such as the verb *study*. Some regular verbs in English double the last letter before the addition of the *-ed* morpheme of the past tense. See Appendix II for a list of examples of these verbs (*plan – planned*).

Irregular Verbs in English

The verb *be* in English, is irregular. It changes to *was* and *were*. See Appendix II for its conjugation in English to the past simple tense. In English, the irregular verbs are the same for all subjects in their conjugation for the past tense. Their form is different from the infinitive. See Appendix II for a list of some examples of irregular verbs in English and sentences in the past form with different subjects and a list of common and not common irregular verbs in English.

Summary

In this study, we are going to focus on the phenomenon of *overregularization* in English and Spanish that occurs during the acquisition of the irregular past tense in both languages, and how different models explain this phenomenon. As we have seen, in English, children add the morpheme *-ed* to irregular verbs, for example: **breaed* and in Spanish, children end the irregular verb in

Spanish with morphemes that correspond to regular verbs to form the past tense, for example: **sabo*, instead of *supe* (knew) in Spanish for the conjugation of the first person in the past of the verb know.

CHAPTER 2. Literature Review

Network Model, Single Route Model, Dual Processing Model and Cognitive Constructivist Model

Prasada and Pinker (1993) replicated Bybee and Moder (1983) in her Single Route Model, for speakers to produce irregular verbs in English depending on the global similarity with the infinitive form of the verb. In her Network Model, Bybee (1995) proposes that, in disagreement with the Dual Processing Model, by Pinker, Marcus et al (1992) and Prasada and Pinker (1993), the type frequency of the verbs is important for productivity.

Bybee (1995) explains in the Network Model that verbs that are more frequent are the base of morphological relations and are resistant to change, more specifically, she says that verbs in English that are less inflected, such as irregular verbs, are produced by relating the morpheme to the base form, that is the stem of the verb.

According to Prasada and Pinker (1993) there are approximately 180 verbs in English that have irregular past tense forms, and in their Dual Route Model, (Pinker, S. and M. T. Ullman, 2002) they explain that these forms are learned by rote and stored as a list in the memory. The irregular form of the verb in the past tense, blocks the application of the rule of adding -ed in English for the regular verb.

Prasada and Pinker (1993) explain that there are patterns of generalization in the irregular verbs in English. They explain that irregular patterns are stored in an associative memory by similarity and this allows new items that match the patterns of irregularity to block the appliance of the rule of the regular past tense in English.

In their experiment Prasada and Pinker (1993) selected novel verbs in English that rhyme with regular verbs and that contain a vowel that is common in the English regular verbs. According to the model of analogy called Single Route Model by Bybee and Moder (1983) phonological

similarity is necessary for the inflection of regulars and irregular verbs, that is the application of the -ed morpheme to regular verbs in English and the change to the new form to the irregular verb in the same language.

Specifically, in their experiment, Prasada and Pinker (1993) presented to adults novel verbs pseudo-regular forms of English verbs, for them to assess the appliance of the rule of adding -ed to the stem and they presented to their participants, novel verbs pseudo-irregular forms of verbs in English with changing of the vowel.

They found that subjects rated higher the appliance of the -ed rule of the regular past tense to the novel pseudo-irregular forms of English verbs. They also found that participants rated high a vowel change in a pseudo-regular form of novel verbs in English when this form was so distant from a cluster of real regular verbs in the English language.

In another experiment, Prasada and Pinker (1993) asked participants to fill sentences using different categories of language, for example, nouns, adjectives or verbs, according to what the participants think it is more appropriate, using the correct form of each category that was provided to fill the sentence. Prasada and Pinker (1993) report that in this experiment, participants suffixed the category of verb with -ed for the past form to fill the sentences. They found that in this experiment, participants filled the sentence with forms of irregular verbs when these novel verbs were very similar phonetically to real irregular verbs.

Marcus, G. F., Pinker, S., Ullman, M., Hollander, M., Rosen, T. & Xu, F. (1992) used the transcripts of children's longitudinal spontaneous speech available at the Child Language Data Exchange System (CHILDES) (MacWhiney, B. 2000) to study overregularization and they also used single samples from the book: *Spoken Words* by Hall, Nagy and Linn (1984), and other multichild data bases with information of children from different socio-economic status. An important note is

that parents do not correct children when they have made an overregularized error according to Kuczaj (1977).

According to Marcus et al (1992) children infer that **broke* is ungrammatical and the blocking of the application of the rule to add -ed to irregular verbs is part of the development to correct performance without correctness from parents. According to the Dual Processing Model, irregular verbs in English are retrieved to block the rule of adding -ed probabilistically and low frequency verbs that are irregular in English are overregularized (more than high frequency irregular verbs) in a low rate. (Marcus et al 1992).

In their study of overregularization, Marcus et al. (1992) found that phonological similarity or dissimilarity between a stem and its past tense form, does not help children to recognize the form in the past of the irregular verbs and has no influence in overregularization. They also report that irregularization errors, that is, the production of an irregular form in English having the -ed as the suffix is less frequent than overregularization errors.

Maratsos, M. (2000), following the same data used from (Marcus et al 1992) report that overregularization happens before the first correct use of an irregular verb form (p.197). They also mention that regular verbs in English are more frequent in the input of children than irregular verbs in the same language and this is a factor for children that learn vocabulary more rapidly than others (Maratsos, M, 2000). In their account of Cognitive Constructivist, Serrat and Aparici (2001) take into consideration individual differences of children for language development and state that the category of verb is acquired progressively and treated as argument slots for other predicates (p.1262).

In their model of Multiple Rules (Dual Processing Model) for discovering rules of morphology and phonology by Albright and Hayes (2003), with paradigms of related words, the model learns these rules. In the creation of their model Albright and Hayes (2003) follow the criteria for the model to complete output forms, make guesses for each word and assign scores of well-

formedness to each guess, and make a generalization for the past tense irregular forms of verbs in English, regular verbs as well, and broaden generalizations following Prasada and Pinker (1993). This model, correctly inflects past tense forms of verbs in English and they tested the forms to participants to see their responses and compare them to the forms the model outputs, finding that the model gives the results similar to those of the participants for the regular and irregular verbs in English.

In Ambridge (2010), children ages from 6 to 7 years and 9 to 10 years judged the grammaticality of the same regular and irregular novel past tense forms of verbs in English that Albright and Hayes (2003) used in their study. In their study, children judged as correct, past tense novel forms of irregular and regular verbs in English that are very similar to existing irregular and regular past tense forms of English, being the regular forms of past tense in English judged more correctly as age advanced with children, according to the Single Route Model (Bybee and Moder 1983) and the Dual Route Model (Prasada and Pinker 1993).

In order to account for the initial stages of learning the past tense, Blything et al (2018) elicited from monolingual English-speaking children, ages from 3 to 7 years and 9 to 10 years old, the production of the past tense forms of the regular verbs and irregular verbs of the same language using the same novel verbs at Albright and Hayes (2003) to complete a sentence orally in the simple past tense. They found that in concordance with the Single Route Model (Bybee and Moder 1983), children produced the inflected -ed morpheme of the past tense of regular verbs in English that were phonologically associated with the real regular verbs in English, the age effect was more pronounced in younger children.

Following the Single Route Model by Bybee and Moder (1983) and the Dual Route Model from Prasada and Pinker (1993) Clahsen, Avelledo and Roca (2002) found the following inflection errors by Spanish-speaking children from spontaneous speech and narratives in longitudinal samples and cross-sectional samples of the Spanish language from children of ages 1;7 to 4;7:

- a. Children produced forms such as **queriba*, and **teniba* for irregular verbs, applying the ending for the singular imperfect indicative *-ba* as if they were regular verbs: *querer* (want) and *tener* (have), and the form of **traje* for the same tense, overapplying the singular imperfect indicative for the correct form of *traía* in Spanish for this irregular verb: *traer* (bring).
- b. Children produced 2nd and 3rd conjugation endings of regular verbs in the simple past and imperative to the irregular verbs of *poner* (put), and *hacer* (do) in Spanish: **punio*, **pusí* and **hace*.
- c. Children produce endings of regular verbs such as *-o* and *-d* of the 1st singular present tense and the past participle respectively to irregular verbs such as *saber* (know) and *romper* (break): **sabo* and **rompida*.

Children also produced errors of diphthongization such as **juga* instead of **juega* in an irregular verb (play), but they did not produce a diphthongized form in a regular verb such as **cueme* (eat).

Clahsen et al (2002) report that regular inflectional affixes and diphthongized stem forms of regular verbs in Spanish are overgeneralized to irregular verbs and not vice versa by monolingual Spanish-speaking children and that children distinguish between stem formation and inflectional processes. They also found that children use the theme vowels of regular verbs to irregular verbs in Spanish when they conjugate to the past participle: **devolvido*, instead of the correct form: *devuelto*, producing a regular root and a regular inflectional ending for the verb return in English.

According to Clahsen et al (2002) these errors indicate that children can manipulate stems and inflectional endings separately. These findings are explained in terms of the Dual Mechanism model of inflection by Marcus et al (1992). According to which regular and irregular inflection are dissociated in children's grammars in basically the same way as is claimed for the adult grammar,

involving two distinct representational systems, a set of lexical entries that are (associatively) listed in memory, and a set of symbolic operations or rules to form larger linguistic expressions.

For example, past- tense overregularization errors such as **bring-ed* are due to the child applying a regular (*-ed*) affixation rule in cases in which the lexical entry for the irregular word form *brought* is not available, and they disappear once the child can reliably retrieve the correct irregular word form.

They conclude that even in cases in which inflectional suffixes are overregularized, stem formation (i.e., the combination of roots and theme vowels) seems to function appropriately according to the root's conjugation class. These observations indicate that in the over- regularization errors in inflected verb forms that Spanish children produce, stem formation and inflectional processes can be dissociated.

In Vasquez (2016) the author follows this proposal of the Dual Mechanism Model (analogy) to account for the patterns observed in the acquisition of early verb forms in Spanish. Data for this cross-sectional study were extracted from a larger data base collected by the researcher and which included spontaneous speech by 40 monolingual Spanish speaking Costa Rican children ages 3;5 to 5;6.

Vasquez (2016) finds that children produced forms such as **despertí* for the regular verb *despertar* (wake up) in Spanish **golpí* for the regular verb in Spanish *golpear*, (beat) and **levantí* for the regular verb *levantar* (get up). For all these regular verbs, the children used a conjugation that applies to irregular verbs that end in -er such as *comer* (eat). For verbs that are irregular in Spanish, such as *caber* (fit), *conocer* (know) and *doler* (hurt), Vasquez (2016) finds that children produced forms that contain endings for the conjugation of regular verbs such as **cabo*, **conozo* and **dolaba*. She also found that children produced the forms of **llovio*, and **pona* for the irregular verb *llover* (rain) that is always conjugated in the third person and *poner* (put) that is an irregular verb too. Also,

children produced **teno*, **tene* and **traí* for the irregular verb of *traer* (bring). These forms are the results of the appliance of the endings of the regular verbs (*temer*: *temo*, *teme*, *temí*) to irregular verbs.

At this point, it is important to remember that The Single Mechanism Model, as well as the Dual Mechanism Model, (Bybee and Moder, 1983 and Prasada and Pinker 1993) propose that the irregular verbs in English and Spanish are stored in the brain as independent lexical items. Specifically, Bybee and Moder (1983) propose that alternations in irregular verbs of English are phonetically conditioned and patterned. Bybee and Moder (1983) claim that irregular verb forms in English are produced by selecting a lexical form and not applying a feature changing rule to the underlying form. Specifically, Bybee and Moder (1983) claim that the irregular verbs in English, belong to a “family” with same features of consonants and vowels, e.g. phonological properties and that the irregular forms are just another lexical form that is not the result of any appliance of a rule.

Developmental Studies

Kuczaj (1977) does not support Brown’s (1973) report that irregular past tense inflection is acquired before regular past tense inflection, that is before three years of age. Brown’s (1973) presents the order of acquisition of verbs in English, being the present progressive tense in English, the first tense acquired by children at 2 years old. On the contrary, Kuczaj (1977) found in his study that the irregular form in English is more difficult to acquire than the regular forms in the same language. Kuczaj (1977) reports that after the child has some control of the regular past tense in English, the child, adds the past tense suffix *-ed* to an irregular verb: **eated* or to the irregular past form: **ated*, with a major tendency to the first overregularization error (**eated*) and later, children make more error types of **ated* in different ages according to Kuczaj (1977).

Kuczaj (1977) reports that the verb that involves an internal vowel change and an addition of a final dental consonant like the irregular past form: *left* in English exhibited more overregularization errors as well as those verbs with a final consonant of /d/ such as *made*. According to Kuczaj (1977),

the acquisition of the regular verb forms in English is by learning a rule through inferring, which is differently for each child, and that the acquisition of the irregular verb forms in English is by learning at different age the relation between the base of the verb that is irregular and its corresponding past form with sufficient amount of exposure to the forms. (Kuczaj, 1977, p.598).

Shipley et al (1991) found in their cross-sectional study that the past tense of some irregular verbs in English, supporting Brown (1973) were produced correctly at an early age in a sentence completion task and they also found that some irregular verbs were mastered at older ages. Specifically, Shipley et al (1991) found that the past tense of the irregular verb *hit* (*golpear* in Spanish) was developed first at 3 years of age and that the past tense of the irregular verb *build* (*construir* in Spanish) was mastered from 8;06 to 8;11 years of age. The authors explain that this is because there are few words that require the /d/ to /t/ change for the irregular form and for the change of voiced to voiceless consonant in the irregular form.

In their study of sentence completion task by Shipley et al (1991) children performed best with the irregular verbs that have the same form in their past tense, for example: *cut* (*cortar* in Spanish). Children also produced correctly irregular verbs that require internal vowel change with a final dental consonant: *ride* to *rode* (*ir en* to *fue en* in Spanish) and a final consonant change from /d/ to /t/: *build* to *built* (*construir* to *construido* in Spanish). In their study, children overregularized verbs with internal vowel change (*take* to *took*) and vowel change to /d/ o /t/: *sleep* to *slept* (*tomar* to *tomado*) and (*dormir* to *dormido*) in Spanish.

Connectionism Models

Connectionism Models, that are computer simulations have proved that they also, like children, go through a U-shaped development sequence, producing the past tense of irregular forms in English correctly, and then incorrectly, overregularizing the irregular verbs in the past tense. The

Connectionism Model by Rumelhart, D. E. and J. L. McClelland, (1986) states that the cognitive process is an interconnected network of units that are like neurons.

Under the vision of the Connectionism Model, in McClelland, J.L., & Patterson K. (2002), it is stated that language acquisition and other abilities occur with gradual adjustments of the connections among the units of processing. More specifically, that the Connectionism Model uses connections and a network of units that is single to map from the stems of all verbs to the forms of the past tense.

The Model of Connectionism (Rumelhart, D. E. and J. L. McClelland, 1986) hypothesizes that irregular verbs are the highest in frequency that children have in their input and that these verbs, the irregulars, are learned first than the regular verbs in English that have low frequency in the input of the children. In this Model, it is also assumed that children learn the stem of the verb in the present tense first and then the form of the verb in the past tense.

Marchman, V., Plunkett K & Goodman J. (1997) report in their analysis of five nouns and sixteen verbs under the Connectionism Model that overregularization of English nouns, for example: *childrens, childs, feets, foots, mans, mens, mices, mouses, tooths, teetths* happen more than overregularization of verbs in the same language for the past tense and that irregular plural nouns are represented in the lexicon of children earlier and more frequent than irregular verbs in English.

In their study under the Connectionism Model, Plunkett, K. and Juola P. (1999) replicated the results from (Marcus et al, 1992) and Marchman, V., Plunkett K & Goodman J. (1997). They found that the frequency effect also extends to noun morphology. Under the vision of the Connectionism Model, in McClelland, J.L., & Patterson K. (2002), it is stated that language acquisition and other abilities occur with gradual adjustments of the connections among the units of processing.

Competition Model

The Competition Model by MacWhinney, B. (Ed.) (1987) and Bates and MacWhinney (1982) explain that every major aspect of higher cognition and aspects of sensory and motor systems as well, are used by the innate capacity of language. In this Model, they explain language processing and language acquisition. The Competition Model has three facets: the lexicon, how the lexical items compete with each other during comprehension, and production, and the connections between the lexical items and their properties.

In the Competition Model, lexical item has auditory properties (external form) and semantic properties such as concepts of *type of item*: nominal, verbal, operator, and connective, *nominal status*: common, proper, pronoun, *number*: singular, plural and dual, *person*: first, second, third and fourth, etc. In their Model, MacWhinney, B. (Ed.) (1987) and Bates and MacWhinney (1982) take into consideration the grammatical roles that show the relationship between each lexical item, these are the predicates and the nominals.

They explain that for each case role there is an activation of competition, for example in the sentences: *John hit the ball* and *The ball hit the window* the verb *hit* has two different case roles: agential subject and instrumental subject. Speakers should distinguish between these case roles and others such as the difference between transitive and intransitive verbs, prepositional phrases, etc.

In their Competition Model, MacWhinney, B. (Ed.) (1987) and Bates and MacWhinney (1982), explain that there are competitions of allomorphic variation in language for speakers to resolve, such as in **drived* and *drove*, in which according to this model, the irregular form (past tense of the verb *drive* in English) is learned by rote.

In the processing of language, there is competition also between lexical items in the auditory processing, as well, between allomorphs and grammatical arguments. The items that win out during competition are the items that have more activation. This Model of Competition, states that items that

are frequent in the surrounding of children have a higher activation than those items that are less frequent. MacWhinney, B. (Ed.) (1987) explains that when the child has acquired a lexical item, he also has acquired connections between auditory cues and semantic cues.

Rules and Competition Model

Mayol (2007) found that in the natural speech of children, they produced more errors with irregular verbs in Spanish that require diphthongization of [ue]: *llover* vs *llueve*, (rain in English) and first conjugations of irregular verbs, and she explained the results with the Model of Rules and Competition (MacWhinney 1987 and Yang 2002) which predicts that the more a child hears a verb (input), the verb will be used more correctly by the child. (Mayol 2007, p.8).

In his study of language development in children from a biological perspective, in which development is an interaction between the internal knowledge of the child (the linguistic structures) and his external linguistic experience, language acquisition is viewed under the naturalistic approach in which grammars compete to match the external linguistic experience. Yang (2002, p.13).

In his study, Yang (2002) gives the innate state and the learning mechanism important roles to the acquisition of language. He states that the grammatical system of the child is in development and in transition, before the terminal state and he presents a variational approach to language acquisition which is “the change in the distribution of grammars” (p.31). Yang (2002) states that children have multiple grammars that compete with compatibilities of the input data that the child receives and in relation with the acquisition of the irregular past tense in English, he establishes that there is a competition between morphophonological rules.

In this Model, it is also established that apart of the rule that exists to add -ed to the regular verbs in English, and that is taking in consideration in the Single and Dual Route Processing Model as part of the process of the formation of the irregular verbs in English, there are also morphophonological rules for the formation of the irregular verbs in English. These rules are

phonological processes such as the vowel shortening in English for *lose-lost*, (*perder -perdío* in Spanish) *feel-felt* (*sentir -sintió*), and *say -said* (*decir – dijo* in Spanish) and they are frequently encountered and available to the learner, (Yang 2002, p.70).

In his Model of Rules and Competition, Yang (2002) states that for the learning of irregular verbs in English there are class patterns and the summed frequency of these verbs that are explained in terms of class patterns, plus the phonotactics that are prevalent in the language to be acquired, all of them are used for their organization and acquisition.

This Model states that when a child hears the past tense of a verb, he or she “has probabilistic access to either the special irregular rule (when applicable) or the default rule (to add *-ed*), to generate the expected past tense form from the extracted root” (Yang, 2002, p. 100). For the creation of the irregular form in English, the default rule (to add *-d* for past tense inflection) compete with class patterns (irregular verbs), and the learning of an irregular verb, according to Yang (2002) is determined by the probability with which the irregular verb is associated with its class patterns “and the probability with which the class rules apply over the default *-d* rule” (p.102).

In the Model of Rules and Competition, Universal Grammar takes a part in language acquisition. Universal Grammar is explained as innate (a biological endowment) and as discrete rules and constraints that relate in non-arbitrary ways that are infinite. In this Model of Rules and Competition language acquisition is determined by an internal factor, which is the Universal Grammar and the external linguistic experience in the environment.

In Yang’s words: “Universal Grammar determines the space of languages that learners *can* attain, and the external linguistic experience in the environment determines what language, children *do* attain” (Yang, 2002, p.108). Language acquisition in this Model of Rules and Competition is a competition and selection in the midst of grammars.

Summary

In this chapter we have reviewed the different models of the acquisition of the irregular past tense verb forms in English and Spanish. The Network Model by Bybee (1995) proposes that the type frequency of the verbs is important for productivity of the irregular past tense in English. Bybee and Moder (1983) propose in the Single Route Model that phonological similarity is necessary for the inflection of regulars and irregular verbs, and that irregular verb forms in English are produced by selecting a lexical form, and not applying a feature changing rule to the underlying form.

In the Dual Route Model by Prasada and Pinker (1993) and Pinker, S. and Marcus et al. (1992) propose that the irregular verbs forms in English are learned by rote and stored as a list in the memory. The Dual Route Model, proposes that irregular verbs in English are retrieved to block the rule of adding *-ed* probabilistically. In this Model, it is established that the blocking of the appliance of the rule to add *-ed* to irregular verbs in English is part of the development to correct performance without correctness from parents.

In the Model of Dual Route, it is also established that low frequency verbs that are irregular in English are overregularized (more than high frequency irregular verbs) in a low rate. The Model of Dual Route, establishes as well that there are two distinct representational systems, a set of lexical entries that are (associatively) listed in memory, and a set of symbolic operations or rules to form larger linguistic expressions (Clahsen et al. 2002 and Vasquez 2016).

Following with the developmental studies, according to Kuczaj (1977), the acquisition of the regular verb forms in English is by learning a rule through inferring, which is differently for each child and this is a characteristic that shares with the Cognitive Constructivist Model by Serrat and Aparici (2001). In Kuczaj (1977) it is also established that the acquisition of the irregular verb forms in English is by learning at different age the relation between the base of the verb that is irregular and its corresponding past form with sufficient amount of exposure to the forms.

We have also looked at the Connectionist Model, that has also tried to explain the phenomenon of overregularization. Connectionism Model uses connections and a network of units that is single to map from the stems of all verbs to the forms of the past tense. In this Model, it is also hypothesized that irregular verbs are learned first than regular verbs. (Rumelhart, D. E. and J. L. McClelland, 1986).

Later, we looked at the Competition Model and the Model of Rules and Competition by MacWhinney (1987) and Yang (2002) in which it is explained that language is an innate capacity and predict that the more a child hears a verb (input), the verb will be used more correctly by the child and that there are also morphophonological rules for the formation of the irregular verbs in English (Yang, 2002).

In the Model of Rules and Competition there is an interaction between the internal knowledge of the child (the linguistic structures) and his external linguistic experience. The child has the option of applying the form of the irregular form or the default rule to add *-ed* when he or she is going to form the irregular past tense in English and these two options compete and the learning will come depending on the probability the verb is identified as regular or irregular by the child, and this extends to other languages as well, including Spanish. (Yang, 2016).

CHAPTER 3. Data and Methodology

This chapter presents the language data from four children that speak English and Spanish as their first language. The naturalistic data was gathered from the Child Language Data Exchange System (CHILDES) database. (MacWhiney, B. 2000) from the studies of Aguado-Orea, J., & Pine, J. M. (2015) and Bates, E., Bretherton, I., & Snyder, L. (1988) in which the natural language of children were recorded while they were doing activities with their parents at home and in the laboratory (7 days later) longitudinally at 10, 13, 20 and 28 months in Bates, E., Bretherton, I., & Snyder, L. (1988) and in home 2 or 3 sessions per week in Madrid, Spain at the range of 1 and 2 years of age in Aguado-Orea, J., & Pine, J. M. (2015).

The naturalistic spontaneous speech analyzed in the present study of the age of acquisition of the irregular past tense verb forms in English and Spanish, attending to the phenomenon of overregularization (saying *broke instead of broken in English, or *devolvido instead of *devuelto* in Spanish) is from Amy and Betty at 1;08 years of age and 2;04 years of age respectively in Bates, E., Bretherton, I., & Snyder, L. (1988) and from Juan (1;10 ;26 years of age) and Lucia (2;02;25 years of age) in the study of Aguado-Orea, J., & Pine, J. M. (2015). Table 1 summarizes the information of the subjects in the present analysis:

Table 1. Subject information

Type of Subject	Corpus	Participant	Corpus Age Range	Subject Age Range
English Monolingual	Bates, E., Bretherton, I., & Snyder, L. (1988)	Amy	1;08-2;04	1;08
English Monolingual	Bates, E., Bretherton, I., &	Betty	1;08-2;04	2;04

	Snyder, L. (1988)			
Spanish Monolingual	Aguado-Orea, J., & Pine, J. M. (2015).	Juan	1;10-2;07	1;10 ;26
Spanish Monolingual	Aguado-Orea, J., & Pine, J. M. (2015).	Lucia	1;10-2;07	2;02;25

The present data of natural speech language corresponds to the subject age range of children in both corpus at the Child Language Data Exchange System (CHILDES) database. (MacWhiney, B. 2000).

According to Brown (1973) the past tense is acquired around the age of 2;05. In her study of the development of tense and aspect of the Spanish verbs, Shiro M. (1997) explains that the acquisition of the meaning of the verbs is more complex than the acquisition of the meaning of the nouns, due to different varieties of meaning such as events, mental states, or relations and different types of actions (p.101).

Shiro, M. (1997) explains that the deictic function of tenses is the relationship of the event to the time of speech and that the aspectual feature of the verb is the internal or the external perspective of the event: punctual, continuous or repeated. She also explains that the event can also happens in a relation with another point in time or another event.

In her study, Shiro (1997) analyzed the transcripts of natural speech of three children in a longitudinal study in the CHILDES database (MacWhinney, 1995) in two points of time at the ages of 2;3 and 2;11 and 2;8 and 3;3 and 2;4 and 2;8 respectively, classifying the verbs into telic (with an end point such as the verb *kick*) and atelic (with not an end point such as the verb *play*), also as mental

processes and relational processes. Shiro (1997) finds that the mood of the verbs in Spanish: subjunctive and indicative do not have a clear developmental trend (p. 108-109).

Concerning the tenses, Shiro (1997) finds that children in her analysis used the past tense as they grew older and that they use telic verbs that are verbs with an end point to express aspectual differences and the imperfect tense with the verb *estar*. The tense that is more frequently used by children is the simple present. Shiro (1997) in her study concludes that tense and aspect develop together for the adult-like system.

In Bel (2002) it is explained that tense is not interpreted according to the Maturation Hypothesis by Radford, 1990 and Tsimpli, 1992. Bell (2002) adopts the Continuity Hypothesis which states that tense is projected in early grammars and that children understand tense. Bel (2002) analyzed six children from the CHILDES database (MacWhinney, 2000) in the languages of Spanish and Catalan, in the range of the ages of 1;06 -2;08 who were recorded and videotaped in a longitudinal way. She found that children used the present tense, and later for a short period of time, they use the past tense to continue with the future tense. The frequency of use is high for the present tense, following for a medium frequency for the past tense and a low frequency for the future tense (p.5). In her analyses Bel (2002) finds that imperatives and participles are also used by children, as well as infinitive forms along with the present tense (p.10).

Bel (2002) also found that parents ask questions about the past in the corpus she analyzed. She also found that children used the infinitive to answer questions that refer to the past and the future tense and she introduces the Truncation Hypothesis, that along with the Continuity Hypothesis states that in the infinitive there is a free time reference and that the infinitive is not as the present tense, both mean two different things (p.17).

In her analysis, Bel (2002) finds that the use of the verb forms in the speech of children represent the present tense and that the use of the infinitives represent reference to other moments in

time in the speech of the children in her analysis, and finally that the past tense use is scarce in the range of ages of 1;7 to 2;5 in two children in her study. This confirms the Continuity Hypothesis, that children refer to the present tense very early and that to refer to other moments not in the present tense, children use the infinitive due to the lack of lexicon, according to Bel (2002). Interestingly, Bel (2002) does not find overextension of the use of infinitives to finite contexts.

Like, Shiro (1997) in her analysis, Bel (2002) classified the verbs in the present tense in three categories: change of state, actions and states. For the analysis of the past tense, Bel (2002) found that the majority of the forms produced by children are in the participle, specifically the actions verbs like prick or bounce (*pinchar, botar*) and state verbs such as to be, know, have and want (*estar, ser, saber* and *querer*) to reassure the Truncation Hypothesis and the Continuity Hypothesis.

These studies show that children follow an order of the acquisition of tense, being the present tense the first to acquire followed by the past tense and that the aspect follows a different path in the acquisition of Spanish. The data in the present study is extracted using the Computerized Language Analysis (CLAN) software for the Child Language Data Exchange System (CHILDES) database. Table 2 presents the types of verbs that children used in the present study:

Table 2: Types of Verbs

Type of Verbs	Amy (1;08)	Betty (2;04)	Juan (1;10 ;26)	Lucia (2;02;25)
<i>State</i>	22.41%	14.28%	14.24%	21.80%
<i>Telic</i>	44.82%	57.14%	57.48%	54.41%
<i>Atelic</i>	32.75%	28.57%	28.26%	23.78%

The telic verbs, those that have an end point, such as *kick* are the verbs that were more produced by children in the study of Aguado-Orea, J., & Pine, J. M. (2015) and Bates, E., Bretherton, I., & Snyder, L. (1988) in Spanish and English respectively. The atelic verbs, those verbs that do not

have an end point such as *play*, followed for the highest production by children in the same studies and the lowest production was for the state verbs such as *be* or *want* in English or *ser* and *querer* in Spanish.

In Yang (2005b) it is stated that there are 120 verbs that are irregular in English, and that in all languages of the world there is lexical irregularity. Interestingly, in Yang (2005b), it is stated that the irregularity of languages derives from how words are learned, specifically from phonologically rules, and how they are used in word learning by domain-general abilities, and these mechanisms are prior the emergence of language, as well as being, these phonological rules, the constraints that “shaped the properties of language and the outcome of language evolution” (Yang 2005b p.299).

Based on Kiparski (1982), ‘*From Cyclic Phonology to Lexical Phonology*’ Yang (2005b) asserts that the rules for irregular verbs “are lexical / special, these rules are defined over particular words and only these words” (p.100) and that the default rule of -d in the past tense of English, for example, can apply to all words. In the *Rules over Words (RW) Model* or *Rules and Competition Model (RW)* (Yang 2000), the exposure to the particular verb-rule association is important, because that is how it is learned the rule: either the word-rule association for irregulars or the default rule for regular verbs: “irregular verbs are learned and organized in groups, by the means of irregular and regular rules” (p.308, Yang 2005b).

Yang (2005b) explains that the learner induces the phonological rules in a general way by discovering the commonness between words that undergo identical sound change: *walk-walked* and *talk-talked*.

Table 3 presents the forms of verbs that children used in the present study in English and Spanish:

Table 3: Forms of the Verbs

Forms of Verbs	Spanish	English
Infinitive	15.07%	57.57%
Participle	9.65%	4.54%
Gerund	4.17%	12.87%

In both languages, the infinitive is the form with the highest percentage produced by children in both languages. Legate and Yang (2007) propose a theory of morphosyntactic learning for language acquisition including the development of tense in different languages such as Spanish and English. The use of nonfinite verbs (verbs that are not conjugated) in root clauses by children that are not grammatical in adult language occur in languages that are typologically different, being the languages that have the most complex morphologically system with a shorter stage of nonfinite verbs in root clauses (such as infinitives, gerunds and participles) by children than the languages that have a less complex morphological system.

Legate and Yang (2007) propose the different learning mechanisms for children to exit the stage of root infinitives, taking into consideration the underlying grammatical system of root infinitives. The language of the child changes as it is learned according to the Rules and Competition Model (Yang 2002), there are syntactic parameters that are associated with a probability distribution that changes “in response to the linguistic data in the environment”. (Legate and Yang 2007, p.319). That is, the syntactic parameter is analyzed for the grammar to be acquired, and the grammar will be successfully acquired by increasing the syntactic parameter if it matches with the hypothesis (the language) the child holds.

Specifically, the Rules and Competition Model (Yang 2002) explains that tense is a morphosyntactic feature if it is expressed explicitly in languages, and that nonfinite verbs are expected

to be optional in the language of children of languages in which tense is a morphosyntactic feature. Tense as a morphosyntactic feature must be learned by children (Yang and Legate, 2007, p.324). Legate and Yang (2007) explain that the production of the nonfinite verbs by children is due to their grammar and their morphological system. They also explain that Tense or Aspect are used to encode temporal meaning in the learning of language by children. They emphasize that input and the mechanisms of learning are very important in language acquisition (Legate and Yang 2007, p.341).

Table 4 presents the tenses of verbs that children used in the present study in English and Spanish:

Table 4: Tenses of Verbs

Tenses	Spanish	English
Present	58.52%	15.90%
Past	4.26%	4.54%
Past Imperfect	1.88%	0%
Future	.2%	0%

The present tense is the most produced by children in both languages, followed by the past tense. Hyams (2007) looked at the interpretation of the aspectual and event-related properties of the root infinitives in English and other languages such as Dutch, German, Swedish and French and found that in the language of the child, the event closure is the fundamental determinant of temporal reference in their nonfinite clauses that are infinitives and gerunds.

Hyams (2007) explains that the bare verbs in English have an ongoing meaning or past eventualities (p.232) and that they have a temporal meaning (p.234). Hyams (2007) also explains that telic verbs, those that have an end point such as *kick*, describe past events, and the atelic verbs, those

verbs that denote activities that have no end such as *play* or *dance* describe present events in the child language (p. 241).

Specifically, the participle denotes an open event and the event / temporal structure as telic bare verbs, according to Hyams, (2007), and the bare verbs are directly linked to the here and now (p. 254) in Italian, for example and that in the same language, the imperfect tense are likely to be atelic verbs. In conclusion, Hyams (2007) found that root infinitives are interpreted in different languages such as English, Dutch, German, Swedish and French by the internal development of the verb, that is the aspect, and this may encode to temporal meanings, together with the tense (Legate and Yang, 2007, p. 340). In the present study, the most produced verb in English and Spanish was an atelic verb, this is the verb of *go*.

Table 5 presents the tenses in the indicative and subjunctive moods in Spanish and the non-personal forms that are the root infinitives, participles and gerunds with the verb of *go* orally produced by children in both languages:

Table 5: Tenses and forms of *go*

Tenses and Forms of <i>go</i>	English	Spanish
Present	-	<i>Voy, vas, va, vamos, van</i> (<i>vaya and vayas as subjunctive mood</i>).
Imperfect Preterit	-	<i>Iba, iban, (fuera as the subjunctive mood)</i> .
Perfect Preterit	-	<i>Fue, fueron.</i>
Participle	-	<i>Ido.</i>

Gerund	<i>Going</i>	-
Infinitive	<i>Go</i>	-

The atelic verb of *go* in Spanish was the most orally produced in the present tense by both children in this study, followed by the preterit perfect, and the form in the subjunctive mood most orally produced by Juan at age 1;10 ;26: *vaya*. This confirms Hyams (2007), as an atelic verb describing a present event in the language of the child. Interestingly, in both languages the most orally produced telic verb was *do*.

Table 6 presents the tenses in the indicative, subjunctive and imperative moods in Spanish and the non-personal forms that are the root infinitives, participles and gerunds with the verb of *do* produced by children in both languages:

Table 6: Tenses and forms of *do*

Tenses and Forms of <i>do</i>	English	Spanish
Present	-	<i>Hago, haces, hace, hacemos, hacen, (haga as the subjunctive mood)</i>
Imperfect Preterit	-	-
Perfect Preterit	<i>Did</i>	-
Participle	<i>Done</i>	<i>Hecho</i>
Gerund	-	<i>Haciendo</i>

Infinitive	-	<i>Hacer</i>
Imperative	-	<i>Haz</i>

In the present study, children orally produced more irregular verbs than regular verbs in English and Spanish. There were no overregularization forms by the English-speaking children.

Tables 7 and 8 present the overregularization forms that the Spanish-speaking children orally produced in the present study:

Table 7: Overregularization forms in Spanish by Juan (1;10;26):

Irregular Verbs	Juan (1;10 ;26)
Rodar (<i>roll</i>)	*roda
Volar (<i>fly</i>)	*vola
Saber (<i>know</i>)	*sabo
Abrir (<i>open</i>)	*abrido
Caber (<i>fit</i>)	*cabo
Jugar (<i>play</i>)	*juga
Poner (<i>put</i>)	*ponido *ponida *pono

Abrir (<i>open</i>)	*abrido
Hacer (<i>do</i>)	*hacido
Romper (<i>tear</i>)	*rompido
Tengo(<i>have</i>)	*tieno

Table 8: Overregularization forms in Spanish by Lucia (2;02;25):

Irregular Verbs	Lucia (2;02;25):
Tener (<i>have</i>)	*tene
Volar (<i>fly</i>)	*vola
Querer (<i>want</i>)	*quere
Sonar (<i>sound</i>)	*sona
Venir (<i>come</i>)	*vene
Caber (<i>fit</i>)	*cabo
Contar (<i>count</i>)	*conta
Sentar (<i>sit</i>)	*senta

The overregularization forms of the verbs *volar* (fly) and *tener* (have) are the highest orally produced by children in Spanish. These results follow Clahsen, Aveledo and Roca (2002) who also found the form of **sabo* for the verb know in which children produce endings of results verbs such

as -o of the 1st singular present tense to the irregular verb *saber* in Spanish and *cabo for *caber* (fit in English), and *pono for the irregular verb *poner* in Spanish in which the consonant /g/ is missing. In the present study, following Clahsen, Aveledo and Roca (2002) as well, children produced the ending for the participle -ido to regular verbs in irregular verbs: *hacido for the irregular verb *hacer* (do) in Spanish, *abrir* (open): *abrido, and *poner*: *ponido.

Errors of diphthongization were also found in the present study. Spanish-speaking children produced the overregularization forms of the irregular verbs: *rodar* (roll), *volar* (fly) and *jugar* (play) in *roda, *vola and *juga in which the vowels -u and -e are missing, confirming the results of Clahsen et al (2002). Other forms are *tene, *quere, *sona, *vene and *senta for the irregular conjugated forms in the 3th person: *tiene*, *quiere*, *suenas*, *viene* and *sienta* in Spanish, confirming the results of Vazquez (2016).

The imperative mood in Spanish, along with the present tense of the indicative mood in the same language are the first to appear in the language of children, according to Belendez-Soltero (1980) and Gonzalez (1970) at the age of two years old, as well as the subjunctive mood, according to Hernandez -Pina (1984), and Lopez Ornat, et al (1994).

In the present study, in both languages, the present tense was the tense with the highest percent of occurrence in the language of children and the subjunctive mood was orally produced by the Spanish-speaking children. The verb *ir* (go) in subjunctive mood was the highest verb orally produced by Juan (1;10;26) in the present study and the verb *venir* was the highest verb orally produced by Lucia (2;02;25) in the subjunctive mood. The second verb with the highest percent orally produced by both children in the subjunctive mood was *caer* (fall). Both children produced more irregular verbs in the subjunctive mood than regular verbs in Spanish.

Table 9 and 10 presents the verbs in the subjunctive mood that both Juan (1;10;26) and Lucia (2;02;25) orally produced in the present study in order of ranking from the highest frequency to the lowest:

Table 9: Verbs in the Subjunctive Mood by Juan (1;10;26)

<i>Vaya</i> (go)
<i>Caiga</i> (fall)
<i>Venga</i> (come)
<i>Llueva</i> (rain)
<i>Sea</i> (be)
<i>Suene</i> (sound)
<i>Pase</i> (pass)
<i>Seque</i> (dry)
<i>Pongas</i> (put)
<i>Quites</i> (remove)
<i>Sigas</i> (continue)
<i>Viva</i> (live)
<i>Vivan</i> (live)
<i>Mires</i> (look)

<i>Destroces</i> (destroy)
<i>Preguntes</i> (ask)
<i>Comas</i> (eat)
<i>Cure</i> (cure)
<i>Bajen</i> (descend)
<i>Tenga</i> (have)
<i>Vayas</i> (go)
<i>Salgan</i> (exit)
<i>Pesquen</i> (fish)
<i>Duche</i> (bath)
<i>Soples</i> (blow)

Table 10: Verbs in the Subjunctive Mood by Lucia (2;02;25)

<i>Venga</i> (come)
<i>Caiga</i> (fall)
<i>Quites</i> (remove)
<i>Sienta</i> (feel)
<i>Cantes</i> (sing)

<i>Pueda (can)</i>
<i>Lea (read)</i>
<i>Rompa (tear)</i>
<i>Sigamos (continue)</i>
<i>Vayas (go)</i>

The subjunctive mood in Spanish expresses the meanings of nonassertion, volitionality, obligation, desire, prospectivity, futurity, influence and presupposition according to Harlington and Perez-Leroux (2016) and Fabregas (2014).

Tables 11 and 12 show the imperative forms that Lucia and Juan orally produced in the present study. Both children produced the verbs *look* and *take* in the imperative mood in Spanish as the verbs with the highest frequency in Spanish. The verb *look* is irregular in Spanish and the verb *take* is regular in the same language. Juan orally produced more regular verbs in the imperative mood than irregular verbs and Lucia orally produced more irregular verbs in the imperative mood than regular verbs.

Table 11: Imperative forms by Juan (1;10;26)

<i>Mira (look)</i>
<i>Toma (take)</i>
<i>Dámelo (give it to me)</i>
<i>Siéntate (sit down)</i>

Haz (<i>do it</i>)
Deja (<i>leave it</i>)
Echa (<i>put</i>)
Abre (<i>open</i>)
Toma (<i>take it</i>)
Tira (<i>throw</i>)
Agarra (<i>grab it</i>)
Cógelo (<i>take it</i>)
Para (<i>stop</i>)
Suelta (<i>let it go</i>)
Ve (<i>go</i>)
Quita (<i>remove</i>)
Vámonos (<i>let's go</i>)
Escucha (<i>listen</i>)
Apaga (<i>switch it off</i>)
Mirala (<i>look at her</i>)
Sal (<i>exit</i>)

Espera (<i>wait</i>)
Pon (<i>put</i>)
Levanta (<i>raise</i>)
Abre (<i>open</i>)
Pónselo (<i>put it</i>)
Cógela (<i>take it</i>)
Haz (<i>do</i>)
Sujeta (<i>grab it</i>)
Vela (<i>see her</i>)
Ves (<i>see</i>)
Déjame (<i>leave me</i>)
Mete (<i>put</i>)
Coge (<i>take</i>)
Sal (<i>exit</i>)
Agarra (<i>grab</i>)
Siéntate (<i>sit down</i>)

Table 12: Imperative forms by Lucia (2;02;25)

Mira (<i>look</i>)
Toma (<i>take</i>)
Abre (<i>open</i>)
Trae (<i>bring</i>)
Calla (<i>be quiet</i>)
Deja (<i>leave it</i>)
Espera (<i>wait</i>)
Pon (<i>put</i>)
Oye (<i>hear</i>)
Ve (<i>go</i>)
Ven (<i>come</i>)
Cierra (<i>close</i>)
Haz (<i>do</i>)
Quita (<i>remove</i>)
Coge (<i>take</i>)
Siéntala (<i>sit her down</i>)

In the present study, there was only one instance of the irregular verb *llover* in Spanish as an infinitive form. As it was established in the first chapter, this verb is always conjugated in the third person: *llueve*. The form that Juan (1;10;26) produced encode the temporal meaning in his grammar and morphological system. The tense as a morphosyntactic feature must be learned according to Yang and Legate (2007).

Summary

In this chapter III have presented the data and methodology of the present study: Amy (1;08) and Betty (2;04) in English and Juan (1;10 ;26) and Lucia (2;02;25) in Spanish that are part of the corpus of Aguado-Orea, J., & Pine, J. M. (2015) and Bates, E., Bretherton, I., & Snyder, L. (1988) in the Child Language Data Exchange System (CHILDES) database. (MacWhiney, B. 2000). In Spanish, children produced the verbs in the moods of the indicative and subjunctive. More specifically, the subjunctive mood of the verb *go* was the most produced by Juan (1;10;26) in Spanish and the verb *come* by Lucia in the subjunctive mood as the most produced by her in the same language. Both children produced more irregular verbs than regular verbs in the subjunctive mood.

The present tense is the tense that is most frequently orally produced by children in both languages in the present study confirming Shiro (1997) and Bel (2002), in which it is stated that the present tense is the first tense that children acquire, along with the indicative, imperative and subjunctive mood as it is in Hernandez -Pina (1984), and Lopez Ornat, et al (1994).

In both languages, the telic verbs that have an end point such as *do* were the most produced by children, in English and Spanish followed by the atelic verbs such as *go* that do not have an end point, as the second most orally produced by children in both languages, and the state verbs as *be* or *want* as the third most orally produced by children. In Spanish and English, children orally produced the infinitive form that is no personal as the most frequent, followed by the participle and then gerund

from the natural data of the Spanish-speaking children and followed by the gerund and then participle from the natural data of the English-speaking children.

In the present study, there were no overregularization forms produced by English-speaking children. It is important to recall that the term *overregularization* refers to a transient error in linguistic development in which the child attempts to make language more regular than it actually is, for example: *brokeed in English, instead of broken, in which break is an irregular verb. The irregular verbs *tener* and *volar* in overregularization forms: *vola and *tene were the highest orally produced by both children in Spanish according to Clahsen, Aveledo and Roca (2002), as well as errors of diphthongization of overregularization with the same verbs for *vola and *tene, (*vuela and tiene* in Spanish), according to Vazquez (2016) as well.

Finally, the imperative mood was also produced by children in Spanish. The regular verb *mirar* (look) in Spanish and the irregular verb *tomar* (take) in the same language were the verbs with the highest frequency in Spanish orally produced by both children and there was only one instance of the irregular verb *llover* in Spanish as an infinitive form by Juan (1;10;26).

In the next chapter, I will discuss these results in light of the age of acquisition of the irregular past tense in English and Spanish.

CHAPTER 4. Results

According to Samuelson and Mc Murray, (2017) an expansion in early vocabulary occurs in the first three years of life. The quantity and quality of input is very important because it is associated with the expressive vocabulary of children: M. Friend et al, (2022), Weisleder and Fernald (2013), as well as the Social Economic Status according to Rowe (2012), which is associated with later vocabulary skill. Maternal education also has an effect in the vocabulary size of children throughout the 30 months of age for English-dominant speaking children and not to Spanish-dominant speaking children, living in the United States, M. Friend et al, (2022).

Jackson-Maldonado et al (1993) found that English-speaking children and Spanish-speaking for the age level of 0;8 to 2;07 years old, are at the same level of vocabulary development (p.533), and that vocabulary comprehension is ahead of vocabulary production (p.534). This is the range of age of the children in the present study in Spanish and English respectively: Juan (1;10;26), Lucia, (2;02;25), Amy (1;08) and Betty (2;04). For vocabulary production, according to Jackson-Maldonado et al (1993), children have as more frequent words produced the category of nouns, followed by predicates that are actions and states, and as the lowest frequency the closed class words such as pronouns, articles, quantifiers and locatives using the *Inventario del Desarrollo de Habilidades Comunicativas* (the MacArthur Communicative Development Inventories).

The acquisition of verbs also occurs first than other categories in other languages such as Korean, Mandarin and Italian, according to Choi & Gopnik (1995), and Tardiff et al (1997). For the acquisition of the closed words (pronouns, articles, quantifiers and locatives), it is stated that input frequency does not account to have an order of which of them is acquired first in deVilliers (1985). In the present study, English-speaking children and Spanish-speaking children produced more verbs than nouns, and they also produced plural nouns. English-speaking children produced uncountable nouns such as *food*, *milk* and *snow*. For a list of complete plural nouns and uncountable nouns of Spanish-speaking children and English-speaking children, see Appendix III.

Jackson-Maldonado et al (2024) found no differences in sex in the vocabulary size of Spanish-speaking children between the 30 and 48 months of age. The vocabulary of children develops rapidly in the span of 18 months to 30 months, which is the range of age in which children in the present study are, (Mahr and Edwards, 2018). The boy Juan (1;10;26) produced more words than Lucia (2;02;25), Amy (1;08) and Betty (2;04) in the present study.

According to Marchman & Bates (1994), children learn the morphosyntactic regularities from a large vocabulary. Mahr and Edwards (2018) explain that children discover and extract regularities from the environment to learn words (p. 1). The emphasize in the input for language development is again put in the quality and the quantity of it. They explain that the quantity of the input of language may provide a learning experience that is high in quality to the children along with the ability of the children to process information which includes the perception of speech, segmentation and recognition skills. All of these is related with the size of vocabulary in children (p.2).

Other studies have found that the input of language and the ability of the children to process speech support language development independently (Newman, Rowe, and Bernstein Ratner, 2015). Mahr and Edwards (2018) found that input has no effect in the expressive vocabulary of children and a very limited effect of lexical processing in the expressive vocabulary as well. Input had an effect on receptive vocabulary.

According to Mahr and Edwards (2018) the types of input of language is more predictive than simple quantity of input for the receptive vocabulary of children, and a faster processing of language predicts larger expressive vocabularies (p.14 and p.15). In the present study, children were immersed in daily activities such as playing, eating, and free time as well as gatherings with family.

According to Naigles and Hoff-Ginsberg (1998) there are some verbs that are acquired earlier than others, among these are: *go*, *eat*, *play*, *tickle* and *open*. In the present study the first three verbs are produced by children in both languages. In the present study, at 1;08 years of age and 2;04, Amy

and Betty, respectively produced more forms of the verb *go* in English, followed in frequency by the verb of *play* by Amy and then the verb *eat*. Betty (1;08), produced the verb *eat* as the same frequency of *go*, and she did not produce the verb *play*. The Spanish-speaking children produced more the verbs of *go* (*ir*) and *play* (*jugar*) as the highest in frequency. The most frequent verb produced by Lucia (2;02;25) is *go*, followed by *eat* and *play* in Spanish and the most frequent verb produced by Juan (1;10;26) is *play*, followed by *eat* and lastly the verb of *go*.

The frequency of the action words in the input of language of children is a factor that plays in its acquisition. Naigles and Hoff-Ginsberg (1998) explained that verbs that have more concrete meanings are expected to be learned before those verbs with abstract meanings, such as *think*, and they also explain that the different syntactic frames, where the verbs appear in sentences, and semantic differences make verbs with more properties to acquire. More specifically, they explain that the syntactic frames are cues that help children to learn the semantics of verbs as well (p.101). They propose the syntactic bootstrapping hypothesis in which it is stated that:” the more frames in which a child hears a verb, the easier that verbs will be to learn because each additional syntactic frame has the potential to provide additional semantic information” (p.101).

In Spanish, both children produced as the state verb with most frequency: *be* (*ser -estar*), in the two forms in the same language: *ser* and *estar*, followed by the verbs *want*, (*querer*) *know* (*saber*) and *taste* (*gustar*) as the state verbs with less frequency of production in that order in Spanish. In English, both children produced more the state verbs of *want*, *know* and *taste*, followed by *be*, *need* and *like* in that order.

The three properties of how verbs appear in the input of language are the following according to Naigles and Hoff-Ginsberg (1998), they are the *frequency*, *frequency in the perceptually salient utterance final position*, and the *diversity of syntactic frames in which they are used*.

Naigles and Hoff-Ginsberg (1998) found that the distinct syntactic environments that children hear in their input of language predicts the frequency of the production of the verb by the child (p.114). They also found that children produced verbs in utterance final position when they hear them more often. (p.116) and that the different syntactic environments in which verbs appear that children hear in their input, predicts the diversity of frequency of use and syntactic diversity of verbs in the language of children, as well as the input they hear from their mothers of the grammatical morphemes *-ing*, *-ed* and auxiliary verbs according to de Villiers (1985).

Hartshorne et al (2023) investigated the acquisition of frightened type argument structure verbs and fear-type verbs. The frightened type argument structure verbs have a pattern of a “caused changes of state being realized in transitive syntax with the agent as the subject and the patient as the direct object” (p.68), and the fear-type verbs have experiencers as subjects. They explain that the fear type verbs are an “habitual disposition towards a particular emotion” and the frightened type verbs are an “externally caused change of emotional state” (p.68). This type of verb is a mental state verb and according to Hartshorne et al (2023), the frightened type verb, which has a causal semantics and is more frequent used is learned first than the fear type verb that does not have causal semantics and that is less frequent used.

According to the *privileged link/ causality hypothesis* in Hartshorne, et al (2015), the frighten type verbs should be acquired earlier than fear type verbs. Hartshorne et al (2023) tested fear-type verbs and frighten -type verbs, some of them were high frequency, such as *enjoy*, *like*, and *frighten* and the low frequency verb *anger* to English-speaking children in the age of range of 3 to 6 years old.

They found that by ages of 4 and 5 years old, English-speaking children learn the frighten-type verbs, despite being these types of verbs, low type frequency, and the fear-type verbs are learned by the age of 6 years old. They confirm the results found in Hartshorne, et al (2015), and explain that children “misanalyse the fear type verbs as being frighten type verbs” (p.81). Hartshorne et al (2023) conclude that their findings put the input of language frequency as a base for the acquisition of verbs

earlier or later (p.96). In this study, children had a low frequency production of these type of verbs. Juan (1;10;26) and Lucia (2;02;25) produced the verb *asustar* (frighten) in Spanish. The English-speaking children did not produce any type of these verbs.

Ambridge B., Kidd, E., Rowland, C., & Theakston A. (2015), summarize the different types of frequency effects in first language acquisition. They argue for a mechanism of learning that is sensitive to token (word) frequency and type (inflectional morphology) frequency, absolute frequency (high frequency, and low frequency) words and relative frequency the most frequent form will be dominant) in every domain of child language acquisition.

They also argue that frequent forms will be acquired earlier than less frequent forms in accordance with Hartshorne et al (2023), and that high frequency forms reduce errors of ungrammaticality by children, and they also prevent errors (p.242), as well as cause errors when there is a competition between high frequency forms and low frequency forms. They also agree with Naigles, L., & Hoff-Ginsberg E. (1998) for the frequency effects of the positions of the forms in utterances, when the verbs occur in the final position of the utterance, in which the verb will be acquired before if it is frequent in this position.

Ambridge B., Kidd, E., Rowland, C., & Theakston A. (2015), promote how the frequency effects at the word level have been found to be important in the acquisition of language by children, according to them, in English the most frequent words produced by children include: *mommy* and *daddy* which in the present study it is also confirmed as the nouns produced by children. In English, only Amy (1;08) produced *mommy*. The word *daddy* was not produced by Amy (1;08) and Betty (2;04) in English. Both nouns, *mommy* and *daddy* were produced by the Spanish-speaking children in the present study, being *daddy*, the most frequently orally word produced by Juan (1;10).

For the utterance position in which the verb occurs, they explain that the acquisition of it, in which this is a factor occurs in a temporal order, in accordance again with Naigles and Hoff-Ginsberg

(1998) (p.245). Marchman, V.A. (1997) found that irregular verbs that are high frequent are not as overregularized as the low frequency irregular verbs such as *drink*. The overall frequency of the verbs that are transitive or intransitive is also a factor for their acquisition according to Ninio (1999) and Hartshorne et al (2023), as well as the cues of word order, case marking and animacy according to Ambridge B., Kidd, E., Rowland, C., & Theakston A. (2015). They explain that high frequency cues will be learned first (p.255).

In the present study, all children in both languages (except the English-speaking child *Amy* (1;08) whose production was almost equal for both transitive and intransitive verbs) produced as the highest type of verb the transitive verb.

Goodman et al (2008) explain that the interactive context in which a word is produced in the environment where children are located, is another factor for the word to be acquired along with its frequency that a word is heard by a child (p.516), as well as that the words are directed to children for its early acquisition (p.517).

The input that parents provide is important for the size of vocabulary of children according to Hart, B. & Risley, T. R. (1995) and Huttenlocher, J., (1991). Goodman et al (2008) found that the closed class words: *pronouns, articles, quantifiers, locatives, prepositions* and *auxiliaries* are the most frequent items individually produced by children (p.526), and that the most the child hears a word, the earlier it is acquired.

Before 1;09 years of age, children produce over 200 words according to Fenson et al (1994). Jusczyk & Aslin (1995) and Jusczyk and Hohne (1997) found that by 7.5 months, words that children have heard in fluent speech can be recognized when they are presented in isolation. In the present study, children produced between 98 and 9974 words in the period of time they were recorded from the ages of 1;08 to 2;07 in English and Spanish.

Brent and Siskind (2001) found that single word utterances are regular in the input of children and that they hear a variety of word types in temporal proximity. They also found that the frequency with which the child heard a word in isolation was a significant predictor of whether that child would produce that word (p. B38) and that the words that are produced by children are words they hear in isolation from caregivers.

Theakston A N., et al (2002), found in their study that the forms of *go*, *going* and *goes* are the most frequent in children between the ages of 2;0 and 3;0 in adverb structures and the form of *gone* is the most frequent in *Wh*-questions, and adverb structures. The irregular form *went* is the most frequent in Prepositional Phrase structures. They found a strong relationship between the input of language children hear and their use of the forms of the verb *go*. (p.795). Specifically, the form of *go*, is the first form used by children, followed by *going* 12 weeks later according to Theakston A N., et al (2002), and then the forms of *goes* and *gone* 24 weeks later than *go* (p.795).

Theakston A N., et al (2002), found that the order of acquisition of the different forms of the verb *go* “reflects their frequency of use in the input” (p.797). In the present study, the most orally produced form of the verb *go* in Spanish was in the present tense, followed by the preterit form. It is important to remember that the verb of *go* was the most produced verb by all children in both languages in the present study. In English, and Spanish (in the present study) children orally produced the preterit of the irregular verb *do* as the most frequent, along with the participle form in both languages as well.

In the present study Lucia (2;02;25) and Juan (1;10:26), produced the infinitive forms of *jugar* (play) and *comer* (eat) in Spanish as part of their development of the acquisition of the past form. Juan (1;10:26), produced the gerund form: *jugando* as the most orally produced form, followed by the present tense for the third person: *juega* in Spanish and the past tense for the first person. He also produced the gerund form of *comer* (*comiendo*) as the highest orally produced of the verb *comer* (eat)

along with the present tense for the second person singular, first person plural, first person singular and as the lowest produced the form of the participle *comido* (eaten).

Lucia (2:02;25) produced the present tense of the verb *jugar* conjugated with the first person plural in Spanish: *jugamos* along with the infinitive form as part of her development of the acquisition of the present tense, and as the highest most orally produced as well, the present tense form of *comer* for the conjugation of the third person singular in Spanish: *come*, followed by the first person *como* as well as the gerund *comiendo* and the subjunctive form *coma* of the verb *comer* (eat) in Spanish. In English, the form of *playing* was the highest most orally produced by Amy (1:08), followed by *play*, as part of her development of the present tense, as well as *eat*. Betty (2:04) only produced the form of *eat* as part of her development of the present tense.

According to Theakston A N., et al (2002), children use *go* and *going* to encode movement and the same meaning with *gone* and *goes* in different periods in time, for *gone* and *goes* later than the forms of *going* and *go*. For Theakston A N., et al (2002), frequency plays a central role in the acquisition of the verb *go* in English. They have found that frequency is important irrespectively of the structures they appear.

Summary

We have discussed important milestones of age of acquisition in children. Overregularization errors in Spanish appear from the ages of 1;7 to 4;7, according to Clahsen, Aveledo an Roca (2002). Children in the present study: (Juan (1:10), Lucy (2;02) and Amy (1;08) and Betty (2;02) that are in this range of age produced more *overregularization* errors of the verbs *fly* and *have* in Spanish. *Overregularization* errors can also expand to 5;06 years of age according to Vazquez (2016).

In English, the past tense is acquired around the ages of 2:05, according to Brown (1973) and the irregular past tense in Spanish develops from 3 years of age to 8;11 years old according to Shipley et al (1991). From (2;3), children in Spanish start to use the past tense according to Shiro (1997). The

past tense is acquired first by children at 1;06 in Spanish according to Bel (2002), followed by the past tense and then the future tense. The verb of *go* in Spanish was most orally produced in the present tense, followed by the form of preterit perfect in Spanish: *fui* (went) and the subjunctive mood in Spanish: *vaya* by Juan at 1;10;26. Lucia also produced the subjunctive mood in Spanish at 2;02 of the verb *venir* (come). It is in this age of range: 1;7 to 4;7, that children start to produce mental and state verbs: *know* and *be* in both languages.

Before three years of life, children have acquired a lot of words. They come from the input. In English and Spanish, the vocabulary develops at the same pace between 0;8 and 2;07 years of age according to Jackson-Maldonado et al (1993), and there are no differences in the size of vocabulary of girls and boys in Spanish between 2;06 and 4 years of age (Jackson-Maldonado et al 2024).

The verbs *go*, *eat* and *play* are the first verbs acquired in English and Spanish: *ir*, *comer* and *jugar*, according to the present study and to Naigles and Hoff-Ginsberg (1998). At three years of age, children start to acquire frighten-type verbs in English and they develop until 6 years of age according to Hartshorne et al 2023.

CHAPTER 5. Conclusions

Aguado- Orea & Pine J M. (2015) compare different models of the development of verb inflection in early child Spanish. These models are the constructivist and the generative. Apart of the individual differences for each child, the constructivist model, according to Aguado-Orea & Pine J M. (2015) “develops gradually through a process of abstraction across instances in the input” (p. 3). In their study they compare the number of different inflections per verb by Juan and Lucia at 2;0 and 2;06 years of age respectively, with the matched samples of adult speech, and investigated the rate which the children made errors of subject-verb agreement (p.6). They explain their results with the constructivist model and the generative model by saying that children do not have the knowledge of verb inflection like adults and that children do not have lexical knowledge of particular tense (present) inflections. (p.12).

Vazquez Martinez, HJ., Heuser A., Yang C. & Kodner J. (2023) compare models of language acquisition and neural language models, these models are trained to receive more input than the input that a child receives. (p. 49). The process of language acquisition is similar across different languages that are different. According to Vazquez Martinez, HJ., Heuser A., Yang C. & Kodner J. (2023): “vocabulary learning is a matter of rote learning” (p.50), in which the morphological processes such as irregularity is included. They emphasize that better learning is a result of more experience with data of language, distinguishing from aspects of structure that according to Vazquez Martinez, HJ., Heuser A., Yang C. & Kodner J. (2023), it requires form generalizations, that is rules.

Yang (2011) states that it is important for a theory of language acquisition to be applicable across languages and that it is also reflected in computational studies. He defines learnability as the mathematical study of language learning. Universal Grammar is innate (Yang, 2011).

Universal Grammar is a restriction in which learning takes place by linguistic experience. More specifically, is an innate form of knowledge specific to language (p. 451 Yang 2004). Yang

(2004) argues that both the endowment for language that is innate and learning are necessary to language acquisition. It has been found that with minimal exposure to artificial language, children can segment words at a very young age, suggesting that language learning is also possible in addition to innate endowment of linguistics knowledge (Saffran, J.R. et al.1996) and Yang (2004).

Yang (2004) found that in child directed language speech, monosyllabic words occur in sequences and they occur after another 85% of the time. Syllables and stress as part of the input are part of how learning operates and language acquisition is in words of Yang (2004) a form of “innately guided learning” (p.455).

Liz and Gagliardi (2015) explains that looking at input we can understand that learning is a form of memory. The knowledge driven tradition sees learning as inference where the system of knowledge is Universal Grammar. The child selects the features of a particular grammar and the child uses the input to identify the representations of language. In this perspective “the learner searches the input for cues to help choose an abstract representation” (p.334). According to Liz and Gagliardi (2015) there is a mismatch of the poverty of stimulus and the grammar that is acquired by children at young ages.

They propose to include Universal Grammar as a component of the knowledge-driven mechanism and as part of an architecture that allows the child to extract information from the input. (p.336). In their model (Liz & Galiardi, 2015), they propose that in the child’s learning mechanism for language acquisition, there is a perceptual encoding in which grammar develops that includes the parsing procedures and the extralinguistic systems such as the audition, pattern recognition, memory and theory of mind. This is where the input enters to.

In their Model, from the perceptual encoding, it follows the perceptual intake, which is the linguistic representations and it continues to the production system that is the behavior in the external

world. Part of their Model also is the inference engine that contains the Universal Grammar that “identifies the class of representations that shape the nature of human grammatical systems” (p.335).

Liz and Gagliardi (2015) also demonstrate that language learners are sensitive to statistical features of their environment, and that Universal Grammar must be paired with a mechanism of inference that links the linguistic representations with the data of experience.

Regarding syntax and the input, it has been found that children from higher socioeconomic status produce more complex utterances as toddlers and they perform better on measures of productive and receptive syntax at the 6 years of age: Arriaga et al (1998) and Huttenlocher et al (2002). This research suggests that input is related with the mechanisms through the grammar that is deployed. According to Liz and Gagliardi (2015) the sensitivity of children to the frequency and distributional properties of the input is the intake mechanisms that is expressed for inference about the structure of grammar.

Universal Grammar and statistical sensitivity are not dependent between each other, according to Liz and Gagliardi (2015). They explain that after the part of the learning mechanism that is inferential, it comes the part that is deductive. In his work of *Three factors in language design*, Chomsky (2005) states that the language of a person is part of the mind according to the biolinguistics perspective from Eric Lenneberg thirty years ago (p.2). This enters into the use and the acquisition of language, according to Chomsky (2005), the I- language in technical usage of linguistics.

Chomsky (2005) agrees that language can be studied as part of the natural world (p. 3). Language is essential to human intellectual capacity according to Chomsky (2005) and there are three factors that enter once again, into the growth of language, this is the *genetic endowment*, according to Chomsky (2005), experience, and principles not specific to the faculty of language (p.6). For the principles that are not specific to the faculty of language, they include “the principles of data analysis that might be used in language acquisition and other domains” referred as data processing and

“principles of structural architecture and developmental constraints ... including principles of efficient computation” (p.6).

In his words, for Chomsky (2005), the acquisition of language is a matter of parameter setting (p.8). Chomsky agrees with Yang (2002) that languages are accessible through Universal Grammar and parameters are valued, and that there are probabilities for the languages to be used in relation to a function of language learning that is general.

Hauser M D., Chomsky N., & Fitch W T. (2002) argue that human communication is remarkable to the specie of the human being. They touch into the topic of language evolution and how humans acquire the faculty of language (p.1569). The system of communication of animals is different than the system of communication of human beings based on theories according to research on language evolution (p.1570). Hauser M D., Chomsky N., & Fitch W T. (2002) argue that recursion is specific to human language and explain it as the creative form of humans to form sentences. The faculty of language in the broad sense includes an internal computation system combined with the sensory motor, and the conceptual intentional internal systems of the organism according to Hauser M D., Chomsky N., & Fitch W T. (2002).

The faculty of language in the narrow sense is a component of the faculty of language in the broad sense, and it is the abstract linguistic computational system alone. The linguistic computational system generates internal representations, passing by the phonological system and semantic system. Hauser M D., Chomsky N., & Fitch W T. (2002) hypothesize that the computational mechanism of recursion in human language has evolved exclusively for human beings.

Thy argue that linguistics share with other sciences similitudes in terms of the relationship that it can exist for understanding of language. First, Hauser M D., Chomsky N., & Fitch W T. (2002), explain that the capacity of recursion occurs through biophysical factors, developmental factors and computational factors shared with other vertebrates that are not human beings (p.1574). Animals can

discriminate between human being speech sounds and different phonemes and chimpanzees can “discriminate sentences from two different language on the basis of rhythmic differences between them” (p.1574).

Imitative capacities that human beings can do, are observed as well in other animals such as dolphins and parrots (p.1574), but chimpanzees cannot produce articulated spoken words whereas parrots can (p.1575). They argue that the conceptual intentional ability is only human, which is part of the faculty of language. The representation of number in animals is like humans in Hauser M D., Chomsky N., & Fitch W T. (2002), reporting from Boysen et al (1988), with the difference that children first learn the symbol of number and later the meaning, whereas animals were taught according to Hauser M D., Chomsky N., & Fitch W T. (2002) the meanings of the symbol of number one by one (p.1577). They conclude that the computational system (narrow syntax) that generates internal representations evolved for reasons other than language such as navigation, number quantification or social relationships and that animals have these abilities (p.1578).

The capacity of recursion as uniquely human is what Yang (2013) investigates. He developed a statistical test that detects the presence or absence of grammatical rules to show that children do not memorize patterns of the speech of their caregivers (p.6324). He compared the language of children and the American Sign Language from Nim, a chimpanzee that learned this language. He found that Nim (Terrace HS 1979) imitated rotely, not having the combinatorial range of a grammar that the speech of a child shows and general rules (p.6326).

Shin and Melancon (2010) found that this rule usage can lead to children deduce the properties of new words. There is an innate endowment that reflects the knowledge of language according to Berwick et al (2011), and the poverty of stimulus is used to explain it (p.1209). Berwick et al (2011), use the poverty of stimulus to explain yes-no questions in English. They state that language acquisition is a process of acquiring a generative capacity that is weak (in their words), to produce a

valid string of words of a language (p.1212). They aim to describe grammars that reflect a language-specific innate endowment.

In Yang (2016) it is described the *Aspects of Syntax* model of language acquisition by Noam Chomsky (1965). He explains it in 5 points as follows (Yang, 2016 p.1 -2):

- a. a technique of representing input signals
- b. a way of representing structural information about these signals
- c. some initial delimitation of a class of possible hypotheses about language structure
- d. a method of determining what each such hypothesis implies with respect to each sentence
- e. a method for selecting one of the (presumably, infinitely many) hypotheses that are allowed by (c) and are compatible with the given primary linguistic data.

Evaluation Metric is 1 (e). According to Yang (2016) Evaluation Metric “is embedded in a particular theory of Universal Grammar” and part of one’s I-language which is the internal system of linguistic knowledge in an individual (p.2). He states that there is great progress about the development of language in children but not how it is language attained. *Tolerance Principle* is defined by Yang (2016) as a “learning theoretic device that guides the child to discover productive processes in language” (p.20), and “it provides an evaluation metric that quantifies real time language processing” (p.21), and makes prediction for a rule in language to be productive or not.

According to Chomsky, (1968, p.80), children evaluate the production of a rule by positive evidence, if it is high enough, if not, they formulate a new rule and the Tolerance Principle is applied in a recursive way (Yang, 2018). The minimalist approach (Berwick & Chomsky, 2016) encourages a return to an earlier, abductive, framework of language acquisition: “Having selected a permissible hypothesis, he can use inductive evidence for corrective action, confirming or disconfirming his choice. Once the hypothesis is sufficiently well confirmed, the child knows the language defined by this hypothesis; consequently, his knowledge extends enormously beyond his experience” (Chomsky,

1968, p. 80). The TP determines whether a hypothesis is “sufficiently well confirmed”. (Yang 2018, p.805).

Yang (2016) agrees with Kuczaj (1977) for the rule of adding -d to the regular verbs in the past tense of English to occur by inductive learning or inferring. Yang (2016) explains in his Tolerance Principle that “it asserts for a rule to be productive, the number of exceptions must fall below a critical threshold” (p.9). In his words, language learning for Yang (2016) is a search for productive generalizations. Yang (2016) explains that children think about a rule in their language and assess its productivity according to the “associated numerical values, the number of items to which the rule is applicable, and the number of items that defy the rule” (p.9). If the number of items is small the rule is established as productive, if not, children develop a revised rule to obtain a new set of values and the Tolerance Principle is applied in a recursive way.

According to Yang (2016), the past tense of English is treated as a computational system in traditional linguistics by Sweet (1892), Jespersen (1942), and Hockett (1942) that takes the stem as input and produces the past tense as output: *walk: walked* and *think: thought*, and in which the verbs are inflectional categories and follow morphophonemic alternations of changing of vowels in Bloch (1947). In generative grammar (Chomsky and Halle 1968, and Halle and Marantz 1973) the rules are productive and they apply to an open -ended set of items, for example: “add -d to form past tense” while the irregular rules are lexically restricted to a finite list.

In the Tolerance Principle proposed by Yang (2016) there is an analysis of the data that is related with the psychological system of language and learning (p.75), Yang (2016) also argues that children ignore the empirical frequencies of words and they keep track of the effectiveness of a rule.

According to Yang (2016), the acquisition of vocabulary in the Tolerance Principle is the result from the tension that occurs between signal and noise (p.81). For Yang (2016), overregularization errors, that is the addition of -d to irregular verbs in English, is the start of the

productivity of the past tense, specifically the rule to add *-d*, in the same language by children and the trajectory of this rule is related with the acquisition of words.

During the acquisition of stress in the English language, according to Yang (2016), children start to distinguish the inflectional morphology, for example the variants of the verb walk: *walks*, *walking*, and *walk* (p.98), and they also understand these meanings very early and use the morphemes to deduce meanings of novel words according to Golinkoff et al. (1987) and Naigels (1990), as well as categories such as the nouns in German in which suffixes also indicate gender (p.128) and children do not memorize and look for productive regularities.

According to Yang (2016), children use a word when they are sure about the meaning (p.179). Yang (2016) explains that children do not have a lot of positive evidence when they acquire the language and children behave in a conservative way with the adult input (p.221). For Yang (2016), language is acquired from linguistic data that is simple and distributed in a sparsely way as well with mechanisms of learning that represent the course of growth and development.

In the present thesis it has been scrutinized the age of acquisition of the past tense in English and Spanish, specifically the acquisition of the irregular verbs in both languages. At very early age children in Spanish and English produce the irregular forms of the verbs in the past tense in both languages by following the Tolerance Principle by Yang (2000). This explains the stage of *overregularization* in which children in both languages apply the rule of a regular verb to an irregular verb in the past tense.

As it has been established by the *Tolerance Principle* the past tense is learned when the verbs in this form appeared in the input of language to children, and it may also extend to second language learners that are adults and also have the stage of overregularization. Recommendations for follow up studies are to study second language learners in their process of second language acquisition.

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Appendix I

First conjugation verb: *amar*:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
amo	amaba	amé	amaré	amaría
amas (amás)	amabas	amaste	amarás	amarías
ama	amaba	amó	amará	amaría
amamos	amábamos	amamos	amaremos	amaríamos
amáis	amabais	amasteis	amaréis	amaríais
aman	amaban	amaron	amarán	amarían
COMPOUND TENSES				
Compound Preterit Perfect	Preterit Pluperfect	Anterior Preterit	Compound Future	Compound Conditional
he amado	había amado	hube amado	habré amado	habría amado
has amado	habías amado	hubiste amado	habrás amado	habrías amado
ha amado	había amado	hubo amado	habrá amado	habría amado
hemos amado	habíamos amado	hubimos amado	habremos amado	habríamos amado

habéis amado	habíais amado	hubisteis amado	habréis amado	habríais amado
han amado	habían amado	hubieron amado	habrán amado	habrían amado
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
ame	amara o amase		amare	
ames	amaras o amases		amares	
ame	amara o amase		amare	
amemos	amáramos o amásemos		amáremos	
améis	amarais o amaseis		amareis	
amen	amaran o amasen		amaren	
COMPOUND TENSES				
Compound Preterit Perfect	Preterite Pluperfect		Compound Future	
haya amado	hubiera o hubiese amado		hubiere amado	
hayas amado	hubieras o hubieses		hubieres amado	
haya amado	amado		hubiere amado	
hayamos amado	hubiera o hubiese amado		hubiéremos amado	
hayáis amado	hubiéramos o hubiésemos		hubiereis amado	
hayan amado	amado		hubieren amado	
	hubierais o hubieseis			
	amado			

	hubieran o hubiesen amado	
IMPERATIVE MOOD		
ama (amá), amad		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
SIMPLE COMPOUND		SIMPLE COMPOUND
amar haber amado	amado	amando habiendo amado

Second conjugation verb: *temer*:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
temo	temía	temí	temeré	temería
temes (temés)	temías	temiste	temerás	temerías
teme	temía	temió	temerá	temería

tememos	temíamos	temimos	temeremos	temeríamos
teméis	temíais	temisteis	temeréis	temeríais
temen	temían	temieron	temerán	temerían
COMPOUND TENSES				
Compound Preterit Perfect	Preterit Pluperfect	Anterior Preterit	Compound Future	Compound Conditional
he temido	había temido	hube temido	habré temido	habría temido
has temido	habías temido	hubiste temido	habrás temido	habrías temido
ha temido	había temido	hubo temido	habrá temido	habría temido
hemos temido	habíamos	hubimos temido	habremos	habríamos
habéis temido	temido	hubisteis temido	temido	temido
han temido	habíais temido habían temido	hubieron temido	habréis temido habrán temido	habríais temido habrían temido
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
tema	temiera o temiese		temiere	
temas	temieras o temieses		temieres	
tema	temiera o temiese		temiere	
temamos	temiéramos o temiésemos		temiéremos	

temáis	temierais o temieseis	temiereis
teman	temieran o temiesen	temieren
COMPOUND TENSES		
Compound Preterit Perfect	Preterite Pluperfect	Compound Future
haya temido	hubiera o hubiese temido	hubiere temido
hayas temido	hubieras o hubieses	hubieres temido
haya temido	temido	hubiere temido
hayamos temido	hubiera o hubiese temido	hubiéremos temido
hayáis temido	hubiéramos o hubiésemos	hubiereis temido
hayan temido	temido	hubieren temido
	hubierais o hubieseis	
	temido	
	hubieran o hubiesen	
	temido	
IMPERATIVE MOOD		
teme (temé), temed		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
SIMPLE COMPOUND		SIMPLE COMPOUND

temer haber temido	temido	temiendo habiendo temido
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Third conjugation verb: *partir*

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
parto	partía	partí	partiré	partiría
partes (partís)	partías	partiste	partirás	partirías
parte	partía	partió	partirá	partiría
partimos	partíamos	partimos	partiremos	partiríamos
partís	partíais	partisteis	partiréis	partiríais
parten	partían	partieron	partirán	partirían
COMPOUND TENSES				
Compound Preterit Perfect	Preterit Pluperfect	Anterior Preterit	Compound Future	Compound Conditional

he partido	había partido	hube partido	habré partido	habría partido
has partido	habías partido	hubiste partido	habrás partido	habrías partido
ha partido	había partido	hubo partido	habrá partido	habría partido
hemos partido	habíamos	hubimos partido	habremos	habríamos
habéis partido	partido	hubisteis partido	partido	partido
han partido	habíais partido	hubieron	habréis partido	habríais partido
	habían partido	partido	habrán partido	habrían partido
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
parta	partiera o partiese		partiere	
partas	partieras o partieses		partieres	
parta	partiera o partiese		partiere	
partamos	partiéramos o		partiéremos	
partáis	partiésemos		partiereis	
partan	partierais o partieseis		partieren	
	partieran o partiesen			
COMPOUND TENSES				
Compound Preterit Perfect	Preterite Pluperfect		Compound Future	
haya partido	hubiera o hubiese partido		hubiere partido	
hayas partido	hubieras o hubieses		hubieres partido	

haya partido	partido	hubiere partido
hayamos partido	hubiera o hubiese partido	hubiéremos partido
hayáis partido	hubiéramos o hubiésemos	hubiereis partido
hayan partido	partido	hubieren partido
	hubierais o hubieseis	
	partido	
	hubieran o hubiesen	
	partido	
IMPERATIVE MOOD		
parte (partí), partid		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
SIMPLE COMPOUND		SIMPLE COMPOUND
partir haber partido	partido	partiendo habiendo partiendo

Regular verb *anunciar* with an orthographic accent in their conjugation:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
anuncio	anunciaba	anuncié	anunciaré	anunciaría
anuncias	anunciabas	anunciaste	anunciarás	anunciarías
(anunciás)	anunciaba	anunció	anunciará	anunciaría
anuncia	anunciábamos	anunciamos	anunciaremos	anunciaríamos
anunciamos	anunciabais	anunciasteis	anunciaréis	anunciaríais
anunciáis	anunciaban	anunciaron	anunciarán	anunciarían
anuncian				
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
anuncie	anunciara o anunciase		anunciare	
anuncies	anunciaras o anunciases		anunciares	
anuncie	anunciara o anunciase		anunciare	
anunciemos	anunciáramos o		anunciáremos	

anunciéis anuncien	anunciásemos anunciarais o anunciaseis anunciaran o anunciasen	anunciareis anunciaren
IMPERATIVE MOOD		
anuncia (anunciá), anunciad		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
anunciar	anunciado	anunciando

Regular verb *aislar* with the thematic vowels of /ai/ in its root. For this verb the *i* in /ai/ is prosodic:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional

aíslo	aislaba	aislé	aislaré	aislaría
aíslas (aislás)	aislabas	aislaste	aislarás	aislarías
aísle	aislaba	aisló	aislará	aislaría
aislamos	aislábamos	aislamos	aislaremos	aislaríamos
aisláis	aislabais	aislasteis	aislaréis	aislaríais
aíslan	aislaban	aislaron	aislarán	aislarían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
aísle	aislara o aislase		aislare	
aísles	aislaras o aislases		aislares	
aísle	aislara o aislase		aislare	
aislamos	aisláramos o aislásemos		aisláremos	
aisléis	aislarais o aislaseis		aislareis	
aíslen	aislaran o aislasen		aislaren	
IMPERATIVE MOOD				
aísle (aislá), aislad				
NOT PERSONAL FORMS				
Infinitive	Participle		Gerund	

aislar	aislado	aislando
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Regular verb *causar* with the thematic vowels of /au/ in its root. For this verb the *u* in /au/ is not prosodic in all the verb forms:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
causo	causaba	causé	causaré	causaría
causas (causás)	causabas	causaste	causarás	causarías
causa	causaba	causó	causará	causaría
causamos	causábamos	causamos	causaremos	causaríamos
causáis	causabais	causasteis	causaréis	causaríais
causan	causaban	causaron	causarán	causarían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	

cause	causara o causase	causare
causes	causaras o causases	causares
cause	causara o causase	causare
causemos	causáramos o causásemos	causáremos
causéis	causarais o causaseis	causareis
causen	causaran o causasen	causaren
IMPERATIVE MOOD		
causa (causá), causad		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
SIMPLE COMPOUND		SIMPLE COMPOUND
causar	causado	causando

Regular verb *peinar* with the thematic vowels of /ei/ in its root. The *i* of /ei/ is not prosodic in all forms of this regular verb:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
peino	peinaba	peiné	peinaré	peinaría
peinas (peinás)	peinabas	peinaste	peinarás	peinarías
peina	peinaba	peinó	peinará	peinaría
peinamos	peinábamos	peinamos	peinaremos	peinaríamos
peináis	peinabais	peinasteis	peinaréis	peinaríais
peinan	peinaban	peinaron	peinarán	peinarían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
peine	peinara o peinase		peinare	
peines	peinaras o peinases		peinares	
peine	peinara o peinase		peinare	
peinemos	peináramos o peinásemos		peináremos	

peinéis peinen	peinaraís o peínaseis peinara(n) o peínasen	peinareis peinaren
IMPERATIVE MOOD		
peina (peiná), peínad		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
peinar	peinado	peinando

Regular verb *adeudar* with the thematic vowels of /eu/ in its root. The /u/ of /eu/ is not prosodic in all the verb forms:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect	Perfect	Future	Simple
	Preterit	Preterit		Conditional
adeudo adeudas	adeudaba adeudabas	adeudé adeudaste	adeudaré adeudarás	adeudaría adeudarías

(adeudás)	adeudaba	adeudó	adeudará	adeudaría
adeuda	adeudábamos	adeudamos	adeudaremos	adeudaríamos
adeudamos	adeudabais	adeudasteis	adeudaréis	adeudaríais
adeudáis	adeudaban	adeudaron	adeudarán	adeudarían
adeudan				
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
adeude	adeudara o adeudase		adeudare	
adeudes	adeudaras o adeudases		adeudares	
adeude	adeudara o adeudase		adeudare	
adeudemos	adeudáramos o		adeudáremos	
adeudéis	adeudásemos		adeudareis	
adeuden	adeudaraís o adeudaseis		adeudaren	
	adeudaran o adeudasen			
IMPERATIVE MOOD				
adeuda (adeudá), adeudad				
NOT PERSONAL FORMS				
Infinitive	Participle		Gerund	

adeudar	adeudado	adeudando
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Irregular verb: *ir*:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
voy	iba	fui	iré	iría
vas (vas)	ibas	fuiste	irás	irías
va	iba	fue	irá	iría
vamos	íbamos	fuimos	iremos	iríamos
vais	ibais	fuisteis	iréis	iríais
van	iban	fueron	irán	irían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
vaya	fuera o fuese		fuere	
vayas	fueras o fueses		fueres	
vaya	fuera o fuese		fuere	

vayamos	fuéramos <i>o</i> fuésemos	fuéremos
vayáis	fuerais <i>o</i> fueseis	fuereis
vayan	fueran <i>o</i> fuesen	fueren
IMPERATIVE MOOD		
anda, imperative of <i>andar</i>		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
<i>ir</i>	<i>ido</i>	<i>yendo</i>

Irregular verb: *ser*

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional

soy	era	fui	seré	sería
eres (sos)	eras	fuiste	serás	serías
es	era	fue	será	sería
somos	éramos	fuimos	seremos	seríamos
sois	erais	fuisteis	seréis	seríais
son	eran	fueron	serán	serían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
sea	fuera o fuese		fuere	
seas	fueras o fueses		fueres	
sea	fuera o fuese		fuere	
seamos	fuéramos o fuésemos		fuéremos	
seáis	fuerais o fueseis		fuereis	
sean	fueran o fuesen		fueren	
IMPERATIVE MOOD				
sé (sé), sed				
NOT PERSONAL FORMS				
Infinitive	Participle		Gerund	

ser	sido	siendo

Irregular verb: *acertar*

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
acierto	acertaba	acerté	acertaré	
aciertas	acertabas	acertaste	acertarás	acertaría
(acertás)	acertaba	acertó	acertará	acertarías
acierta	acertábamos	acertamos	acertaremos	acertaría
acertamos	acertabais	acertasteis	acertaréis	acertaríamos
acertáis	acertaban	acertaron	acertarán	acertaríais
aciertan				acertarían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				

Present	Preterite	Future
acierta	acertara o acertase	acertare
aciertes	acertaras o acertases	acertares
acierta	acertara o acertase	acertare
acertemos	acertáramos o	acertáremos
acertéis	acertásemos	acertareis
acierten	acertarais o acertaseis	acertaren
	acertaran o acertasen	
IMPERATIVE MOOD		
acierta (acertá), acertad		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
acertar	acertado	acertando

Irregular verb: *agradecer*:

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
agradezco	agradecía	agradecí	agradeceré	agradecería
agradeces	agradecías	agradeciste	agradecerás	agradecerías
(agradecés)	agradecía	agradeció	agradecerá	agradecería
agradece	agradecíamos	agradecimos	agradeceremos	agradeceríamos
agradecemos	agradecíais	agradecisteis	agradeceréis	agradeceríais
agradecéis	agradecían	agradecieron	agradecerán	agradecerían
agradecen				
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
agradezca	agradeciera o agradeciese		agradeciere	
agradezcas	agradecieras	o		
agradezca	agradecieses			
agradezcamos	agradeciera o agradeciese		agradeciere	
agradezcáis	agradeciéramos	o	agradeciéremos	

agradezcan	agradeciésemos agradecierais <i>o</i> agradecieseis agradecieran <i>o</i> agradeciesen	agradeciereis agradecieren
IMPERATIVE MOOD		
agradece (agradecé), agradece		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
agradecer	agradecido	agradeciendo

Irregular verb: *leer*

INDICATIVE MOOD				
SIMPLE TENSES				
Present	Imperfect Preterit	Perfect Preterit	Future	Simple Conditional
leo	leía	leí	leeré	leería
lees (leés)	leías	leíste	leerás	leerías
lee	leía	leyó	leerá	leería
leemos	leíamos	leímos	leeremos	leeríamos
leéis	leíais	leísteis	leeréis	leeríais
leen	leían	leyeron	leerán	leerían
SUBJUNCTIVE MOOD				
SIMPLE TENSES				
Present	Preterite		Future	
lea	leyera o leyese		leyere	
leas	leyeras o leyeses		leyeres	
lea	leyera o leyese		leyere	
leamos	leyéramos o leyésemos		leyéremos leyereis	

leáis	leyerais o leyeseis	leyeren
lean	leyeran o leyesen	
IMPERATIVE MOOD		
lee (leé), leed		
NOT PERSONAL FORMS		
Infinitive	Participle	Gerund
leer	leído	leyendo

Appendix II

The regular verb *play* in English conjugated in the past simple tense:

I	played
You	played
He	played
She	played
It	played
We	played
They	played

Regular verbs in English that end in /e/:

love
agree
hope

believe
change
close

Regular verbs in English that end in consonant + /y/

copy
carry
cry
dry
hurry
tidy
try
worry

Regular verbs in English that end in vowel +/y/

stay
play
destroy

Regular verbs in English that double the last letter before adding -ed:

stop
prefer
drop
flip

The irregular verb *be* in English conjugated in the past simple tense:

I	was
You	were
He	was
She	was
It	was
We	were
They	were

Irregular verbs in English with sentences in the past simple tense:

bring	I brought some cookies.
buy	She bought some books.
come	My sister came to the party.
do	We did our homework earlier.
drink	He drank a lot of coffee at that time.

eat	I ate too many cookies yesterday.
find	They found some money in the street.
forget	She forgot your birthday.
get	We got a new car.
give	Julie gave her baby a kiss.
go	The students went to the park.

Common and not common irregular verbs in English in the past simple form and past participle:

Infinitive	Past simple	Past Participle
arise	arose	arisen
awake	awoke	awoken
bear	bore	born
be	was / were	been
beat	beat	beaten
become	became	become

begin	began	begun
bend	bent	bent
bet	bet	bet
bind	bound	bound
bite	bit	bitten
bleed	bled	bled
blow	blew	blown
break	broke	broken
breed	bred	bred
bring	brought	brought
build	built	built
burst	burst	burst
burn	burnt / burned	burnt
buy	bought	bought
cast	cast	cast
catch	caught	caught
choose	chose	chosen

cling	clung	clung
come	came	come
cost	cost	cost
creep	crept	crept
cut	cut	cut
deal	dealt	dealt
dig	dug	dug
do	did	done
draw	drew	drawn
dream	dreamt/ dreamed	dreamt / dreamed
drink	drank	drunk
drive	drew	drawn
eat	ate	eaten
fall	fell	fallen
feel	felt	felt
fight	fought	fought
find	found	found

flee	fled	fled
fling	flung	flung
fly	flew	flown
forbid	forbade	forbiden
forget	forgot	forgotten
forgive	forgave	forgiven
freeze	froze	frozen
get	got	gotten
give	gave	given
go	went	gone
grind	ground	ground
grow	grew	grown
hang	hung	hung
have	had	had
hear	heard	heard
hide	hid	hidden
hit	hit	hit

hold	held	held
hurt	hurt	hurt
keep	kept	kept
know	knew	knew
lay	laid	laid
lead	led	led
lean	leant / leaned	leant / leaned
leave	left	left
lend	lent	lent
let	let	let
lie	lay	lain
light	lit / lighted	lit/ lighted
lose	lost	lost
make	made	made
meet	met	met
mean	meant	meant
mislay	mislaid	mislaid

mislead	misled	misled
pay	paid	paid
put	put	put
quit	quit	quit
read	read /red/	read /red/
ride	rode	ridden
ring	rang	rung
rise	rose	risen
run	ran	ran
saw	sawed	sawn
say	said	said
see	saw	seen
seek	sought	sought
sell	sold	sold
send	sent	sent
set	set	set
sew	sewed	sewn

shake	shook	shaken
shine	shone	shone
shoot	shot	shot
show	showed	shown
shrink	shrank	shrunk
shut	shut	shut
sing	sang	sung
sink	sank	sunk
sit	sat	sat
sleep	slept	slept
slide	slid	slid
sow	sowed	sown
speak	spoke	spoken
spend	spent	spent
spin	spun	spun
spill	spilt / spilled	spilt / spilled
spread	spread	spread

spring	sprang	sprung
stand	stood	stood
steal	stole	stolen
stick	stuck	stuck
sting	stung	stung
stride	strode	stridden
strike	struck	struck
swear	swore	sworn
sweep	swept	swept
swim	swam	swum
swing	swung	swung
take	took	taken
tear	tore	torn
teach	taught	taught
tell	told	told
think	thought	thought
throw	threw	thrown

tread	trod	trodden
understand	understood	understand
wake	woke	woken
wear	wore	worn
weep	wept	wept
win	won	won
wind	wound	wound
write	wrote	written

Appendix III

Lucia 1;10- 2;07 *plural nouns*

Rodillas

Vacas

Dientes

Huevos

Lápices

Patatas

Noches

Tomates

Frutas

Abejas

Piedras

Rulitos

Colores

Comidas

Calcetines

Cuadernos

Campesinos

Cucharas

Cucharilas

Triciclos

Yogures

Nenes

Dálmatas

Escaleras

Espaguetis

Piernas

Caramelitos

Estrellas

Puzzles

Baños

Fotos

Relojes

Castañuelas

Cebollas

Garbanzos

Globos

Gordos

Vueltas

Zapatillas

Bigotes

Niños

Guapas

Guisantes

Hojas

Pasas

Patitos

Judías

Bolas

Lechugas

Piñones

Albóndigas

Llaves

Castañas

Rosas

Mocos

Uvas

Cigüeñas

Juan 1;10- 2;07 *plural nouns*

Flores

Coche

Muñecos

Piedras

Señores

Peces

Gallinas

Cosas

Barcos

Simios

Patos

Naranjas

Noches

Vacas

Nubes

Puertas

Príncipes

Manos

Piezas

Aviones

Abuelos

Espinos

Cuentos

Amigos

Caballitos

Camiones

Caracoles

Dragones

Estatuas

Galletas

Colores

Leones

Uvas

Tigres

Tractores

Relojes

Marineros

Tazas

Pájaros

Mejillones

Palitos

Palomas

Mangueras

Puntitos

Melocotones

Papeles

Rocas

Semáforos

Parques

Niños

Patatas

Patinetas

Patitos

Novios

Payasitos

Motos

Mimos

Pendientes

Regalos

Pequeñitos

Peras

Mocorretes

Sabanas

Salchichas

Salvavidas

Pescadores

Serpientes

Piernas

Nenes

Marionetas

Pirámides

Plásticos

Toallitas

Plátanos

Tostadas

Monstruos

Tractores

Pollitos

Troncos

Tulipanes

Montañas

Moscas

Vueltas

Zapatillas

Pilotos

Cadenas

Calabacines

Dinosaurios

Enanitos

Estrellas

Fichas

Campanas

Agujas

Agentes

Canguros

Helicópteros

Bomberos

Elefantes

Albóndigas

Cascos

Algas

Flechas

Alicates

Cerezas

Chimeneas

Herramientas

Judías

Dibujos

Botones

Cocinas

Cocodrilos

Balones

Esqueletos

Fabricas

Fantasmas

Bichitos

Comidas

Conejos

Arboles

Corderos

Cositas

Golpes

Guantes

Bicicletas

Hormigas

Aspas

Cachorritos

Bolas

Juguetes

Lazos

Deseos

Cosquillitas

Cristales

Croquetas

Corazones

Amy 1;08-2;04 ***plural nouns and uncountable nouns***

Eyes

Toys

Boots

Food

Betty 1;08-2;04 ***plural nouns and uncountable nouns***

Milk

Snow

