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THE EFFECT OF ENHANCING LEARNER INPUT VIA COMPUTER ASSISTED
LANGUAGE LEARNING TOOLS: ON THE ACQUISITION OF CLITICS BY
SPANISH SECOND LANGUAGE LEARNERS

A Dissertation Presented

by

BRIDGET CONNORS PINSONNEAULT

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2016

Hispanic Linguistics and Literatures Program
Department of Languages, Literatures and Cultures

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LANGUAGE LEARNING TOOLS: ON THE ACQUISITION OF CLITICS BY
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ACKNOWLEDGMENTS

My sincere gratitude also goes to Dr. Michael Lavine of the Department of Mathematics and Statistics at the University of Massachusetts, Amherst for his invaluable help with the statistical analysis of my research.

My family has also been wonderful throughout this entire Ph.D. process. I think it came as a surprise when I told them that I had planned to apply for my Ph.D. Mom, you have been with me every step of the way reminding me how proud you are of me and to "keep the faith." Dad, you have also provided unconditional support and guidance. You also reminded me even through our toughest family times not to give up on my dreams. Jeremy, you are the pillar of strength in our family and I have learned the meaning of the word strength from you. Thank you for reminding me that I can achieve my goals by never giving up. I have learned this from observing you never give up.

And finally, I would like to thank my sons Jack and Joseph, and my husband Greg. Jack happily went off to daycare so that I could work various jobs and work on my schoolwork, when I could have made the choice to be a stay at home mom. Joseph arrived at an opportune time, helping me to become motivated to finish my graduate studies so that I can prepare for the next step that my path in life will bring me. He even happily slept on my lap while I worked on dissertation revisions. Greg, your support has been the greatest. Without your encouragement I would have never even applied to a Ph.D. program. You have constantly reminded me that achieving my dreams are possible. Times when I thought I wasn't cut out for academia, you reminded me that I was doing exactly what I was destined to do in life. The financial setback of having a family, a mortgage and going from a fulltime job to a low graduate student salary was quite tough, but you never let it bother you. Instead, you worked harder so that I could

achieve my goals. Even though I put in hours of schoolwork, I will never forget the

hours of hard work that you put in so that I could accomplish my doctorate and we could

continue to live our lives as we had before. Without you by my side, I would not be

where I am today. Thank you.

ABSTRACT

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LANGUAGE LEARNING TOOLS: ON THE ACQUISITION OF CLITICS BY
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MAY 2016

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The current project contributes to the growing body of research in second

language acquisition that investigates the facilitative effects of drawing learner attention

to problematic aspects of linguistic input through input enhancement. Specifically, the

research examines the extent to which input enhancement (Sharwood Smith 1991, 1993)

via typographically altered texts facilitates the acquisition of third person dative and

accusative clitic pronouns in Spanish for university level native English speakers enrolled

in both beginner and advanced levels of Spanish second language courses. A number of

past studies have indicated that all verbal clitics have been an obstacle in gaining L2

Spanish proficiency. Prior research has indicated that the most difficult pronominal

system for L1 English speakers learning L2 Spanish are the third person dative and

accusative clitic pronouns (VanPatten 1984). These students also tend to misinterpret

preverbal clitics as subjects (VanPatten 1984).

The significance of the project is twofold. First, it will consider whether input

enhancement used to facilitate the identification of referents of anaphoric pronouns aides

in the acquisition of the pronouns. Secondly, it examines at which level, beginner or

advanced, input enhancement could be most beneficial for the L2 Spanish student. It also

takes into account local comprehension, whereas prior input enhancement studies have

investigated global comprehension. Furthermore, the results may have a direct impact on

future computer technology that could be developed for foreign language instruction as it

investigates the effects of this external attention drawing device in a Computer Assisted

Language Learning setting. Results of the investigation indicated that input enhancement

at the advanced level was successful in aiding L2 Spanish students to comprehend

anaphora resolution with third person dative and accusative clitic pronouns in Spanish.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In second language acquisition (SLA) and foreign language instruction research

there has been a focus on the importance for a language learner to notice the input that he

or she receives in order for language acquisition to occur (Schmidt 1990, 2001). Input is

defined by Gass & Selinker (2008) as "the language that is available to learners; that is

exposure" (518). While they define intake as "the part of the language input that is

internalized by the learner" (518). Corder (1967) was the first to distinguish input from

intake. The underlying assumption is that noticing is a prerequisite for intake (Sharwood

Smith 1981; Schmidt 1990). Input occurs when learners are exposed to a language.

More specifically, input is the direct contact that a learner has with the language.

Pedagogically, it is important for language teachers to consider ways for input to

eventually be converted into intake for the foreign language learner (VanPatten 1990).

Consequently, various applied linguists have recently advocated for supplementing

communicative foreign language instruction with techniques designed to improve target

language accuracy. One way for this to transpire is to make the input more salient for the

learner by enhancing it, therefore facilitating learning. In consideration of this need,

Sharwood Smith (1991, 1993) coined the term 'Input Enhancement' (IE) to refer to

techniques used by instructors to make parts of the input more salient for the learner.

Examples of input enhancements may include: a teacher using exaggerated stress and

intonation, a teacher's reformulation of a student's utterance in order to maintain the

meaning of the utterance, an explicit grammar explanation, and the use of gestures or

typographically altering texts. The typographical alteration of a grammatical form found in written input is actually a textual enhancement (TE). This alteration involves highlighting via color, bolding, italicizing, underlining, capitalization, or using a larger font, in order to make target linguistic items more salient. In particular, the goal of TE is to induce the noticing of a target linguistic form or forms during the reading of a text. For the purposes of the present investigation, input enhancement will be defined as: the methods used by the language instructor or researcher to make selected formal aspects of the foreign language more salient for the foreign language learners with the goal of facilitating acquisition (Sharwood Smith 1991, 1993).

Since the advent of the input enhancement hypothesis proposed by Sharwood Smith (1991, 1993), second language acquisition (SLA) researchers have been examining the effect of manipulating and enhancing input in order to make it more salient for second language learners. The general line of thought among these researchers is that the noticing of the enhanced form will lead to acquisition, following Schmidt's (1990) Noticing Hypothesis. Consequently, various studies have investigated the effects of input enhancement on second language acquisition. To date, these studies have provided mixed results, as will be presented in chapter two of this dissertation.

1.2 Purpose of the study

Input enhancement is a relatively new area of inquiry in both the fields of applied linguistics and second language acquisition. Chapter two of this dissertation demonstrates how there are many discrepancies as to the best way to enhance the input a language learner receives in order for him or her to acquire a target second language (L2)

form. To date, few input enhancement studies have combined CALL techniques with their treatments. The existing studies have investigated the recall of accents (Gascoigne 2006a & 2006b), the effect of highlights on vocabulary acquisition (DeRidder 2000), electronic glosses (DeRidder 2002), and the enhancement of web pages (Meurers et al. 2010). As the review of literature in chapter two will reveal, to date, no one has combined reading comprehension with CALL and local interpretation questions as the tools for making form-meaning connections. For the purposes of the present study, *global* comprehension will refer to comprehension of an entire text, whereas *local* comprehension is comprehension of specific targeted areas of the text. The method proposed in this dissertation project should allow learners to correlate certain pronominal clitic forms with their anaphoric antecedents.

The degree of effectiveness of IE in reading comprehension activities that focus on local interpretation of language items is fundamental to this investigation. The purpose of this study is to verify if input enhancement allows for the correlation between dative and accusative clitic forms with their anaphoric antecedents. Also, it will examine whether or not input enhancement combined with local interpretation activities allows L2 learners of differing levels to make form-meaning connections, therefore increasing the learners' knowledge of clitics in Spanish. Specifically, it will test whether or not participants are able to retrieve the referent of a dative or accusative third person anaphoric clitic pronoun.

This project is important to the fields of second language acquisition and applied linguistics because if it is shown that IE assists language learners in learning target features of a second language, then this type of instructional technique will be valuable

for second language instruction. Technologically, the results of the dissertation project could help to gain further advances in foreign language teaching programs that implement technology into their practices. For example, if enhancing the input that a language learner receives proves to have an impact on acquisition for second language learners, web tools could be designed that will help students while reading a foreign language text, as well as aid in the comprehension of key target language forms. In this way, some areas of foreign language education could be revitalized through the implementation of technology that is proven to assist language learners in the acquisition of a second language.

Additionally, learners of differing levels were used in the research. Pienemann's (1987, 1989, 1998) *Teachability Hypothesis* maintains that learners should be developmentally ready to learn target features of the L2. In other words, learners cannot acquire structures that are beyond their current state of development. For L2 learners to acquire such forms, they must be salient so that they are noticed by the learners (Doughty & Williams 1998b).

1.3 Relevance

This research project focuses on the use of input enhancement in a Computer Assisted Language Learning (CALL) setting as it relates to the teaching of Spanish to Anglophones. It differs from other input enhancement studies as the treatments are longer in duration than most prior studies. Also, it will consider *local* comprehension, whereas prior input enhancement studies investigated *global* comprehension. On the

other hand, the results of the research could have a direct impact on computer technology that could be developed for foreign language instruction.

Differing from the prior studies in this area, research participants in the study received comprehension exercises during the actual treatments, as well as during the immediate and the delayed posttests. The comprehension exercises focus on local comprehension, rather than global comprehension of the entire text. Participants from differing levels of Spanish language courses are measured following a control group design. The treatments occur during two treatment sessions, unlike prior short-term IE studies[1]. Furthermore, the investigation does not use additional means to supplement the effect of the textual enhancement.

The research will also take place in a CALL environment. To date, the impact of IE on local reading comprehension questions in a computer based foreign language instructional setting has not been examined. Previous investigations from other research fields have shown that CALL can be an advantageous technique that has produced a number of favorable learning outcomes (Fotos & Browne 2004; Shetzer & Warschauer 2000). Due to recent technological advances, it has become quite beneficial for language teachers to possess CALL expertise so that they may be able to design, employ, and evaluate CALL activities in their classrooms (Fotos & Browne 2004). It is hopeful that the outcome of this research could contribute to the development of new web-based foreign language pedagogical materials.

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[1] These studies are discussed in detail in Chapter 2

1.4 Outline of the dissertation

        The theoretical framework for the dissertation project is provided in chapter two, which includes a review of previous input enhancement studies. Textual enhancement (TE) studies are included in the review as these studies are grouped within input enhancement studies. Also, a review of Pienemann's (1987, 1989, 1998) Teachability Hypothesis, is included in the second chapter to help provide the motivation for the use of learners of differing language learning levels in this project. Focus on Form (Long 1991) is discussed, as well as processing instruction (VanPatten 1996, 2004) given the consideration that Focus on Form (FonF) includes input enhancement and processing instruction as lines of FonF research. Other concepts incorporated in the theoretical framework are the Noticing Hypothesis (Schmidt 1990), input theories as theories of learning, as well as a review of Computer Assisted Language Learning. These reviews are pertinent to the reader later when he or she is examining chapter three of this dissertation given that chapter three resolves to describe the research methods that are used in the study.

        Chapter three describes the target linguistic feature for the investigation, third person dative and accusative clitic pronouns. The chapter discusses the structural differences between each of these clitics, as well as overview differences in clitic placement. It reviews some of the difficulties that native English speakers learning Spanish as a second language encounter when presented with these third person clitics, such as differences in word order in both languages. Finally, the chapter discusses anaphora resolution and how co-reference relations can be difficult for L2 Spanish learners.

Chapter four includes a summary of the main hypotheses, as well as a presentation of the research questions, the setting, and the participants for the experiment. This chapter also includes an explanation and examples of the treatments used in the research project. It also presents a description, as well as examples of the pretest and the posttests. The chapter provides an explanation for the research design, which includes rationale for the use of CALL techniques, multiple treatment sessions, local comprehension activities in the treatment sessions and for the use of learners of varying levels in the experiment.

Chapter five summarizes the data analysis procedures and the results of the experiment. Subsections for each control and test group will discuss the results in detail for each group, including mean percentages for each group. Graphic displays of the results are presented, as well as a presentation of the results in tabular form. Results of Welch's paired t-test are provided, as well as an overall discussion of what the results revealed.

Chapter six provides the conclusion for the dissertation. It provides a brief overview of the research and findings and then concludes the research. The chapter also relays limitations to the study, as well as proposes suggestions for future research.

CHAPTER 2

THEORETICAL OVERVIEW AND FRAMEWORK

2.1 Introduction

The field of Second Language Acquisition (SLA) draws upon theories and research from various fields. The following review of related literature draws upon theorists whose knowledge provides for a clearer understanding of the answers to key research questions in SLA pertaining to noticing, input enhancement, and input theories as theories of language learning. This chapter concludes by providing the reader with an understanding of how this past research can be used as a foundation for newer avenues of research, such as the research conducted for the present investigation.

Chapter two details a comprehensive collection of theories and investigations that relate to SLA as well as computer assisted language learning (CALL). First, a review of the Noticing Hypothesis (Schmidt 1990) and input theories are presented. A review of Focus on Form (Long 1991) is also pertinent to this chapter because both input enhancement (Sharwood Smith 1991, 1993) and processing instruction (VanPatten 1996, 2004) are considered lines of focus on form research. Subsequently, Pienemann's Teachability Hypothesis (1987, 1989, and 1998) provides one of the factors for the motivation for the use of varying learner levels in the present dissertation project. On the other hand, the chapter will review existing studies of input enhancement. This review includes studies of textual enhancement (TE), as TE falls under the overarching umbrella of input enhancement (IE). Finally, the chapter gives an overview of CALL from its inception to its use today.

2.2 Attention and Noticing

In language learning classrooms, a variety of sources allow learners to receive the target language that they are learning. These sources of the target language are referred to as input. In other words, input is "a language data that the learner is exposed to, that is, the learner's experience of the target language in all its various manifestations" (Sharwood Smith 1993: 166). The input becomes part of the language learning process as intake, or the data for developing L2 competence. Intake is defined by Gass and Selinker (2008) as "the part of the language input that is internalized by the learner" (518). An L2 learner receives a lot of input, therefore it is often difficult to determine which input an L2 learner processes, because of this Sharwood Smith (1993) considers input "potential processible language data" (167). Alanen (1995) maintains that only the input that the L2 learner has incorporated into his or her developing system would become intake.

Following his own Portuguese language learning experience in Brazil, Schmidt proposed his *Noticing Hypothesis*. Noticing, as defined by Schmidt (1990, 2001, 2010), maintains that learners must first notice grammatical features of language in order to learn them. He asserts, "*I use noticing to mean registering the simple occurrence of some event, whereas understanding implies recognition of a general principle, rule, or pattern* (Schmidt 1993b:26 in Long & Robinson 1998). Schmidt (1990, 2001, 2010) has proposed that noticing is necessary for L2 learner input to become intake. The input must be consciously registered in order to become intake.

In terms of noticing there are various ways in which it could occur. Frequency or salience of a target language feature may lead learners to notice the form (Gass 1998 in

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Swain 1998). Underlying the Noticing Hypothesis is the idea of noticing a gap. Schmidt and Frota (1986) suggest a "notice the gap principle". This principle maintains that aside from noticing the target language (TL) form, a learner may also notice that the TL form is different from his or her own interlanguage. These researchers state, "A second language learner will begin to acquire the target like form if and only if it is present in comprehended input and 'noticed' in the normal sense of the word that is consciously" (Schmidt & Frota 1986: 311). Doughty and Williams (1998) maintain that a learner can notice a "hole" in his or her interlanguage. Noticing a "hole" occurs when a L2 learner notices that he or she cannot say or write what he or she wants to communicate accurately in the TL. The learner may then use this mismatch to restructure his or her grammar via a comparison of the target language and his or her native language (Doughty 2001). Essentially, a form must be noticed in order for it to be acquired.

Schmidt (1990) maintains that attention is essential for learning. In considering the role of consciousness in L2 learning, Schmidt (1990) introduced three levels of consciousness: 1) consciousness as awareness, 2) consciousness as intention and 3) consciousness as knowledge. He asserts that consciousness as awareness has three levels: perception, noticing and understanding. At the first level, Schmidt explained that perception involved mental organization and internal representations of external events. However, these perceptions are not always conscious, therefore subliminal perception is plausible (Schmidt 1990: 132). At the level of noticing, as stated earlier, learners must notice or consciously pay attention to perceived stimuli or input. Essentially, this means that L2 forms must be noticed in order to be learned. Awareness is the understanding of the perceived input. Schmidt maintains that at this level problem solving and

metacognitions occur. He goes on to state that in order to convert input into intake, awareness at the level of noticing is necessary.

Schmidt also refers to consciousness as intention versus consciousness as knowledge.   He refers to consciousness as intention as conscious or unconscious intentions as "we often become aware of things we did not intend to notice" (133). Consciousness as knowledge, on the other hand, takes into consideration that to know something is to be aware of it. However, there are distinctions between conscious and unconscious knowledge which are unclear due to the many distinctions between knowledge types. Due to these ambiguities, Schmidt proposed various types of learning based on his assumptions that learning can be both an unconscious and conscious process. These include unconscious learning, where the learner is unaware that he or she has learned something; subliminal learning; incidental learning; implicit learning; learning as a by-product of communicative interaction; and conscious learning. He focuses on subliminal, incidental and implicit learning. During subliminal learning perceived stimuli are not noticed. At the levels of incidental and implicit learning, this contrast is also possible. During implicit learning the induction of principles or rules happens during unconscious learning, while conscious learning establishes such rules (Schmidt 1993).

Park (2013) investigated native Japanese and English speakers learning Korean under 'zero knowledge' and 'some knowledge' conditions. The 'zero knowledge' participants had no knowledge of the L2, whereas the 'some knowledge' group was provided with some L2 knowledge. This second group was taught six Korean words, prior to reading a text. Learner generated questions after reading a text were the basis of

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the procedure. The researcher asked the participants to ask questions about the text after reading it. Learners under the 'zero knowledge' condition asked more questions pertaining to the formal properties of the L2, such as verb endings and the meaning of some frequently repeated lexical items. The noticing patterns of the 'some knowledge' group were different. This group asked more meaning oriented questions. Therefore, Park (20103) has concluded that the "initial input noticing tendency of complete novice learners appears to be form oriented" (Park 2013: 94).

Through production of the TL learners may consciously recognize some of their linguistic problems. This may in turn trigger cognitive processes that may generate new linguistic knowledge or may consolidate the learners existing knowledge (Swain 1998). Noticing the gap or the hole in learner interlanguage may allow the learner to notice the difference between what he or she wants to produce and what he or she is able to produce. To restate, for IE researchers the noticing of the enhanced form will lead to acquisition following Schmidt's (1990, 2001) Noticing Hypothesis. This is also the postulation for the present investigation. Textual enhancement is a technique that is that is established on the phenomenon of noticing (VanPatten & Leeser 2006). In particular, the goal of TE is to induce the noticing of a target linguistic form or forms during the reading of a text. Consequently, learners may work on a task where the frequency of the target L2 form may make it more salient via input enhancement and therefore more noticeable to the learner. In SLA research the role of attention has led to a large amount of research on what is widely referred to as "focus on form" (Doughty & Williams 1998). Selective attention is therefore a key cognitive correlate in learner focus on form. The intended outcome of a focus on form is what Schmidt (1990) refers to as noticing.

2.3 Focus on Form

A common question among linguists has been whether or not an inclusion of grammar in second language instruction leads to acquisition. The question of whether a focus on grammatical structures should be included or not in the L2 classroom or not has led some to theorize that some sort of focus on form is beneficial for L2 classrooms. A key question that has been considered in a majority of the focus on form research is how to best guide the L2 learner's attention to a linguistic mismatch between his or her interlanguage and the target language.

Focus on form was initially proposed by Long (1991), and later reconceptualized by Doughty and Williams (1998). According to Long (1991), "*Focus on form overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning, or communication*" (184). Differing from focus on form, focus on forms are synthetic approaches to language learning that entail the isolation or extraction of linguistic features from context or from communicative activity (Doughty & Williams 1998a; Long & Robinson 1998). In this way, the second language (L2) is dissected and sequenced so that it is presented to learners in a linear fashion.

The belief of focus on form according to Long, is that the focus on the form should occur at cognitively the opportune times. This would be during a window of opportunity when the learner can have their attention drawn to mismatches between input and output. It is highly recommended that the pedagogical intervention remains unobtrusive so that it does not interrupt language use. In order for this to occur the primary focus must be on meaning. The focus on form must arrive incidentally as learner's attention must only be

drawn to forms briefly (Long 1991; Doughty 2001; Doughty and Williams 1998b; Long & Robinson 1998).

Therefore, the definition of focus on form requires that the learner must engage in both meaning and form. Here the learner is not engaged in a lesson developed around specific grammar points, but rather the focus is more on the formal elements of language. "*Whereas the content of lessons with a focus on forms is the forms themselves, a syllabus with a focus on form teaches something else--biology, mathematics, workshop practice, automobile repair, the geography of a country where the foreign languages spoken, the culture of its speakers, and so on--overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning, or communication*" (Long 1991:45-46).

Focus on form arrived in response to a tension "*... between the desirability of communicative use of the FL in the classroom, on the one hand, and the felt need for linguistic focus in language learning, on the other*" (Long 1991: 41). It has an advantage over the traditional practices of presenting forms in isolation since cognitive processing support is provided by the overriding focus on meaning or communication. This occurs as the learner's attention is drawn to a linguistic feature due to communicative demand. An isolation of linguistic features from context occurs in more traditional practices.

Focus on form is considered a "*design feature in language teaching methodology*" (Long 1991:48). Therefore, it should not be referred to as a method. In fact, Long believes that instructors should avoid the methods trap for a variety of reasons. Firstly, various methods overlap and therefore utilize many of the same classroom practices. Also, research that has set out to compare varying FL methods has not seemed to find

advantage for one over another, and if they do, it is usually only a brief advantage (40).

In this way Long makes it clear that methods are unnecessary for successful foreign

language instruction. As he states, "*it is clear that 'method' is an unverifiable and*

irrelevant construct when attempting to improve FL instruction" (40). Therefore, instead

of focusing on a particular method, Long advocates for FL instructors to "…*think in*

terms of psycholinguistically relevant design features of learning environments,

preferably features which capture important characteristics of a wide range of syllabus

types, methods, materials, tasks, and tests" (1991:41).

Researchers have suggested that unlike first language (L1) acquisition, classroom

second language acquisition (SLA) is unpredictably successful. For this reason, studies

have claimed that an attention to form during interlanguage (IL) development could have

a positive influence for learners to approach more target-like levels. For example, an

instructor could briefly interrupt a lesson once student errors are noticed. The instructor

then has a choice of how to focus the form, whether it is through a recast, a request for

clarification or some other way to draw students' attention to the linguistic form, such as

input enhancement. Long (1991), and Long and Robinson (1998) favor incidental focus

on form as such technique requires an "*occasional shift of attention to linguistic code*

features –by the teacher and/or one or more students-- triggered by perceived problems

with comprehension or production" (Long & Robinson 1998:23). Doughty and Williams

(1998b) favor unobtrusive techniques such as recasts and input enhancement.

Long (1991) distinguishes between focus on form and focus on forms. The basic

debate between focus on form and focus on forms has to do with the degree to which

language instructors direct learners attention to understanding grammar, while at the

same time retaining a focus on the need to communicate. Some prefer to limit the attention to grammar through the use of corrective feedback. Such instructors would advocate minimal instruction and minimal interruption during communicative activities. Others prefer a separate attention to grammar, followed by some sort of communicative activity. The former being advocates of what Long (1991) refers to as focus on form, whereas the latter would be considered advocates of a focus on forms.

The theoretical underpinnings of these two approaches differ. On one hand, a focus on form approach appears to link first and second language acquisition as processes that are similar in the sense that both of these processes have to do with exposure to comprehensible input through some sort of natural interaction. On the other hand, focus on forms correlates learning a second language with learning a skill. In this way, general cognitive processes are used.

Long (1991) emphasizes that meaningful activity should be the primary center of attention of focus on form instruction. Additionally, it is quite important during focus on form instruction that the learner is aware of both meaning and use when attention is drawn to the linguistic form. Many researchers make a clear distinction between whether or not focus on form or focus on forms is more effective for L2 instruction. For example, VanPatten and Cadierno (1993) were able to maintain that processing instruction is superior to traditional instruction. Processing instruction should be referred to as a type of focus on form instruction as it entails the incorporation of a focus on both meaning and forms, whereas traditional instruction will be more similar if not equal to focus on forms because it is concerned with target forms and the drilling of such target forms.

To continue, focus on form is a *learner-centered* approach, since one of its goals is to respond to learners needs instinctively and appropriately when necessary. Whereas focus on forms is *teacher-centered* as the teacher teaches preselected forms to his or her students. According to Doughty and Williams (1998a), "*focus on form entails a focus on formal elements of language; focus on forms is limited to such a focus; and focus on meaning excludes it*" (Doughty & Williams (1998a:4). Essentially, a focus on form requires meaning and use to be evident to the learner when his or her attention is drawn to trying to convey meaning.

To restate, focus on forms refers to earlier and synthetic approaches to second language instruction, where syllabi consisted of deductively or inductively presented information about the L2 (Long 1991,2001). These approaches examined the L2 in terms of such things as grammar rules, structures, intonation and stress patterns (Long & Robinson 1998). Instructional methods that have a focus on forms would be those such as Grammar Translation, Silent Way, Noisy Method, Total Physical Response, and the Audiolingual Method. Essentially, a focus on forms is limited to a focus on the formal elements of language such as agreement features, verb endings, greetings, etc. (Doughty & Williams 1998a). "*The practice of isolating linguistic items, teaching and testing them one at a time, was originally motivated by advances in behavioral psychology and structural linguistics*" (Long 1991:44). This type of instruction would be deemed a focus on forms.

Long (1991), and Long and Robinson (1998) favor focus on form as they maintain that research on focus on forms shows that synthetic classroom practices, such as those used in a synthetic approach (*i.e. a focus on forms approach*), ignore language learning

processes and assume behaviorist models, which are largely discredited today. "…people of all ages learn languages best, inside or outside the classroom, not by treating the languages as an object of study, but by experiencing them as a medium of communication" (Long & Robinson 1998:18).

Focus on form instruction on the other hand, falls under the umbrella of communicative language teaching principles because authentic and meaningful communication are important focuses of the approach. This type of L2 instruction maintains that an occasional and implicit revision of problematic L2 grammatical forms is necessary.

Rather than using a synthetic approach, focus on form has an analytic dimension. It is motivated by the Interaction Hypothesis (Long 1981, 1983, 1996 in Long & Robinson 1998). The Interaction Hypothesis maintains that the interaction between L2 learners and more proficient speakers is a crucial location for SLA (Long & Robinson 1998). It is through negotiation in the target language that learners are able to notice gaps or holes in their interlanguage. The hypothesis concludes that through interaction, second language learners are able to produce target language output, which negotiates meaning and searches for lacking knowledge. Negotiation for meaning can also elicit negative feedback such as recasts, causing learners to focus on form and inducing noticing. Consequently, this interaction allows the learner to internalize chunks of language for later use.

To restate, the main difference between both approaches is that a focus on form refers to the incidental noticing of mismatches between untargetlike L2 learner interlanguage utterances and more targetlike (*i.e. correct*) ways to convey the meaning of the L2

utterance. A focus on forms, on the other hand, refers to more traditional types of

grammar instruction, where language forms are taught more explicitly, in isolation, and

in a predetermined manner. As Long emphasizes, SLA research finding would seem to

support two conclusions, "(1) Instruction built around a focus on forms is

counterproductive. (2) Instruction which encourages a systematic, non-interfering focus

on form produces a faster rate of learning and (probably) higher level of ultimate SL

attainment than instruction with no focus on form" (Long 1991: 48).

Following Ellis (2001), incidental focus on form can be pre-emptive. During pre-

emptive focus on form, the teacher or the learner pauses from communicative activity in

order to give attention to a form that is perceived to be problematic. This occurs,

although no production error the use of the form or difficulty with message

comprehension has occurred. An example of this would be when an instructor briefly

checks to ensure that his or her students understand meaning of a word and then gives the

definition. Input enhancement could also be an example of a pre-emptive focus on from.

In conclusion, focus on form is a design feature that requires the learner to engage in

both meaning and form. Long's approach to focus on form is motivated by the

Interaction Hypothesis, which maintains that learners need to both interact and negotiate

in the target language to notice gaps or holes in their interlanguage. The original

suggestions proposed by (Long 1991, 2001) state that focus on form came about from the

desire to have a communicative use of FL in the classroom and the need to have a

linguistic focus during language learning. This was because there is evidence that

suggests that developmental sequences are resistant to instruction as found in

Pienemann's (1984) Learnability Hypothesis, and Schmidt's Noticing Hypothesis, both

of which suggest that instruction may only be effective if learners are psycholinguistically ready to acquire a structure

2.4 Pienemann's Teachability Hypothesis

It is important to note that second language learners may demonstrate difficulties simply because they are not developmentally ready to learn a particular TL form following Pienemann's (1987, 1989, 1998) *Teachability Hypothesis.* This hypothesis maintains that learners cannot acquire structures that are beyond their current state of development.

To restate, Pienemann's (1987, 1989, 1998) hypothesis states that learners must be developmentally ready to learn formal features of a language. In this way, premature instruction could in essence have a detrimental effect on learning and acquisition. Pienemann (1989) in an experiment using native speakers of Italian learning German, showed that instruction one stage beyond the L2 learners current proficiency level led to successful acquisition of the target verb form (*German verb-second phenomenon*) for learners who were developmentally ready. Yet, learners in the experiment who were at earlier stages of development did not acquire the German verb-second. Thus, according to Pienemann (1989), instruction can accelerate SLA on condition that learners are instructed one stage beyond their current proficiency level.

Park (2004) found that increasing the perceptual salience of a target linguistic feature does not automatically lead to noticing of a form. This author maintains that noticing can be largely dependent on internal, cognitive factors such as learner readiness. Park's (2004) study investigated which of two groups, an input enhancement group and a

comparison group, would be more prone to notice the target linguistic forms. The researcher also investigated what induces noticing on the part of the comparison group, i.e. internally-generated noticing. The results revealed that learners in the comparison group seemed to tune into the target form, even though they were not exposed to enhanced input. According to Park (2004), this may provide evidence that the learners were developmentally ready for the target form. Although in this particular study the results did not reveal a huge difference between the IE group and the comparison group's noticing of the target linguistic form, it was maintained that noticing may be driven by developmental readiness. Park (2004) states, "it appears that above all else, selecting a linguistic form which echoes the learner's developmental readiness seems to play a crucial role in achieving successful focus on form" (18). In this way, a study such as the one presented in this dissertation, which combines the possibility of developmental readiness with an IE intervention, could prove to be quite successful provided the learners are psycholinguistically ready.

Similarly, Williams and Evans (1998) maintain that learner readiness is a crucial factor for a focus on form intervention to work successfully. These authors state that individuals who had the most success with focus on form were individuals who already had partial mastery of the linguistic form. This mastery was proved by participants who had at least a moderate score on the pretest given by them. It should be noted that Park (2004) maintains that gauging learner readiness is not a simple or easy task, however doing so by means of comprehension questions is possible (see Han, D'Angelo, Magette & Combs 2002 cited in Park 2004).

2.5 Input

Input in SLA is defined by VanPatten as "the language that a learner hears (or reads) that has some kind of communicative intent" (VanPatten 2003:25). Communicative intent refers to the understanding on the part of the language learner of the message in the language that the learner attends to (VanPatten 2003:26). Therefore, input is related to comprehension, since a learner receives input as he or she is actively trying to comprehend something in the L2 (VanPatten 1996, 2003). Input in SLA, however, does not refer to metalinguistic explanations about the L2 (VanPatten 1996). "Only instances of the L2 that are used to communicate information or to seek information can be considered as input for acquisition" (VanPatten 2003:26).

Through the years, SLA researchers from varying theoretical frameworks have agreed that meaning bearing input is fundamental to second language acquisition (Krashen 1985; Larsen-Freeman & Long 1991; Ellis 1994; Schwartz 1993; VanPatten 1996). On one hand, Ellis maintains "It is self-evident that L2 acquisition can only take place when the learner has access to input in the L2" (26). While Schwartz (1993) claims, "For the knowledge system of a particular language to grow, the acquirer must have exposure to instances or exemplars of that particular language. Without such exposure language development will not take place" (148). Therefore, these researchers are concluding that learners must be exposed to samples of language. According to VanPatten (1996), learners cannot build a mental representation of the grammar that must eventually trigger their language use without meaning-bearing input (5).

VanPatten and Leeser (2006) have demonstrated that input has a fundamental role in classroom praxis. It is important to note that these researchers do not deny that output

and interaction are also important components to learning a second language, as well as communicative competence and communicative language ability. They maintain that "*each and every human possesses some kind of underlying competence that is specifically linguistic in nature and is implicit*" (VanPatten & Lesser 2006). Differing from a skill, this competence is implicit as it is outside of human awareness. They state that this implicit mental representation consists of: a *lexicon, morphological form, syntax, semantics, phonological form, pragmatics* and *discourse* (VanPatten & Leeser 2006: 57).

Input can be considered the initial component for the development of any underlying grammatical competence (VanPatten & Leeser 2006). Input here refers to "any sample of language that is used to communicate a message or language that is somehow processed by the learner for its meaning" (VanPatten & Leeser 2006:58). The latter definition of input will be used for the present investigation.

Based on the abovementioned definition of input, written texts can qualify as input. They contain language that a L2 learner reads for meaning. The enhancements allow the learner to notice the target language form and to process it in some way. In this way, textual enhancements engage learners in meaning and help them to become responsible for the content of the text either via comprehension questions, a classroom discussion, etc.

Krashen's (1985) Input Hypothesis explains how this particular theorist believes that a learner acquires a second language. The Input Hypothesis claims that humans acquire language only by understanding messages (Krashen 1985:2). Krashen's Input Hypothesis proposes that language is acquired through "comprehensible input". According to Krashen (1985), the acquisition of grammar rules occurs when the L2

learner receives input that is just beyond their present linguistic capability. Krashen

refers the learner's current state of knowledge as *i* and to this next stage as *i* + 1. He

therefore maintains that it is necessary for the learner to have plenty of comprehensible

input, which can be defined as language that is appropriate to the L2 learner's capability

(Krashen 1985; Richards & Rodgers 2001). For Krashen, provided that the student

receives the correct amount of comprehensible input, the language teacher does not have

to teach following any natural order of grammar structures.

Although input is still regarded as quite significant and important in SLA,

subsequent research has proven that SLA is more complex than what Krashen has

proposed with his Input Hypothesis, thus putting into question his concept and more often

dismissing his theory. Gass and Selinker (2008) maintain that the hypothesis does not

clarify how to define levels of knowledge. So, how does one know that the input that the

learner is receiving is just beyond his or her current state of knowledge? They also state

that Krashen emphasizes that the student must receive the correct amount or sufficient

quantity of the appropriate input, yet he does not state what constitutes a sufficient

quantity. His concept is widely dismissed today.

2.5.1 Input Processing

Input processing is a model relating to what happens during comprehension that

may subsequently affect or interact with other processes (VanPatten 2006). In essence,

input processing attempts to explain how learners get linguistic data while reading or

listening to a second language (VanPatten 2003: 29). Differing from Krashen, VanPatten

maintains that input alone is not the only thing that is necessary for SLA. VanPatten (1996) claims that language learners filter the input they receive. In other words, according to input processing theory, learners only take in limited elements from the input that they receive (VanPatten 1996, 2003; Lee & Benati 2009). VanPatten (1996) states, "Learners filter the input, processing it so that only a reduced subset of the input - called intake- is made available for accommodation by the developing system" (13). For example, in the utterance, "They don't have a bird", the learner may only take in "They no have bird". Input processing therefore refers to those processes that learners use to process input and convert input into intake (VanPatten 1996, 2004; Lee & Benati 2009). The processes involved in the incorporation of intake into the developing system are referred to as accommodation and restructuring (VanPatten 1996, 2004).

"Although comprehension cannot guarantee acquisition, acquisition cannot happen if comprehension does not occur: *a good deal of acquisition depends upon learners making form-meaning connections*" (VanPatten 2007a:115). Therefore, the process of creating form-meaning connections from the linguistic data in the input for the purpose of constructing a L2 linguistic system is an important aspect of this model of language acquisition (VanPatten 1996, 2003). As defined by VanPatten (1996) a form-meaning connection, also called a form-meaning mapping, "refers to the connection that the learner's internal processors make between referential real-world meanings and how that meaning is encoded linguistically" (10). Input processing is primarily concerned with the following three things: *finding out the conditions under which learners make initial form-meaning connections, why only some and not all form-meaning connections are made* and *the internal strategies that learners use to comprehend sentences and how*

these strategies may affect acquisition (VanPatten 2007a). The two sub-processes of

input processing in general are form-meaning connections and parsing (VanPatten 2003).

2.5.2 Form-Meaning Connections

In order to best understand the definition of a form-meaning connection in SLA,

both form and meaning must first be defined. A form is defined as "a surface feature of a

language or a surface manifestation of an underlying representation" (VanPatten et al.

2004:1). Surface features are such things as: lexemes, verbal inflections, nominal

inflections, adjectival inflections, functors (complementizers, classifiers, determiners,

particles) (VanPatten et al. 2004: 1-2).

Meaning as reviewed by VanPatten et al. (2004) is concrete, displaced or abstract

referential value. This refers to number, temporal reference, agency, aspect and lexical

reference. During their creation of an L2 linguistic system, second language learners

encounter many form-meaning connections (VanPatten et al. 2004). Making a form-

meaning connection means understanding that for example, the *–aron* morphological

ending in Spanish refers to an event in the past and that *perro* in Spanish translates to *dog*

in English. Specifically, a form-meaning connection as defined by VanPatten (2003), is

"the mapping that a learner makes between a formal feature of language and its real-

world referent, e.g., that –ed means past" (116). The preceding definition of form-

meaning connections will be used for the present research.

According to VanPatten et al. (2004) form-meaning connections present three

distinct possibilities: 1) one form could encode one meaning; 2) one form could encode

multiple meanings either in different contexts or the same context; 3) multiple forms

could encode the same meaning. For the first example, he states that *–mos* only means first person plural in Spanish. '*Se*' in Spanish however is an example of one form that could encode multiple meanings as it refers either to reflexivity or unspecified subjects, and it can also refer to datives (3). And *–aba* and *–ía* endings in Spanish both refer to the imperfect past tense.

The present investigation considers nominal inflections (*such as clitic pronouns le/lo, etc*.) and determines how it is important to make form-meaning connections in order for L2 learners to know that a clitic pronoun relates to a noun. In order for this to occur, the learner must register a form, for example the accusative clitic, '*lo*', and next a meaning, for example '*it*', and then understand that the form encodes the meaning in some way.

VanPatten et al. (2004) also maintain that learners must acquire a range of aspects of a form-meaning connection which may not allow them to make form-meaning connections simultaneously. For instance, a learner may only connect a part of a new form to its meaning. In this case they may only remember the pronunciation, or part of the spelling of a word. Or, if the form has multiple meanings the learner may only connect the form with the most salient meaning and ignore other components of the meaning. VanPatten et al. (2004) refer to the above examples as *completeness* of form-meaning connections. They also consider *robustness* of form-meaning connections. In this case, an L2 leaner may make a form-meaning connection but it may not stay with the learner if he or she does not have subsequent input. They state, "It is more likely that learners –especially in the early and intermediate stages, if not longer- tend to make incomplete initial mappings and less than robust connections" (VanPatten et al. 2004:7).

For this reason, the repeated exposure to the direct and indirect object pronouns that this dissertation project provides may prove useful in helping the learners to create form-meaning connections. Additionally, the advanced level learners may prove to have more robust connections, due to a reconfiguration of their initial incomplete mappings when first introduced to said pronouns.

Finally, these researchers consider the *target-like nature* of form-meaning connections by stating that a form-meaning connection may not be target-like or even reflect target language categories. Many sentences in Spanish use dative clitic pronouns where a different construction would be used in English (VanPatten et al. 2004). For example, '*he bought her some flowers*' would be the same as '*he bought some flowers for her*'. In the first sentence, '*her*' is an indirect object. The Spanish equivalent would be, 'él le compró unas flores'.

2.5.3 Parsing

Parsing is "the projection of a syntactic structure onto a sentence as one is engaged in comprehension" VanPatten 2003: 118). VanPatten (2003) maintains that one of the fundamental aspects of parsing is figuring out who did what to whom (35). It allows for gaps (or empty categories) to be filled in with sentences such as: *Tom ate an apple and Gail an orange*. The parser in the preceding sentence realizes that Gail *ate* an orange.

VanPatten (1984) has demonstrated that L2 learners tend to interpret all sentences as subject-verb-object. This leads them to misinterpret some sentences in Spanish, such as: "*Al gato lo caza el perro*" as "*the cat chases the dog*" (VanPatten 2003: 36). He

maintains his First-Noun Strategy: *L2 Learners tend to interpret the first noun or noun phrase in an utterance as the subject of the sentence* (VanPatten 2003:36). A consequence of this First-Noun strategy is a delayed acquisition of pronouns in languages like Spanish. For example, sometimes in Spanish, the first noun is not a noun at all, but rather a pronoun: *Nos faltan varios libros (We are missing several books).* If translated literally, the sentence would mean: *several books are lacking to us*, because the '*nos*' does not mean '*we*', but '*to us'* (VanPatten 2003:37). This could result in delayed acquisition of object pronouns in Spanish.

2.6 Input Enhancement

Second language learners ignore a large amount of the L2 input that they receive (Sharwood Smith 1993). This means that in any given utterance, the learner may only pay attention to about one-third of what was said. For this reason, Sharwood Smith (1993) sought to find out why L2 learners ignore a large amount of evidence they receive in their L2 input and use an L2 system that is "in contradiction with the target norms as manifest in the input" (168). According to Sharwood Smith there are three major reasons why this occurs. First, L2 learners lack general sensitivity to grammatical features of the target language (TL). Second, they are exposed to inherently non-salient features of the TL which they may not observe. And finally, the L1 of the learner may hinder his or her ability to notice certain linguistic features in the input (Sharwood Smith 1991, 1991; Han et al. 2008; VanPatten 1996).

As a solution to the abovementioned problems of L2 students, Sharwood Smith (1991, 1993) proposed Input Enhancement. In other words, Sharwood Smith (1991, 1993) realized that L2 learners need linguistic features to be salient in order for them to be noticed. Otherwise, a lack of noticing ability may cause L2 learners to not benefit at all from the input they receive, following Schmidt's (1990) Noticing Hypothesis. According to Schmidt's 'Noticing Hypothesis' (Schmidt 1990, 2001; Schmidt & Frota 1986) formal linguistic features in the input must be first noticed by the learner in order for such features to become candidates for intake and subsequent learning. How then, can we be sure that L2 learners notice the input they receive? To answer this question, Sharwood Smith (1991, 1993) proposed that input salience can occur. More specifically, he suggested that input salience or enhanced input be defined as the manipulation of the input through augmentations such as TE (i.e. highlighting, bolding) for visual input and phonological manipulations (i.e. changes in intonation, oral repetition) for aural input. The present research will use Sharwood Smith's (1991) definition of input enhancement.

Lee and Huang (2008) in a meta-analytic review of input enhancement research maintain that the area is "still a young area of research" and that "only a small number of researchers have been engaged in investigating the use of IE as a pedagogic choice (*a total of 16*)" (313). Furthermore, research on input enhancement has formulated mixed results thus creating a need for more research in the area (Han et al. 2008; Lee & Huang 2008; Leow 2009).

The majority of research on input enhancement has been on textual enhancement. Input enhancement via textual manipulations is an unobtrusive and typically implicit way of drawing a learner's attention to the target language form in the input. Although it

seems unrealistic to expect language learners to learn what is presented to them instantaneously, most of the previous research on input enhancement has involved short-term treatments with limited exposure to the input (Alanen 1995; Jourdenais et al. 1995; Leow 1997; Leow et al. 2003; Overstreet 1998; Shook 1994; Wong 2003). Also, some of the IE treatments only lasted fifteen minutes (Alanen 1995). As Han et al. (2008) note, these one-time treatments should measure the effects of noticing the target language feature via input enhancement, and not the acquisition of a form that a learner has only been exposed to during one treatment.

Another focal point of input enhancement studies is whether or not the ability to comprehend a text is affected if learner attention is directed toward a specific feature of a foreign language (Han et al. 2008; Lee & Huang 2008; Leow 2009). In this way, numerous input enhancement studies have contained certain target features of a foreign language enhanced in a reading text. Yet, comprehension has been overlooked in these types of studies as it has been considered a difficult construct to measure and accurately describe. Han et al. (2008) in their meta-analysis of input enhancement studies, note that, "most of the studies have overlooked the need to *measure* comprehension" (603).

Indeed, some input enhancement studies have addressed learners' degree of comprehension while learning (Izumi 2002; Lee 2007; Leow 1997, 2001, Leow et al. 2003; Overstreet 1998; Shook 1994; White 1998; Wong 2003). However, the focus thus far has been on *global* comprehension of the texts, or comprehension of an entire text. When comprehension is mentioned, it is not treated as a dependent variable (Leow et al. 2003; Overstreet 1998, among others). Therefore, these prior studies only address global comprehension, do not actually measure comprehension rigorously, and fail to consider

local comprehension, or comprehension of specific targeted areas of the text. Also, many

of these studies used additional means to supplement the effect of textual enhancement

rather than focusing on whether or not the enhancements worked well alone in assisting

learner comprehension. Shook (1994) investigated IE of the Spanish present perfect

tense and relative pronouns by Spanish L2 learners. Three groups were investigated, a

control group without any textual enhancement, a group that received textual

enhancement only, and one group that was told to pay attention to the enhanced forms

and to create a grammatical rule for them. Izumi (2002) investigated whether output

promoted noticing of target language features versus input enhancement of the same TL

features by adult English as a second language learners. In the study, Izumi told the

learners to "attend to the highlighted form" (543). While Sang-Ki Lee's (2007)

investigation of the effects of textual enhancement and topic familiarity of the learning of

the passive form by Korean L1, English L2 learners enhanced forms that were already

explicitly taught to the learners, as well as told the participants to pay careful attention to

the enhanced forms. In White's (1998) study native French speaking learners studying

English were exposed to many instances of the third person singular possessive

determiners via input flood (extensive reading and listening).

In addition, most of these studies merely investigated the effects of textual

enhancement on comprehension versus other variables by using comparison groups rather

than true control groups. For example, Leow (1997) focused on textual enhancement and

text length and how they affected comprehension and intake of target linguistic features.

Both Leow (2001) and Leow et al. (2003) investigated noticing and comprehension.

Overstreet (1998) examined content familiarity as it pertained to comprehension of

enhanced features of a language, while Wong (2003) addressed textual enhancements and simplified input on comprehension.

Learner-specific variables, such as, prior knowledge of the target linguistic form being enhanced, may also impact the potential learning outcomes promoted by input enhancement. Yet, of the studies examining the effects of textual input enhancement, only one has explicitly tested the effects of prior knowledge on input enhancement, Shook's (1994) investigation. The majority of the studies introduce linguistic forms to which the learners have no prior formal exposure. In this way, the researchers are able to examine if the input enhancement is what helped the learners to acquire the language form, and not any pre-existing knowledge. For example, Leow (1997, 2001) Leow et al., (2003) and Wong (2003) did not witness any meaningful effects of IE for target language structures that were new or relatively new to the L2 learners. However, the abovementioned studies also did not focus on *local* comprehension of the texts.

In Shook's (1994) investigation, the posttest questionnaire was the only indication of whether or not the participants had any recollection of learning the linguistic form prior to the experiment, yet, instructional level was used to distinguish students' language experience. Shook (1994) found that IE may induce noticing (following Schmidt 1990) but not understanding in learners with little prior knowledge. His second year students outperformed first year students on the production of one language form, and the reverse was true for the other form. Yet, Shook could not present an explanation for these results.

On the other hand, Lee (2007) investigated the effects of topic familiarity and TE, using a grammatical target that the participants had not yet mastered as revealed on their

pre-tests, yet had encountered during years of instruction, the English passive voice. Lee (2007) found that TE aided native Korean speaking English L2 learners to attend to formal aspects of this target form, demonstrating that IE may incite understanding as well as noticing in learners with prior knowledge.

The abovementioned studies focused globally on the content of the entire text, rather than on the local interpretation of the targeted linguistic forms in the input. In lessons that have the goal of recalling global content, comprehension may be jeopardized as students must pay attention to linguistic elements. In essence, the reported effects of input enhancement on learners' meaning processing were not statistically significant in most of the studies. This could be due to a variety of the abovementioned factors, including: *the differences in the amount of exposure provided to the language learners, the comprehension exercises were only given during the posttest examinations, a focus on global, rather than local comprehension,* and *the type of interaction present during the exposure.*

In sum, aside from Shook (1994), these investigations failed to consider learner-specific variables in their research design. Those who claimed to have a focus on comprehension only considered global, not local, comprehension. A majority of the research in the field also used comparison groups rather than a control group design. Most of the studies were short-term in duration. And finally, instead of focusing solely on whether or not the enhancements worked well in assisting learner comprehension, nearly all of these studies used additional means to supplement the effect of textual enhancement.

2.7 Computer Assisted Language Learning

With the advent of more technological choices in educational settings, the assistance of computer applications for language learning should now become an important consideration for SLA researchers. Levy (1997) defines computer-assisted language learning (CALL) as "the search for and study of applications on the computer in language teaching and learning" (1). Currently, the use of CALL is becoming more widespread among second language teachers, making expertise in CALL almost a requirement for language instruction (Chapelle & Hegelheimer 2004; Fotos & Browne 2004).

In as early as the decade of the 1960's CALL programs for language learners have been appearing (Fotos & Browne 2004). Early on, the use of CALL was limited primarily to drill-and-practice programs as a supplement to classroom instruction (Fotos & Browne 2004). In the 1970's, more communicative type of approaches considering meaning-focused language to language learning challenged former behaviorist approaches (Richards & Rodgers 2001). During the 1980's CALL began to grow, with the establishment of key professional organizations such as the Computer Assisted Language Instruction Consortium (CALICO) in the U.S., and the European Association for Computer Assisted Language Learning (EuroCall) (Fotos & Browne 2004).

In this same decade language teachers also began to create language-learning software (Levy 1997). Yet, the computer was still considered a teaching tool (Levy 1997), and it was questionable if the techniques used in second language classes in the 1980's embodied communicative approaches (Fotos & Browne 2004).

The computer became a motivational device in the 1990's, following a cognitive model of language learning (Fotos & Browne 2004; Kern & Warschauer 2000). In this way, the computer was viewed as a tool allowing students to become active learners (Levy 1997). Presently, CALL is considered to be integrative because students can do a variety of tasks within the same multimedia computer program (Fotos & Browne 2004). It is not simply a tool for language learning anymore. One feature of integrative CALL is the ability for web based programs to be created that allow for flexibility on the part of the learner, instead of previous designs utilizing language learning software and CD-ROMS (Fotos & Browne 2004; Schcolnik 2002; Warschauer 1999). Therefore, the current language learner now has the option to be involved in authentic, web-based communication, as well as engross themselves into authentic reading tasks while simultaneously practicing target language skills. In this way more research is needed that will consider how these newer computer domains will assist in SLA. Currently, there has been a lot of CALL research related to computer mediated communication, or CMC. CMC is the use of two or more networked computers for communication, such as instant messages, emails, chat rooms or text messaging. Yet, the question of how the enhancement of authentic reading tasks on the computer can assist language learners to acquire a target language form has been seldom considered.

The development of language tutors has been another area of research examined in CALL quite extensively (Amaral 2011; Heift & Shulze 2003; Nagata 1993, 2007). CALL tutors are computer programs that evaluate learner responses and give feedback to the learner as to the correctness or incorrectness of his or her response (Amaral 2011). Nagata (1993) investigated the use of intelligent computer feedback for second language

instruction. In Nagata (1996) the researcher investigated the use of ICALL or an

intelligent language tutoring system (also referred to as ITLS) versus workbook

instruction. However, her research examined the results of two types of feedback:

workbook answer sheets versus feedback from a CALL program, "Nihongo-CALI"

(Nagata 1996). Therefore, much of the CALL research that a focus on SLA has

predominately investigated types of feedback or error diagnosis in terms of intelligent

computer assisted language learning (ICALL). Although such research is quite important

to the field, there is also a need for a link between SLA research and CALL research at

the level of student awareness and comprehension. If we have an idea of how best to

respond and diagnose learner errors, the next step is to create programs designed to stop

learner errors before they occur. These types of computer programs would benefit from

research that analyzes the best approaches to giving learners input in the target language

that would lead to successful comprehension of specific target language forms.

At present, while many current language teaching classrooms opt for the use of

web based publications instead of paper based workbooks for students to use as extra

practice in the target language; few studies have combined both IE and CALL. Nagata's

(1998a, 1998b) research on computer-assisted production (output) practice and

comprehension (input) practice in SLA compared two computer programs in order to

ascertain which would provide better benefits for developing grammar skills. The results

of each study maintained that the output group developed more grammatical skills than

the input focused group. However, in the 1998b study the output-focused group

performed slightly better than the input-focused group and equally well on

comprehension tasks (Nagata 1998b). Yet, this study included four lessons of explicit

grammar explanations as well as notes containing explicit explanations and examples of the Japanese honorific system for both the input and output groups. Clearly, the metalinguistic explanations may have played a significant role in the results of the study. Although some research projects have investigated the use of CALL tutors (Heift & Shulze 2003), to date no research is available on the impact of an implicit technique such as IE, on local reading comprehension in a CALL setting.

According to Amaral (2011), "the development of new technologies does not seem to be in the agenda of many CALL experts, and interdisciplinary research projects with computer scientists, linguists, and foreign language teachers are rare" (5). In order to create a CALL tool that helps learners to acquire specific target language forms, interdisciplinary research projects are imperative. A multidisciplinary research project concerning the extent to which the enhancement of learner input received in a CALL setting leads to the acquisition of target second language forms could pave the way for more research concerning the potential benefits of the use of specific technological tools combined with language learning. It is essentially these types of research projects that are necessary to keep up with the current demand for the use of technology in all sectors of education.

2.7.1 Technology Based Language Enhancement

In our new technologically advanced world, we should now also consider the interaction between a student and a computer. Unlike CMC, this type of interaction is not human online communication mediated by two or more computers, but rather a technological interaction between the learner and the technology. For example, a computer is a technological tool used to provide authentic, yet manipulated target language input while the student s interacts with this input in order to acquire a target language feature. This technology based language enhancement could be the means by which a student gains further proficiency in the target language. Technology based language enhancement is not limited to the use of computers. It can be any form of input enhancement via the use of technology such as: *enhanced text messages, language enhanced games used in gaming systems, the enhancement of target language features in movies or music, or TL features enhanced in e-reader devices*.

This is not to say that student to student interaction as proposed in communicative language teaching and the interaction hypothesis should be dismissed. It is in fact a crucial necessity for language learning. Amaral (2011), when discussing ICALL or intelligent tutors, maintains that instructors find human to human interaction and role play essential components to fulfill a communicative purpose in the classroom. The instructors interviewed maintained that these activities allow for such things as negotiation of meaning and observing body language.

However, the use of technology as a supplemental tool to provide a visual enhancement of select target language features can be quite beneficial for SLA. Following Schmidt's Noticing Hypothesis this type of enhancement should induce

noticing of target language features. The use of enhanced technological TL input as a tool for language learning should also appeal to most students positively. Given that technology is being used more widely daily, the use of enhanced technological TL input should decrease stress levels by providing a familiar environment to students. Many students find enjoyment in using technological gadgets, so interaction with a computer or another device during class should be appealing to them. Also, with the wide array of technological devices available to learners that could be enhanced for target language learning students would be able to tap into their individual intelligences, following Gardner's Multiple Intelligences theory.

Multiple Intelligences theory (Gardner 1999) highlights the type of stimulus necessary for a student to learn a L2 most effectively. The theory states that instead of simply having intelligence in one area; each individual has at least eight distinct intelligences, which can be developed throughout a person's lifetime (Haley 2004; Gardner 1999). The eight multiple intelligences include: verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, naturalist, interpersonal-social and intrapersonal-introspective (Gardner 1999). Therefore, a student who relies upon musical-rhythmic intelligence would learn a L2 best if there is an incorporation of music into the syllabus. On the other hand, a verbal-linguistic student would do well with reading a story in the target language, while an interpersonal student would learn best via the interaction that he or she has with a classmate in the TL. The use of enhanced technology as a tool in the L2 classroom could certainly ensure that all students' cognitive needs are met by tapping into their various cognitive potentials.

2.8 Summary

Chapter two provided a variety of theoretical frameworks that incorporate both input enhancement and CALL. From the investigations pertaining to IE, we can conclude that there is still a strong need for research in this area. To begin with, the studies are quite different from one another, making them difficult to correlate. There is not clear conclusion amongst the IE studies if IE works and how it is best presented for second language acquisition. Secondly, no one has combined IE and comprehension activities that occur during the treatment. Only posttest activities have been the source of comprehension activities in the previous evaluations of IE/TE. Finally, few studies have combined IE with CALL. Actually, no study to date has combined IE, CALL and local reading comprehension activities to determine if that combination allows the L2 learner to convert input to intake, therefore assisting in learner comprehension and acquisition.

The present research addresses the role of enhanced input as a means for an introduction and a revision of a target grammatical feature, dative and accusative clitics in Spanish, and how this enhanced input may assist in acquisition. The research should assist in determining whether or not the enhancement of input is best to occur before or after a target language form is introduced to the students. This is turn should clear up some of the confusion as to whether or not enhancing the input a L2 learner receives is beneficial, and when is the most opportune time to present students with enhanced input. The use of CALL provides a new aspect to the field as the application of CALL tools with input enhancement techniques has not yet been carefully considered in SLA studies. CALL allows for authentic reading texts as well as the integration of technology and learning. The use of technology in the classroom as an additional learning component

can be beneficial because most students in today's classrooms are comfortable with technology and have confidence using it. The focus on global comprehension, rather than local comprehension also allows for a new avenue in IE research, as most prior research has focused on global comprehension of a text. The next chapter will include a description of the linguistic phenomena researched in the dissertation project.

CHAPTER 3

TARGET LINGUISTIC FEATURE

3.1 Introduction

This chapter will provide an overview of the target linguistic feature utilized in

the research experiment. Section 3.2 gives an overview of the overall structure of the

linguistic item researched, whereas sections 3.3 and 3.4 detail specific structural

differences between dative and accusative clitic pronouns respectively. The following

section overviews differences in clitic placement, while section 3.6 provides a summary

of anaphora resolution. The chapter then closes with some concluding remarks.

3.2 Clitics

Spanish is a language which has both strong pronouns and clitics. Some

examples of strong pronouns include: *mí, ti, él, ella*, etc. These are equivalent to the

English strong pronouns *me, you, him, her*, etc. Spanish also has weak pronouns or

clitics, which do not occur in English. These are: *me, te, lo, la* and *le*. They differ in case

with the accusative used for direct objects and the dative for indirect objects. These

clitics must attach to a host[2]. In other words, they must attach to a main verb in Spanish

(Montrul 2010). The target linguistic structure for this dissertation research is the third

person singular and plural accusative and dative clitic pronouns in Spanish. Table 1

provides a representation of all the accusative and dative clitic pronouns in Spanish, and

includes nominative pronouns for reference.

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[2] To restate, clitics cannot be by themselves, they must appear with the verb.

	Nominative pronouns	Accusative pronouns	Dative pronouns
1st person singular	yo	me	me
2nd person singular	tú	te	te
3rd person singular	él, ella, usted	lo, la	le, se*
1st person plural	nosotros	nos	nos
2nd person plural	vosotros	os	os
3rd person plural	ellos, ellas, ustedes	los, las	les, se*

Table 1; Clitic Pronouns

* *Se* is only used as a dative clitic pronoun if the same sentence has an accusative clitic as well. For example, '*Se lo di'* (I gave it to him or her).

Spanish is a romance language. In this way, nouns are marked for masculine and feminine gender. In addition to gender, nouns are also marked for number; either singular or plural. Pronouns can be inflected for person, number, gender and case. As seen in table one, the Spanish language has a variety of pronominal systems. The most difficult pronominal system for L2 students of Spanish is the set of third person dative and accusative clitic pronouns (VanPatten 1984). This is especially true for native L1 English speakers because in English the same pronouns are used for both direct and indirect objects, with direct objects having the accusative case and indirect objects having the dative case. In Spanish these clitics change in the third person. The accusative clitics agree in gender and number with their host. However, in the dative case these third person clitic pronouns do not have a gender distinction.

These particular accusative and dative clitic pronouns were chosen to be the target linguistic form in this investigation since they have historically been difficult to acquire specifically for L1 English speakers who are learning Spanish (Lee 2003). These clitics have been researched in acquisition literature as researchers have suggested that language learners may have difficulty simultaneously paying attention to both form and meaning

(VanPatten 1990). Most often, as well as having a subject, a verb in a sentence will also have an object, either direct or indirect. This direct or indirect object will either have an accusative or dative case marking. An object is generally defined as a thing or person on which an action or process is performed. In the sentence, *Mary reads a book*, Mary is the subject and a book is the object with an accusative case marking (the action of reading is performed on the book). In Spanish, in a sentence such as *Roberto compró un libro* (Robert buys a book), *Roberto* is the subject and *un libro* is the direct object taking the accusative case.

The L2 learner must therefore learn how to distinguish between third person dative and accusative clitics. The accusative case (ACC), marks the direct object of a transitive verb. Unlike '*me*', '*te*' and '*nos*', the accusative clitics, '*lo*', '*la*', '*los*' and '*las*' cannot function as dative clitic pronouns. This means that they do not normally express *to him, to her, to them, for him, for her, for them* and so on with verbs like *dar* (to give), *gustar* (to be pleasing) and *escribir* (to write). These object pronouns can also refer to things, animals and ideas. See Example 1 below.

(1)
a) ¿Mi libro? No **lo**   tengo.
   My book? No it[clitc, ACC]   I have
 *"My book? I don't have **it**."*

b) ¿Mis clases? **Las**   detesto.
   My classes. Them[clitic, ACC] I hate
 *"My classes? I hate **them**."*

3.3 Dative Clitic Pronouns

To review, the dative case (DAT), marks the indirect object of a verb. It is commonly used to indicate the recipient of an action. The third person dative clitic pronouns are '*le*' and '*les*'. They refer to a person or animate noun and therefore take a dative case marking typically meaning *to him, her, you* (usted form), *it* and *to* or *for them*. '*Les*' can also mean *to* or *for you* plural. '*Le*' is used for both masculine and feminine referents. '*Le*' and '*les*' are used even when the person to or for whom something happens is explicitly mentioned in the sentence. See Example 2.

(2)
Les   dimos   los bolsos.
to them[clitic, DAT]   we give   the bags.
        "We give them the bags".

Dative clitic pronouns can also be used by themselves once the person or thing being referred to has been established in the context:

(3)
a) ¿**Te**   gustan   los   deportes?
  To you[clitic, DAT]   they are pleasing   the   sports?
          "Do you like sports?"

b) Sí,   **me**   gustan.
  Yes,   to me[clitic, DAT]   they are pleasing.
        "Yes, I like sports."

In 3b the response did not repeat '*los deportes*' because '*los deportes*' had already been established in 3a).

Dative clitics replace the indirect object of a sentence. They tend to occur frequently in Spanish with transitive verbs to signal possession. For example:

(4) **Le**   robaron   el   collar   a Marta.

To her[clitic DAT]   They stole the   necklace   Marta
"They stole Marta's necklace."

These clitics can also be used with ditransitive verbs, psychological verbs, intransitive verbs, prototypical transitive verbs and in the middle of a sentence when se is present (Zyzik 2006:123).

The following list taken from Butt & Benjamin 2004:157-158 provides contexts which typically use dative clitic pronouns in Spanish, along with some examples:

(a) Receiving or acquiring any thing, impression or sensation:

Le dije la verdad   'I told him the truth'

(b) Loss or removal from:

Se le ha muerto un amigo   'A friend of his/hers/yours/ has died'

(c) Sufficiency, insufficiency, lack, excess:

Le faltaba un brazo   'One of his/her arms was missing'

(d) Requesting, requiring, ordering:

Les hizo varias preguntas   'He/she asked them various questions'

(e) Phrases involving *tener* plus an emotion:

Juan le tiene miedo   'Juan fears him/her/you'

(f) Many set phrases consisting of *hacer* plus a noun:

La tormenta les hacía mucho daño   'The storm did them/you a lot of harm'

(g) To indicate persons or things affected by something done to a part of the body or to some intimate possession:

Le rompieron su silla de ruedas   'They broke his wheelchair'

(h) In a number of less easily classified cases which may all be seen to convey ideas of 'giving', 'removing', 'benefiting', 'involving', 'affecting intimately':
Le adredezco   'I thank you'

Dative clitics differ from English in that they can "replace any person or thing gaining from or losing by the action described in the verb phrase" (Butt & Benjamin 2004:157). These are the clitic pronouns that are the recipient of the verb's action. It is important to keep in mind that Spanish has flexible word order. For example, '***me dice Juan que no hay clase mañana*'** translates to "*Juan tells **me** that there is no class tomorrow*". In the preceding sentence in Spanish, the dative clitic pronoun '*me*' is in a different position that it would be in English, and the subject is in the post-verbal position. Furthermore, the placement of clitics in a sentence is restricted in relation to the verb. For example, with verbs like *'gustar'* (to be pleasing), dative clitics are placed before conjugated verbs. When placed in the preverbal position, these pronouns violate the typical subject-verb-object word order (Lee 2003). VanPatten (1984) has argued that when presented with object-verb-subject sentences, native English speakers learning Spanish interpret these sentences as having a subject-verb-object word order. Therefore, a native English speaker learning Spanish may mistake '***me dice Juan que no hay clase mañana*'** to mean something such as: "***I tell Juan** that there is no class tomorrow*", instead of the proper English translation.

Additionally, to understand pronoun variation, it is important to note that in Spanish there are two main ways to say '*you*' which are the nominatives '*tú*', and '*usted*' (*a third informal word for 'you' is 'vos', however this is only used in select countries and is rarely addressed in L2 Spanish textbooks*). The dative pronoun '*le*' is used instead of '*te*' when speaking to someone who you would address as '*usted*'. *Usted* is used to show

respect. The use of *usted* varies depending on the various Spanish speaking countries; however, for the elderly or people in positions of authority, *usted* is usually the norm unless a person is asked to use *tú*.

3.4 Accusative Clitic Pronouns

Accusative clitic pronouns represent the nouns directly acted upon by the verb. To restate, they agree in gender and number with the noun. In example b) from example 5 below, '*la'* is the third person singular feminine accusative clitic, replacing '*la pluma'*. It matches in gender and number with the noun because as stated earlier Spanish is a language that has gender and number agreement.

(5)
a) Juan tiene la   pluma.
  John has   the pen
 "Juan has the pen."

b) Juan **la**   tiene.
  John it[clitic, accusative]   has
  *"Juan has **it**."*

Accusative clitic pronouns are used to reflect the person or thing directly affected by a verb phrase (Butt & Benjamin 2004). Contexts which normally require an accusative clitic pronoun, according to Butt & Benjamin, 2004: 159-160, are as follows:

(a) Direct physical actions:

-¿Y tu bolsa? –La he perdido.   'And your bag?' 'I've lost it'

(b) Verbs of perception:

Lo vi ayer en la Universidad   'I saw him/you yesterday at the

university'

(c) Praise, blame, admiration, love, hatred, and other actions denoting attitudes towards a person or thing:

Sus estudiantes la adoran   'Her students adore her'

(d) Naming, nominating or describing:

Las calificó de tragedias   'She/He described them as tragedies'

(e) Many other actions done to people or things:

La desigualdad no la podrá solucionar ningún gobierno
'Inequality cannot be solved by any government'

In the above translations, 'you' appears because dative and accusative clitic pronouns can

also refer to *usted* or *ustedes* in addition to 'him', 'her', 'it', or 'them'.

3.5 Clitic placement

Clitic placement in relation to the verb is regulated by finiteness. If the verb is

finite, the clitic pronoun precedes the verb:

(6) María   **lo**   usa cada día.
     María   it[clitic, ACC]   uses each day.
   "María uses it everyday."

However, if the verb is an infinitive, the clitic pronoun must follow the verb:

(7) Juan quiere entender**lo**   bien.
   Juan wants to understand it[clitic, ACC]   well.
   "Juan wants to understand it well".

Clitic climbing occurs during restructuring contexts or within a sequence of a

modal, causative, or aspectual finite verb and a nonfinite verb form such as a gerund,

infinitive or past participle. In these cases, the clitics can either be placed before the

conjugated verb or after the infinitive. Some examples are included in parts a) and b) of

example 8:

(8)
 a) Manuel puede hablar**lo**
     Manuel   can   tospeakit[clitic, ACC]
     "Manuel can speak it".

 b) Manuel **lo**   puede hablar
     Manuel it[clitic, ACC]   can   to speak
     "Manuel can speak it".

Furthermore, although it is optional, many Spanish varieties use clitic doubling

with dative clitics and indirect objects (Montrul 2010). This transpires when both the

noun phrase and the clitic co-occur in the sentence. See Example 9:

(9) **Le**   di   el regalo   a   José.
    him [clitic, DAT]   I gave the present   José.
    "I gave the present to José".

Weissenreider (1995) maintains that clitic doubling with dative clitics and indirect

objects is the preferred option in Latin American dialects. Clitic doubling is obligatory

with strong pronouns (both dative and accusative) as shown in the example 10 below.

(10) **Le**   di   un chocolate   a él
     To him[clitic, DAT] I gave a chocolate   him
     "I gave a chocolate to him".

However, it is important to note that clitic doubling with accusative clitics and

direct objects in ungrammatical in most Spanish varieties except for Argentine Spanish.

An example of this would be when the dative clitics, *le* or *les* are used in place of the accusative clitics *lo*, *los, la or las,* a phenomenon found in Spain, called *leísmo.* In these particular cases, the verb selects an accusative clitic, where the referent of the pronoun is plus human, yet the dative clitic *le* is used instead of the third person singular accusative clitic. This usually occurs when the direct object refers to a male. An example of *loísmo* would be when the accusative clitics, *lo* or *los* are used in place of the datives *le* or *les*. Whereas, *laísmo* is the use of the accusative clitics *la* or *las*, instead of the datives *le* or *les*. Leísmo with animate objects is widely accepted in many dialects spoken in Spain. Nonetheless, leísmo is not allowed when the direct object being referred to is not an animate object.

In sum, the first and second person accusative and dative clitic pronouns are the same, yet have different, but similar functions. The third person singular and plural accusative and dative clitics also have similar functions for both direct and indirect objects; however, L2 learners must distinguish when to use which type of clitic pronoun. When presented with object-verb-subject sentences, such as those using clitics, native English speakers learning Spanish interpret these sentences as having a subject-verb-object word order, causing misinterpretation (VanPatten 1984). Therefore, a text that enhances the accusative and dative clitics, as well as their anaphoric antecedents may assist L2 learners in comprehension of these pronouns, if the comprehension is based on small parts of the text and not the entire text as a whole.

To review, Spanish clitics can be placed in the preverbal position with finite verbs (i.e. conjugate verbs) and in the postverbal position with nonfinite verbs (i.e. infinitives). During restructuring, or clitic climbing, the clitics can either be placed before the

conjugated verb or after the infinitive. Clitic doubling is obligatory with strong

pronouns, dative and accusative clitics. It is optional (yet preferred) with datives and

only acceptable in some varieties with accusatives.

3.6 Anaphora Resolution

In addition to maintaining correct placement of a clitic in a sentence, students

learning Spanish must also decipher what the pronoun refers to. Anaphora refers to "a

linguistic expression that receives part or all of its semantic interpretation through a

dependency upon an antecedent" (Barss 2003: ix). It is the way a word or phrase relates

to other text. As a result, anaphora resolution is the problem of resolving what a pronoun

or noun phrase refers to in a given context. For students learning Spanish, anaphora

resolution can become quite complex.

Taylor, Stowe, Redeker and Hoeks (2013), examined pronoun resolution in

Spanish and English by investigating how listeners resolved object pronouns that were

ambiguous by having more than one possible antecedent. These investigators considered

whether pronouns marked due to accentuation in English or specific morphological

markedness in Spanish could change the referent of the anaphor when both antecedents

are plausible. They found that when pronouns were marked due to either accentuation, or

specific morphology, preference was given to the grammatical subject of the previous

clause. On the other hand, when one of the two antecedents was more plausible than the

other, the choice of antecedent was entirely dictated by plausibility (Taylor et al.

2013:2039).

The authors give the following examples (Taylor et al. 2013: 2014):

(a) Sandra llamó a Mónica, y   Rogelio   le   escribió.
    Sandra called   Mónica, and Rogelio   her [clitic, DAT]   wrote
"Sandra called Mónica and Rogelio wrote her".

The sentence given in example (a) above could be quite difficult for an L2

Spanish student to ascertain whether the dative clitic *le* is referring to Sandra or Mónica.

(b) Sandra llamó a Mónica, y   Rogelio le   escribió a ella.
    Sandra called   Mónica, and Rogelio her [clitic, DAT] wrote   her
"Sandra called Mónica and Rogelio wrote her".

In this case, (b), it would appear that the clitic is referring to a more marked form

and may cause confusion in the interpretation. In other words, the authors state that clitic

doubling is occurring in this example and the clitic may refer to a different antecedent

than in example (a).   Here, they maintain that the antecedent *Sandra* should be chosen

instead of *Mónica* (Taylor et al. 2013).

Citing previous investigations, Pyykkönen et al. (2010) assert that research has

shown that in the absence of disambiguating information, adults tend to assume that

pronouns refer back to the most prominent entity in the previous discourse. Järvikivi et

al. (2005) state that "An essential feature of understanding texts is the ability to resolve

co-reference relations" (260). They go on to state that such relations are usually

ambiguous, especially between a pronoun and its antecedent. Citing Crawley, Stevenson,

& Kleinman, (1990) and Frederiksen (1981), Järvikivi et al. (2005) explain that the

subject-preference account claims that "the preferred antecedent of an ambiguous

pronoun is the grammatical subject of the preceding clause" (260). According to these

researchers, Frederiksen found that reading times for sentences beginning with a pronoun

were faster when the pronoun referred to the subject of the preceding sentence rather than

the object. They also maintained that Crawley et al. observed a similar preference (Järvikivi et al. 2005). Nonetheless, they are careful to state that in both of the studies mentioned, the subject was also the first noun phrase in the clause (as the studies were conducted in English), so the preference may also have been due to a first-mention advantage (Järvikivi et al. 2005). Even so, it can be deduced from Järvikivi et al.'s observations that co-reference relations, between a pronoun and its antecedent, can be difficult for L2 learners. This is especially true given that VanPatten (1984) has revealed that native English speakers learning Spanish interpret object-verb-subject sentences as having a subject-verb-object word order.

These same researchers (Järvikivi et al. 2005) also maintain that the "first-mention account" (260) states the first mentioned noun phrase is the preferred antecedent of an ambiguous pronoun. (Gernsbacher & Hargreaves 1988; Gernsbacher, Hargreaves & Beeman 1989 in Järvikivi et al. 2005). On the other hand, the "parallelism account" states that it is preferred to interpret a pronoun as a co-referent with a noun phrase that has the same grammatical role (Sheldon 1974; Smyth 1994 in Järvikivi et al. 2005:261). These interpretations could provide more evidence for problems that L2 Spanish language learners may have learning the third person dative and accusative clitics, especially with the gender neutral third person dative clitics.

Järvikivi et al. (2005) conducted a study on the influence of the order of each noun mentioned and the grammatical role on resolution of ambiguous pronouns in Finnish using eye-tracking. The researchers concluded that during the interpretation of sentences, their participants preferred to interpret the pronouns as referring to the first mentioned noun rather than the second mentioned noun. They state that their results

indicate that both Gernsbacher's first-mention account and the subject-preference

strategy (Crawley et al. 1990; Frederiksen 1981 in Järvikivi et al. 2005) both have an

effect on the pronoun resolution of their participants.   In this way, they state that pronoun

resolution involves several factors which interplay with one another. This provides more

evidence that L2 Spanish students may have difficulties learning the dative and

accusative clitics, especially the third person dative pronouns, as the pronouns 'le' or

'les' can refer to either masculine or feminine referents.

3.7 Summary

Chapter three revealed the third person singular and plural dative accusative

clitics as the target linguistic feature for the dissertation research. The structural

differences between dative and accusative third person clitics were examined. Also,

contexts in which each type of clitic may be used in Spanish were provided along with

examples.

The chapter also reviewed some reasons for difficulties that L1 English speakers

learning L2 Spanish encountered when presented with third person singular and plural

dative and accusative clitics. It was stated the word order in Spanish and English differs,

as Spanish has a more flexible word order than English, and therefore L1 English

speakers learning L2 Spanish often have difficulty with the Spanish clitic system. Clitic

placement in Spanish was also detailed, providing some more insight into the difficulties

that L2 learners may encounter when presented with clitics. Finally, Spanish anaphora

resolution was discussed stating that co-reference relations, between a clitic pronoun and

its antecedent, can be difficult for L2 learners.

Chapter four will discuss the methodology for the research, including the setting,

the participants, the data collection procedures and the type of assessments used. The

chapter also presents the research questions and hypotheses for the investigation.

CHAPTER 4

METHODOLOGY

4.1 Introduction

This chapter outlines the methodology for the present research. Section 4.2 describes the location of the study, while section 4.3 provides an overview of the participants. Following this explanation, the hypotheses and research questions are presented. Next, the methods and materials employed in the study are clarified. The pre and posttest assessments are subsequently discussed. While section 4.7 of the chapter describes the treatment procedures. And lastly, the final portion includes the conclusion for the current chapter.

4.2 Setting

The data for the research was collected at the University of Massachusetts, Amherst. This campus is the flagship campus of the University of Massachusetts system. The university offers an undergraduate major and minor in Spanish, as well as Master's and Doctorate degrees. In Amherst Massachusetts, English is the dominant language and students are not usually exposed to Spanish in the community. However, there is a population of heritage speakers on campus, as there is a large Spanish population in two cities of Holyoke and Springfield, which are about thirty minutes south of Amherst.

The Language Teaching and Research Lab of the University was the site for the data collection process. This lab has twenty-seven iMac (OSX 10.6/Windows 7) computer stations and a research workstation. It is part of the Department of Languages, Literatures and Cultures.

4.3 Participants

The participants for the experiment consisted of students studying Spanish in a

first semester beginning level course and students enrolled in an advanced level Spanish

course. The courses met for about two and a half hours a week. The groups are defined

as follows: test group elementary level (TGEL); test group advanced level (TGAL);

control group elementary level (CGEL); control group advanced level (CGAL).

A pretest was used to filter out any students who could correctly retrieve the

referent of the anaphoric clitic pronouns examined. Specific information about the

pretest is found is section 4.6. Forty-seven participants started in the experiment,

however the total number of participants who actually completed the experiment included

twenty participants from the advanced level groups (TGAL, n=10/CGAL, n=10) and

seventeen from the elementary level groups (TGEL, n=9/CGEL, n=8) for a total of thirty-

seven participants.

The reason for using participants from differing language ability levels is twofold.

At present, only one study, Shook (1994), has explicitly considered the consequences of

input enhancement treatments for learners of varying levels. Also, following

Pienemann's (1987, 1989, 1998) *Teachability Hypothesis,* it may be beneficial to

determine at which level and at what stage in the language learning process this type of

treatment is most beneficial. On one hand, the project will consider whether or not input

enhancement for the elementary level learners is sufficient enough for them to acquire the

target linguistic forms. If proven to be true, then this would also suggest that this

particular group of students is in fact "developmentally ready" to acquire the forms and

that the IE assisted in their retrieval of the referents of the anaphoric clitics. On the other

hand, the research will determine if the prior knowledge that the advanced level learners

possess, as well as the additional practice they had received with the clitics from their

previous Spanish language studies, in conjunction with the IE, is responsible for their

possible acquisition of these forms. This would be because these more advanced learners

are more developmentally ready to acquire the clitics than the beginner level students,

following Pienemann (1987, 1989, 1998).

4.4 Research Questions and Hypotheses

The degree of effectiveness of IE in reading comprehension activities that focus

on local interpretation of clitics and their anaphoric antecedents in Spanish is central to

this investigation. Therefore, two research questions have been formulated:

1. Does input enhancement used to facilitate the identification of referents of anaphoric pronouns have a positive effect on the acquisition of Spanish clitics, including anaphora resolution, by advanced learners who have repeatedly been exposed to grammatical explanations and practice of the forms, but have not yet shown a consistent pattern of pronominal disambiguation in comprehension tasks?

2. Does input enhancement used to facilitate the identification of referents of anaphoric pronouns have a positive effect on the acquisition of Spanish clitics, including anaphora resolution by beginner level learners who have not been exposed to these forms in a typical classroom setting prior to the treatment?

Two hypotheses have been created in response to the research questions. First,

input enhancement used to facilitate the identification of referents of anaphoric pronouns

will have a positive effect on the acquisition of Spanish clitics, including anaphora

resolution, by advanced learners who have been previously and repeatedly exposed to

these forms in a typical classroom setting, yet they have not produced the forms prior to the treatment. Following VanPatten (1996, 2003, 2007a), learners must make form-meaning connections in order for comprehension to lead to acquisition. To make a form-meaning connection, the L2 learner must first register a form, and understand that the form somehow encodes the meaning. Also, keeping in mind that Shook's (1994) second year students outperformed first year students on the production of one language form, and the reverse was true for the other TL form, this first hypothesis is also based on Lee's (2007) investigation. Lee (2007) found that IE combined with prior knowledge may incite noticing and understanding for L2 learners. Lee (2007) used a grammatical target that the participants had not yet mastered as revealed on their pre-tests, but had encountered during years of instruction, the English passive voice. He found that enhancement aided native Korean speaking English L2 learners to attend to formal aspects of the passive voice.

In terms of the second hypothesis, meaningful effects of IE for targeted structures for beginner level learners are not expected. This is following the previous studies of Leow (1997, 2001), Leow et al., (2003), and Wong (2003), which did not witness any meaningful effects of IE for target language structures that were new or relatively new to the L2 learners in their investigations. All the previously mentioned studies had a focus on *global* and not *local* comprehension; however, the findings of the investigations still provide support for the second hypothesis as all four studies had the same conclusion in regards to the outcome of the input enhancement.   Also, we could expect differences based on learner development because, following Pienemann's (1987, 1989, 1998) *Teachability Hypothesis,* learners must be developmentally ready to learn formal features

of a language. This means that instruction must occur at the most opportune time, and

premature instruction would not be beneficial for learning. In other words, perhaps the

beginning level learners are not yet developmentally ready to identify the referent of the

anaphoric clitics.

These hypotheses differ in regards to one important aspect; the course level of the

participants. The first hypothesis maintains that the IE treatment will be beneficial for

the advanced level learners, while the second states that it will not have any meaningful

effects for the beginner level participants. This means that the previous exposure as well

as the developmental readiness of the advanced level participants in conjunction with the

IE treatments will have a greater impact than that of the other group. On the other hand,

form-meaning connections are not expected to occur with the elementary level

participants because, unlike the advanced level participants, they have not been

previously exposed to these clitic pronouns. Form-meaning connections are expected

with the advanced level students, possibly due to their developmental readiness to

identify the referents of the anaphoric clitic pronouns.

4.5 Research Methodology and Data

This project utilizes textual enhancement, a form of visual input enhancement.

The difference between textual enhancement and input enhancement is that textual

enhancement is used specifically in texts, whereas an instance of input enhancement

could occur in various ways such as a teacher using different intonation (maybe raising

his or her voice) when referring to a specific linguistic form, for example. For the

purposes of the investigation, the paragraphs were enhanced on a computer screen.

Specifically, this project considers the impact of input enhancement in a comprehension

based setting. It uses activities that require the learner to interpret sentences in the paragraph in order to investigate how the connection between the highlighted target linguistic forms, the third person dative and accusative clitics, and their corresponding referents, may contribute to acquisition of said forms.

The research controls for prior knowledge through the use of the pretest and also consists of two treatments, a posttest and a delayed posttest. This research design also incorporates the use of CALL as it has not yet been carefully considered in SLA studies researching input enhancement techniques. The use of technology as a supplemental tool to provide a visual enhancement of select target language features can be quite beneficial for SLA. Following Schmidt's Noticing Hypothesis this type of enhancement could induce the noticing of specific target language features. The use of enhanced technological TL input as a tool for language learning should also appeal to most students positively. Many students find enjoyment in using technological gadgets, so interaction with a computer or another device during class could prove to be quite appealing to the L2 learner. In addition, and as stated previously, most of the studies on input enhancement have been short-term in duration, mainly with only one treatment session and usually only one text. Therefore, this research differs from others as it administered two treatment sessions.

4.6 Pretest

The goals of the pretest were to filter the participants and to have a base for future comparison with the posttests. In order to measure comprehension, the pretest included a sentence interpretation task with a goal of indicating the participants' understanding of

each sentence that they read. Eighteen testing sentences were included for the

interpretation task. These sentences are representative of three instances of each type of

third person singular and plural dative and accusative clitic (*lo*, *la*, *los*, *las*, *le* and *les*).

Additionally, thirty-six filler sentences were used.

     For this task, a sentence was written on the computer screen and two pictures

were presented beneath the sentence. Each picture had a red or a green circle underneath

it. On the computer keyboard the letter on the key "s" was covered in the color green and

the letter "l" was covered in red. Each participant was instructed to push either the red or

green key to identify which picture he or she thought best represented the meaning of the

sentence. If the participant selected the picture that matched the meaning of the sentence

it would demonstrate his or her knowledge of the interpretation of the written sentence

and consequently indicate knowledge of the identification of referents of anaphoric

pronouns. See example 11 below:

(11)

Yo las compro.

(11) Yo   las   compro.
        I   them [clitic, accusative, plural]   I buy

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"I buy them".

Next, example 12 provides a sample of a filler pretest sentence:

(12)

La carpeta tiene muchas cosas.

(12) La carpeta   tiene   muchas   cosas.
     The folder   has   many/a lot   items
"The folder has a lot of items".

Additionally, six short paragraphs were displayed on the computer screen which

the participants had to first read, and then type their response to a question based on their

knowledge of the clitic pronouns presented in the paragraph. These paragraphs were

considered to be ambiguous and each paragraph had an instance of a third person singular

or plural dative or accusative clitic pronoun for the assessment. Example 15 contains an

example of one of the paragraphs perceived to be ambiguous by the learners testing

knowledge of third person plural accusative clitics with the corresponding question:

(13)

Hoy mis padres van a venir a la Universidad para visitarme. Pero, también, mis amigas
y yo tenemos planes para ir de compras. Quiero pasar tiempo con mis padres e ir de
compras con mis amigas, pero no hay suficiente tiempo para hacer las dos cosas. Por
fin, decido: Las voy a ver mañana.

Who am I going to see tomorrow?

Translation:

"Today my parents are coming to the university to visit me. But, my friends and I also have plans to go shopping. I want to spend time with my parents and go shopping with my friends, but there isn't enough time to do both things. Finally I decided: I will see them tomorrow".

In this case, if the research participant does not know that the accusative clitic *'las'* is referring to *'las amigas'* then they would not be able to correctly answer this question with *'las amigas'* as the correct response. Each question was given one point therefore, all questions in both the pictures and questions were weighed the same to total twenty-four points. This coding system was also used for the posttests.

If a participant scored higher than 88% average on the pretest, he or she was not included in the results analysis. This is because the research was designed to test if the input enhancement helped with L2 students who did not already have a good understanding of the third person clitic system in Spanish, and it was determined by the researcher that scoring above 88% on the test would demonstrate a good knowledge of these clitics, as an 88% is considered to be an above average score in the U.S. grading system.

4.7 Posttest and Delayed Posttest

The posttest was given one week after the last treatment session and it was designed the same as the pretest. In order to get a wider snapshot of the treatment effects, a delayed posttest was used in addition to the regular posttest. The delayed posttest was

able to allow for a measurement of the longer term effects of the two treatments. This delayed posttest occurred four weeks after the original posttest was given and the test design was the same as both the pretest and posttest.

4.8 Treatments

The description of each of the treatments are now discussed. Four groups took part in the experiment. These groups consisted of two beginning level Spanish classes, TGEL (test group elementary level) and CGEL (control group elementary level), and two advanced level Spanish classes, TGAL (test group advanced level) and CGAL (control group advanced level). The treatment sessions for all groups consisted of paragraphs containing various instances of the third person singular and plural dative and accusative clitics investigated in the study. Unlike the short-term input enhancement treatment studies mentioned in the second chapter, the treatment for this study was administered in two different treatment sessions, which will now be discussed.

4.8.1 Treatment A, TGEL and TGAL

The test group, TGEL and TGAL, read twelve short texts, about one paragraph in length per text. Each paragraph had a variety of dative and accusative clitics highlighted along with their corresponding referents. Each paragraph also had accompanying comprehension questions based on the readings, which for most of the questions, if answered correctly would demonstrate that the participant understood the relationship between the clitic pronouns and their corresponding referents in the paragraph. Example 14 below represents an example of one of the enhanced treatment paragraphs.

(14)
En el salón de clase típico:

La profesora Martínez les explica la lección a los estudiantes. Los estudiantes le hacen muchas preguntas a la profesora. La profesora pregunta, ¿Nora, le explica la respuesta número cinco a la clase por favor? Después de la explicación de Nora, Amanda les lee una lectura a los estudiantes. Carmen le escribe un mensaje de texto a su amigo. La profesora le pregunta a Carmen, ¿A quién le escribes el mensaje de texto? Carmen le responde que lo escribe a su amigo. Esteban les explica la tarea a Ana y a Ramón. Al final de la clase los estudiantes le dicen "adiós" a la profesora y ella les responde "hasta luego."

Preguntas:
1. ¿A quiénes lee una lectura Amanda?
2. ¿A quién pregunta la profesora sobre el mensaje de texto?
3. ¿A quién Carmen escribe un mensaje de texto?
4. ¿Esteban les explica la tarea a sus amigos o sus amigos le explican la tarea a él?
5. ¿Quién dice "hasta luego" a quién?
6. ¿A quién(es) Nora le explica la respuesta número cinco?
7. ¿Los estudiantes le hacen muchas preguntas a la profesora, o la profesora les hace muchas preguntas a los estudiantes?

English translation (*not provided during actual treatment sessions):

In the typical classroom:

Professor Martinez explains the lesson to the students. The students ask the teacher many questions. The teacher asks, "Nora, could you please explain the answer to

number five to the class?" After Nora's explanation, Amanda reads a reading to students. Carmen is writing a text message to her friend. The teacher asks Carmen, "Who are you writing the text message to?" Carmen replies to her that she's writing it to her friend. Stephen explains the classwork to Ana and Ramon. At the end of class the students will say "goodbye" to the teacher and she responds "see you later" to them.

Questions:
1. Who does Amanda read the reading to?
2. Who does the teacher ask about the text message?
3. Who is Carmen writing a text message to?
4. Does Esteban explain the classwork to his friends or do his friends explain the classwork to him?
5. Who says "see you later" to whom?
6. Who does Nora explain the answer to number five to?
7. Do the students ask the teacher many questions, or does the teacher ask the students many questions?

During the first treatment session, the participants read six paragraphs and responded to six to eight comprehension questions for each paragraph. Next, about one week later, the participants read six additional paragraphs and completed corresponding comprehension questions during the second treatment session. In order to respond to the comprehension questions, after reading each paragraph, the participants pressed the space bar on the keyboard, and the computer screen then presented them with the questions. These questions were presented one at a time and participants were required to type their responses on the keyboard. The comprehension questions did not contain any colored highlighting.

The third person singular and plural dative and accusative clitics and their corresponding referents were highlighted in various colors in each of the paragraph. In this way, the input was typographically enhanced while the students worked with meaning. A different color was used for each instance of a clitic pronoun and its

corresponding referent. For example, if the plural dative *'les'* occurred more than one time in a paragraph with different referents, a different color was used for each of its appearances, the first time might be pink and the second time blue, and so on. This was done so that the relationship between each individual clitic and its referent would hopefully become clear to the test group participants. Although not a direct research variable, highlighting in the form of varying colors was used because it may demonstrate to be more beneficial than underlining, bolding or italicizing, as well as highlighting in one specific color throughout each paragraph. To date, bolding, underlining and italicizing have been the most commonly employed enhancement cues in IE studies.

4.8.2 Treatment B, CGEL and CGAL

The administration of the treatments for the control groups was exactly the same as the TGEL and TGAL groups with two treatment sessions with six paragraphs per session. The only difference between the control and the test group treatments was that the CGEL and CGAL groups did not have any colored highlighting in their paragraphs. Therefore, the control groups read the exact same paragraphs per treatment session and completed the same comprehension questions accompanying each paragraph that the test groups completed, however the CGEL and CGAL texts were simply presented in black font on the computer screen.

Example 15 below represents the unenhanced version of the same paragraph from Example 14, which was given to the control group.

(15)
En el salón de clase típico:

La profesora Martínez les explica la lección a los estudiantes. Los estudiantes le hacen muchas preguntas a la profesora. La profesora pregunta, ¿Nora, le explica la respuesta número cinco a la clase por favor? Después de la explicación de Nora, Amanda les lee una lectura a los estudiantes. Carmen le escribe un mensaje de texto a su amigo. La profesora le pregunta a Carmen, ¿A quién le escribes el mensaje de texto? Carmen le responde que lo escribe a su amigo. Esteban les explica la tarea a Ana y a Ramón. Al final de la clase los estudiantes le dicen "adiós" a la profesora y ella les responde "hasta luego".

Preguntas:
1. ¿A quiénes lee una lectura Amanda?
2. ¿A quién pregunta la profesora sobre el mensaje de texto?
3. ¿A quién Carmen escribe un mensaje de texto?
4. ¿Esteban les explica la tarea a sus amigos o sus amigos le explican la tarea a él?
5. ¿Quién dice "hasta luego" a quién?
6. ¿A quién(es) Nora le explica la respuesta número cinco?
7. ¿Los estudiantes le hacen muchas preguntas a la profesora, o la profesora les hace muchas preguntas a los estudiantes?

The translation is the same as the translation provided in Example 14

The constant variable in the treatment design was that all groups read the same paragraph and responded to the same comprehension questions. The independent variables are (i) the enhanced text in the experimental group treatment, and (ii) the level of the students. The dependent variable is the identification of referents of anaphoric clitic pronouns.

Given that the experiment is considering *local* comprehension, the comprehension questions required that the learners focus on specific parts of the text and not the text as a

whole. In this way, form-meaning connections where the form encodes the referential meaning are important here (VanPatten et al. 2004). If the participants could answer these questions correctly, then they were demonstrating that they understand the correlations between the clitics and their referents. Working with the meaning of the enhanced forms during short intervals throughout the reading could increase the stimulation of learning the enhanced Spanish language forms.

The second independent variable is the level of the students. As stated in section 4.3, students enrolled in an elementary level Spanish course as well as students taking an advanced level course participated in the study. Furthermore, participants from differing course levels were used in the research design because Shook's (1994) investigation is the only input enhancement study to date that has explicitly tested the effects of prior knowledge on input enhancement. His investigation concluded that IE may induce noticing (following Schmidt 1990), but not understanding, in learners with little prior knowledge. He stated that his second year participants outperformed the first year participants on the production of one language form, and the reverse was true for the other form. However, Shook did not present any justification for his results. Previous studies conducted by Leow (1997, 2001) Leow et al., (2003) and Wong (2003) did not witness any meaningful effects of IE for target language structures that were new or relatively new to the L2 learners. The second hypothesis states that meaningful effects of IE for targeted structures that are relatively new to students are not expected. In essence, the researcher believes input enhancement will assist with learners who have been exposed to the target language feature, but have not yet acquired it. Therefore, in order to test such a hypothesis, groups of differing levels were utilized.

Han et al. (2008) in their meta-analysis of input enhancement studies, stated that most IE studies did not find it necessary to measure comprehension. For example, they maintain that no one has combined IE and comprehension activities that occur during the treatment session. This project however, did consider that local comprehension of the targeted linguistic feature is an important component to study when considering the effects of input enhancement. Consequently, comprehension activities occurred in treatment sessions of this project through the questions provided at the end each of the six paragraphs read per treatment session.

4.9 Summary

Chapter four provided the methodology for the present research. The setting and the research participants were detailed, as well as the motivation for the research design. The justification for the use of learners of varying levels as the research participants was discussed, in addition to the rationale for the use of CALL, multiple treatment sessions and local comprehension activities in the treatment sessions. Next, the specific research questions along with the hypotheses for the research project were presented and explained. The research was also described as consisting of a pretest, two treatments, a posttest and a delayed posttest. A description of each type of treatment and assessment was detailed. It was stated that the project considers the impact of input enhancement in a comprehension based setting, while at the same time taking place in a CALL environment. In the next chapter the results of the experiment will be discussed.

CHAPTER 5

DATA COLLECTION, ANALYSIS AND RESULTS

5.1 Introduction

This chapter outlines the data analysis and results for the present research. Section 5.2 will describe the data analysis procedures put forth in the investigation. A discussion of the results is presented in sections 5.3 through 5.8. Sections 5.3 and 5.4 describe the results of the data via plotted graphs. Next, sections 5.5 through 5.8 are divided into four smaller subsections, one for each control and test group. These sections also provide the graphic displays of the results, as well as results in a tabular form for each participant group. And lastly, the final portion includes the conclusion for the current section.

5.2 Data Analysis Procedures

Paired t-tests were used in the data analysis in order to examine the correlation between the results and the statistical significance of the observed data. The results were coded using excel spreadsheets. Each participant was identified via a number in order to ensure privacy. The researcher read each response to the open ended questions and noted if it was correct or incorrect. The computer also generated an excel spreadsheet for each individual participant. This spreadsheet logged the individual responses for the pre, post and delayed posttests sentence interpretation task. OpenSesame (Mathôt, S., Schreij, D., & Theeuwes, J., 2012), the software used for this project, gave a one for a correct response and a zero for an incorrect response, which the researcher used for coding purposes. It also identified the fillers as null so that they were not counted towards the

final results. The researcher also created another spreadsheet which calculated the means of the pre, post and delayed posttests for the control and the treatment groups, CGEL, CGAL, TGEL and TGAL. Such means are shown in figures 1 through 4 of section 5.3 below.

To review, although all of the students who volunteered participated in the project, any participant who had an average of above 88% on the pretest was dismissed from the research results. This was because a student who received a score above 88% was considered to have a sufficient knowledge of the third person dative and accusative clitic system in Spanish. Also, there were participants who did not attend all of the treatment sessions who were also removed from the study. Therefore, of the thirty participants in the advanced level groups, twenty remained. Of the seventeen participating in the elementary level groups, all were able to remain as participants in the study. In total, the results indicated are from thirty-seven participants out of the forty-seven members in the original participant pool.

The following sections will review the results of the research. Sections 5.3 and 5.4 will review plotted graph representations of the data. Figures 5 through 14 represent each of these graphs. Later, in section 5.5, the results of the paired t-test data will begin with figures 15 through 18.

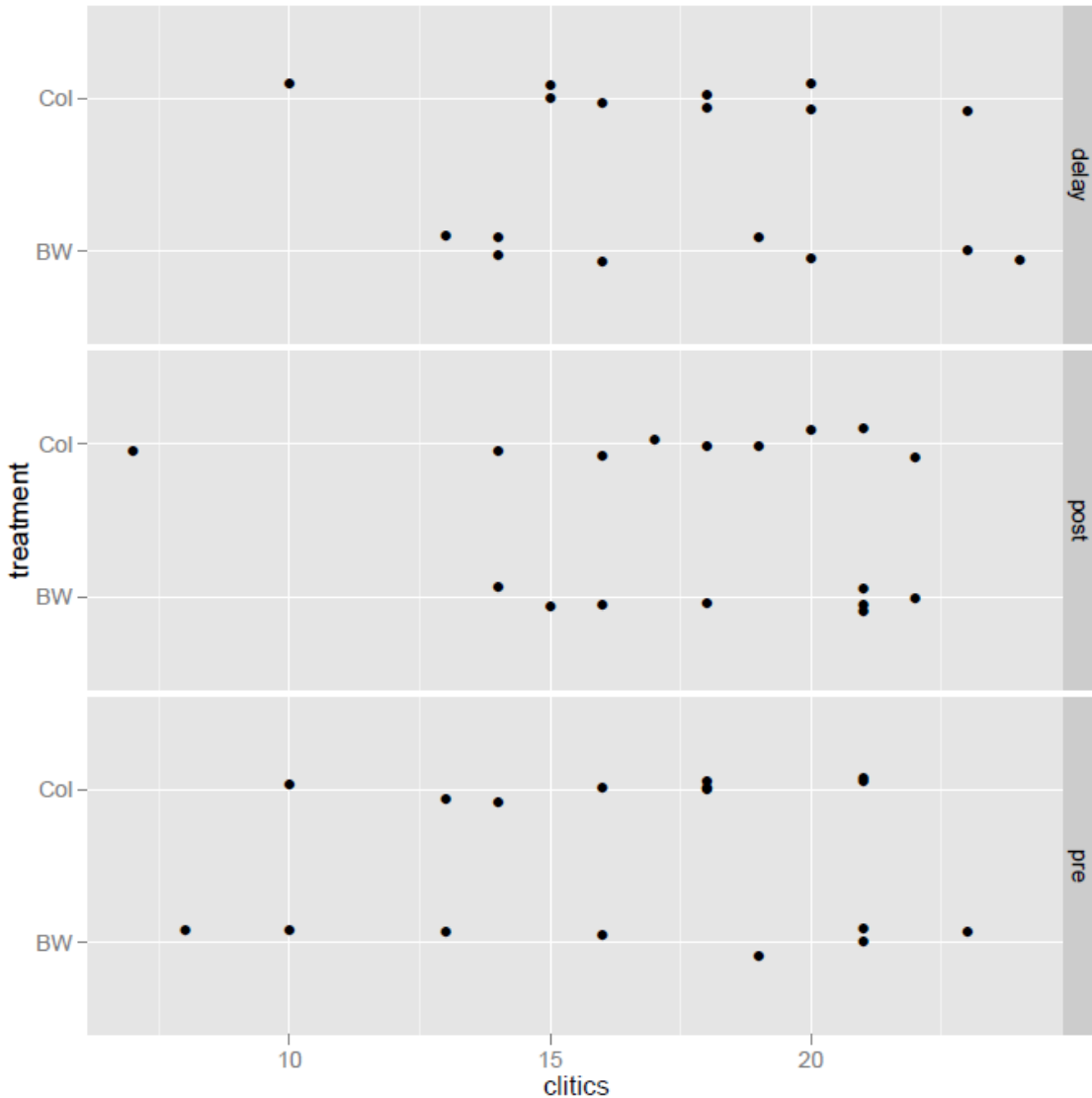**5.3 Plot Graphs for the Elementary Level Participants**

Figure 1 Plot graph CGEL (BW) and TGEL (Col) pre, post, delayed posttests

The first plot graph, figure 1, has two rows for the elementary level treatments, one for CGEL (BW) and one for TGEL (Col). The horizontal axis, (x-axis) entitled clitics, shows the point scale from zero to twenty-four possible points. The points on the graph are shown jittered up and down a little bit so they don't plot right on top of each other. Each plot represents a participant. Both groups, CGEL and TGEL, are spread evenly from about 10 to about 21 on the pretest, which shows that the random assignment

of participants to treatment did its job. The plots for posttest and delayed posttest also show that CGEL and TGEL are evenly spread out over similar ranges. This suggests that there is little difference between the two treatments. There is one outlier on the TGEL who seemed to receive a much lower score on the posttest than on the pretest.
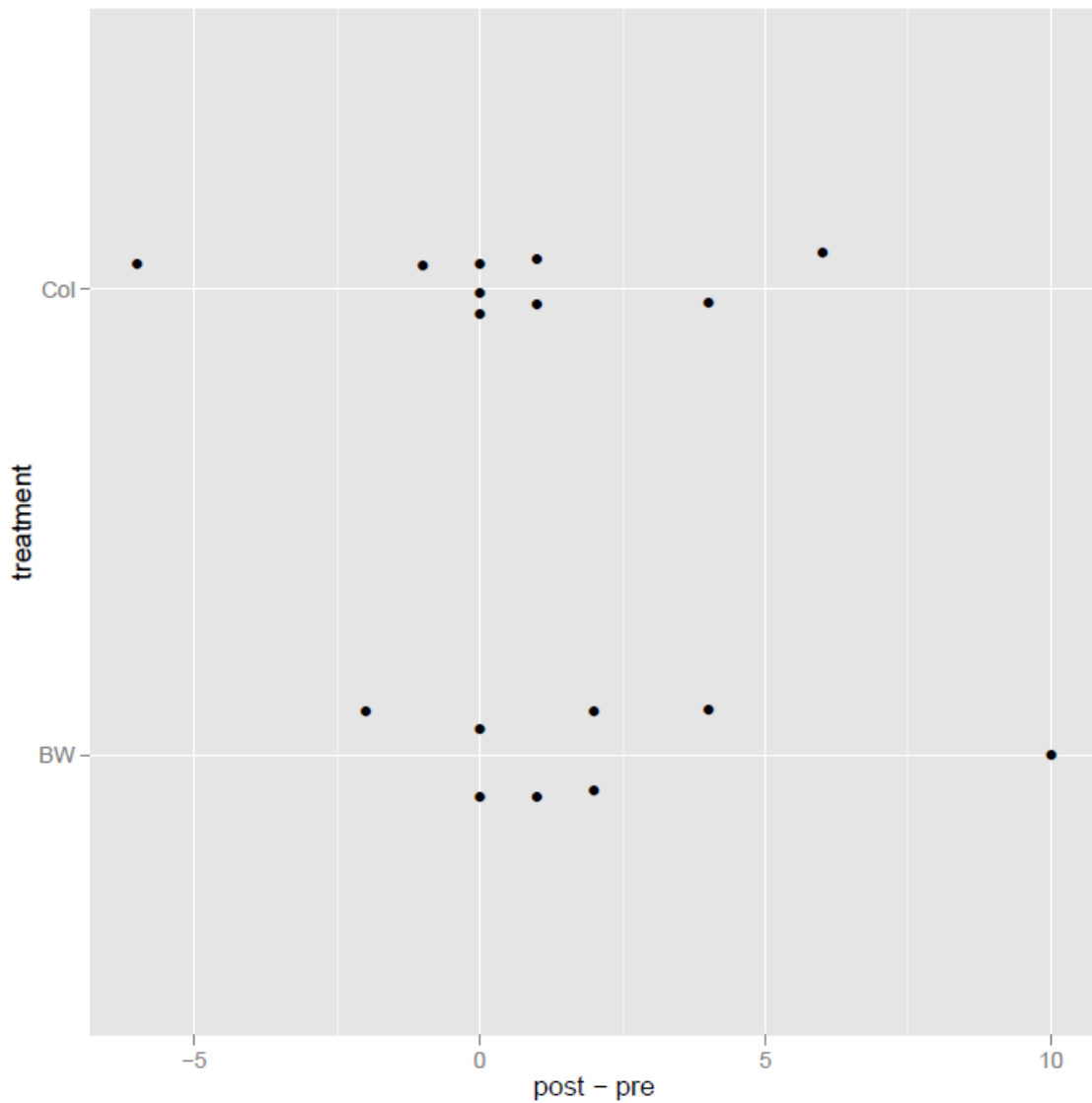

Figure 2 Pretest to posttest CGEL (BW) and TGEL (Col)

The above graph, figure 2, shows pretest to posttest results of the treatment for the elementary level groups, CGEL and TGEL. Both ranges are slightly to the right of 0; i.e., post-pre tends to be positive. These findings suggest slightly higher scores in the posttest than in the pretest, however similar gains in both groups.
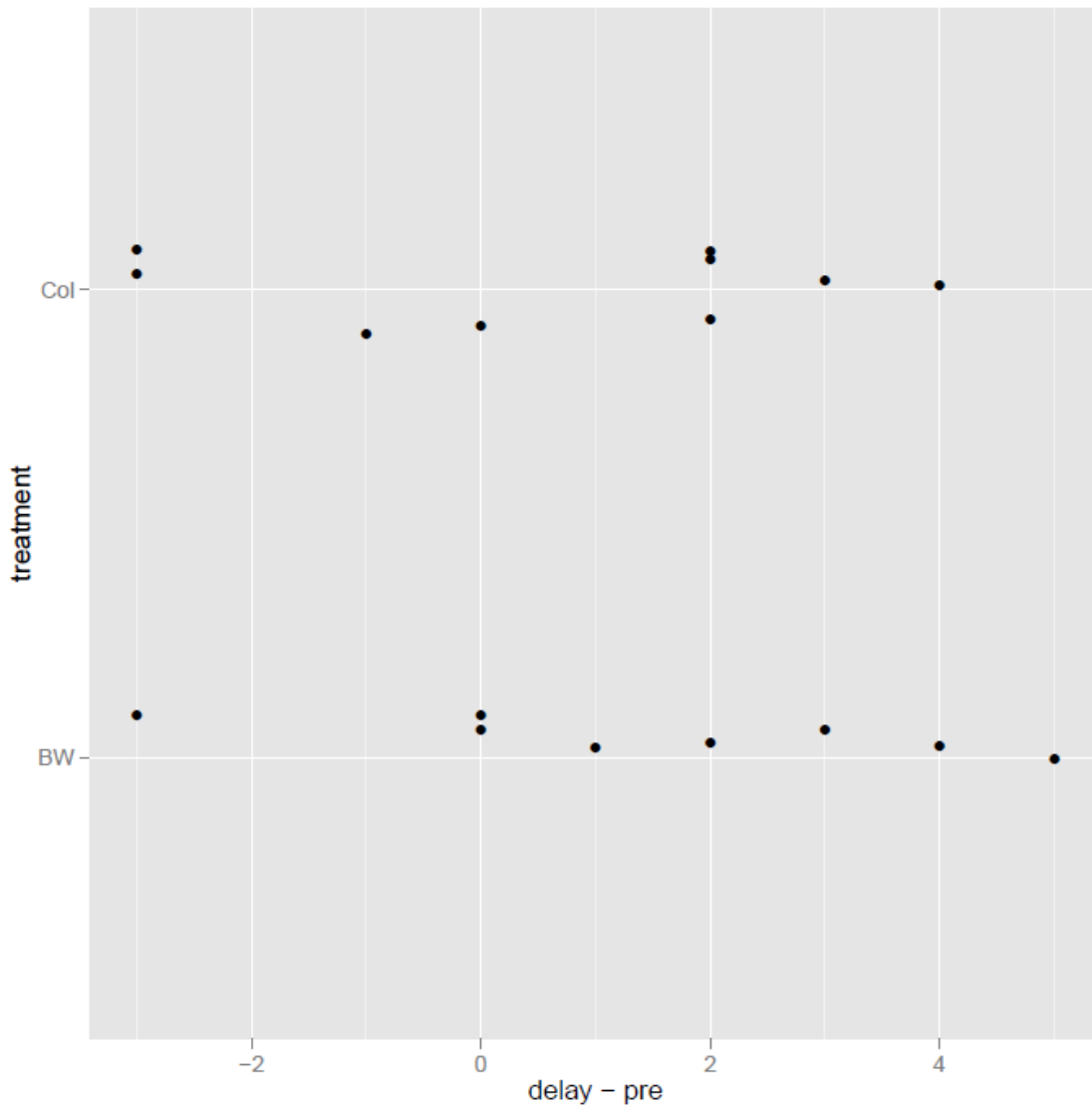

Figure 3 Pretest to delayed posttest CGEL (BW) and TGEL (Col)

The next graph, figure 3, shows the pretest to delayed posttest results, and is similar to figure 2. It suggests slightly higher scores in the delayed posttest than in the pretest, however similar gains in both of these elementary level groups.
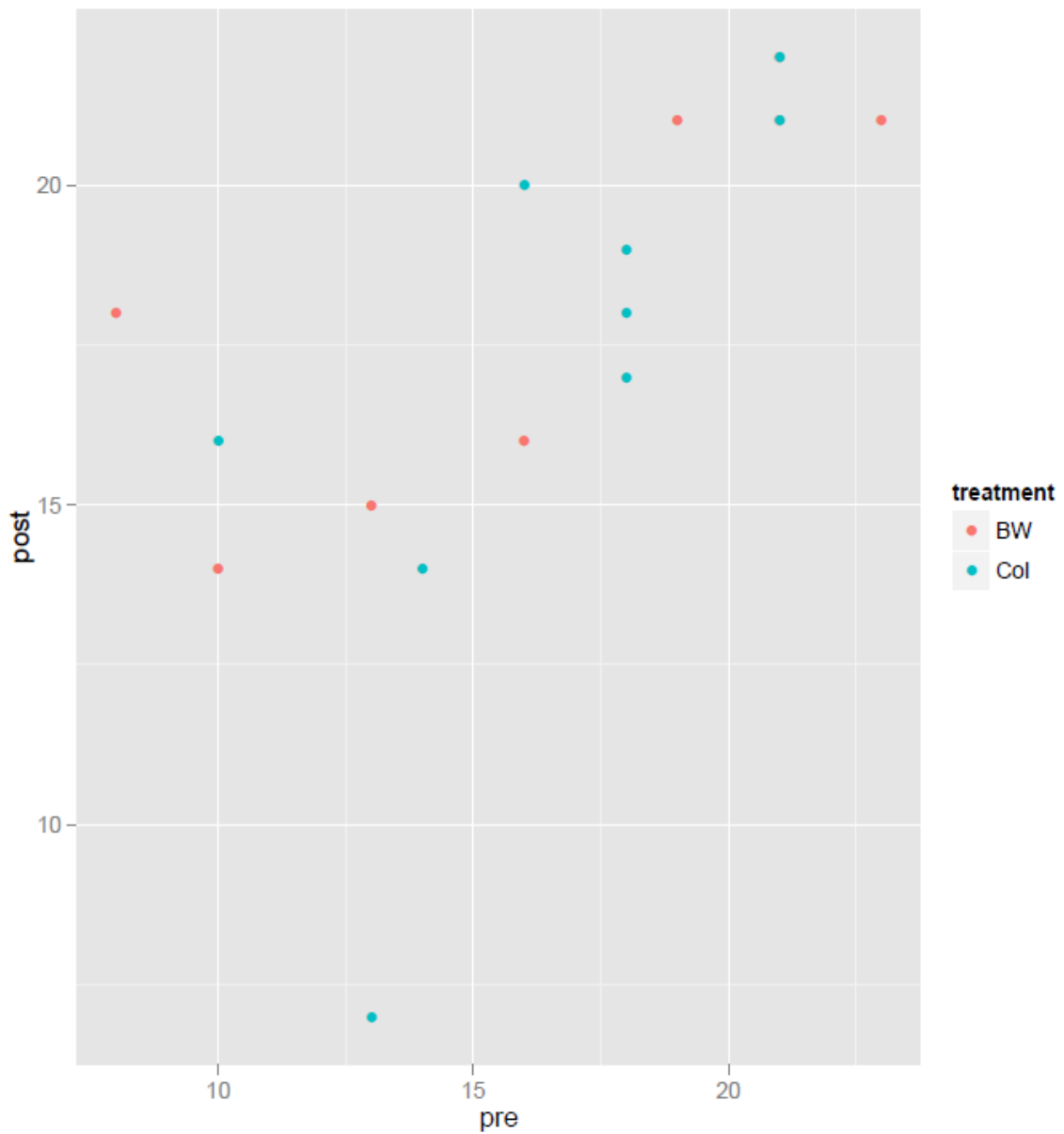
Figure 4 TGEL (Col), CGEL (BW) Pretest, posttest analysis

In Figure 4, the pretest is on the x-axis; the posttest is on the y-axis. The colors indicate treatment with blue being the TGEL group and orange being the CGEL group. Here, the two colors of the plots are mixed together pretty well, which suggests little difference between the treatments. There is one odd point near the bottom: this indicates that one participant had a very low posttest but a moderate pretest.
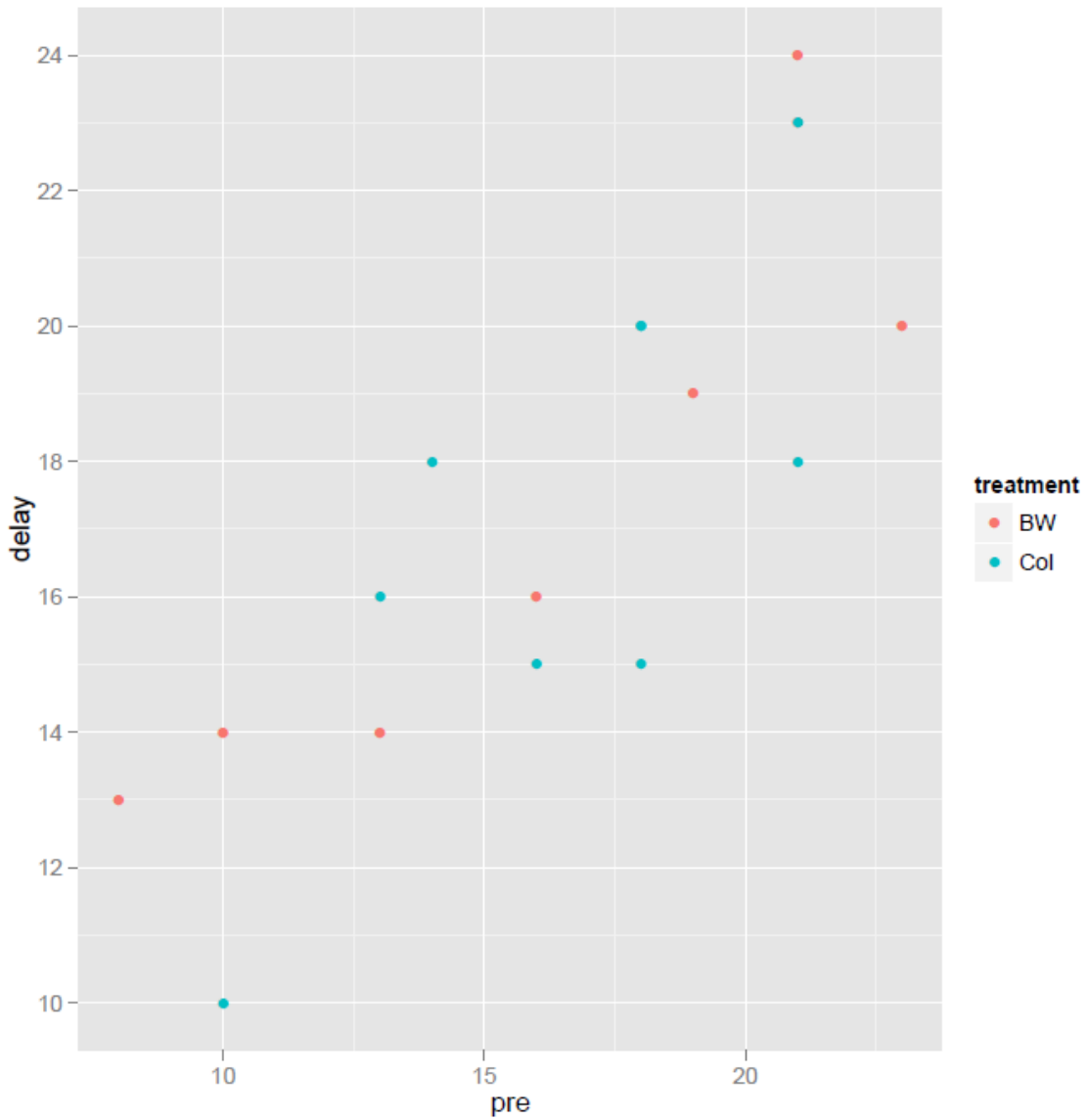
Figure 5 TGEL (Col), CGEL (BW) Pretest, delayed posttest analysis

This graph is similar to figure 4, but instead shows plots for the delayed posttest instead of the posttest. The two colors are mixed together, which suggests little difference between the pretest and the delayed posttest treatments for the TGEL and CGEL groups.

5.4 Plot Graphs for the Advanced Level Participants
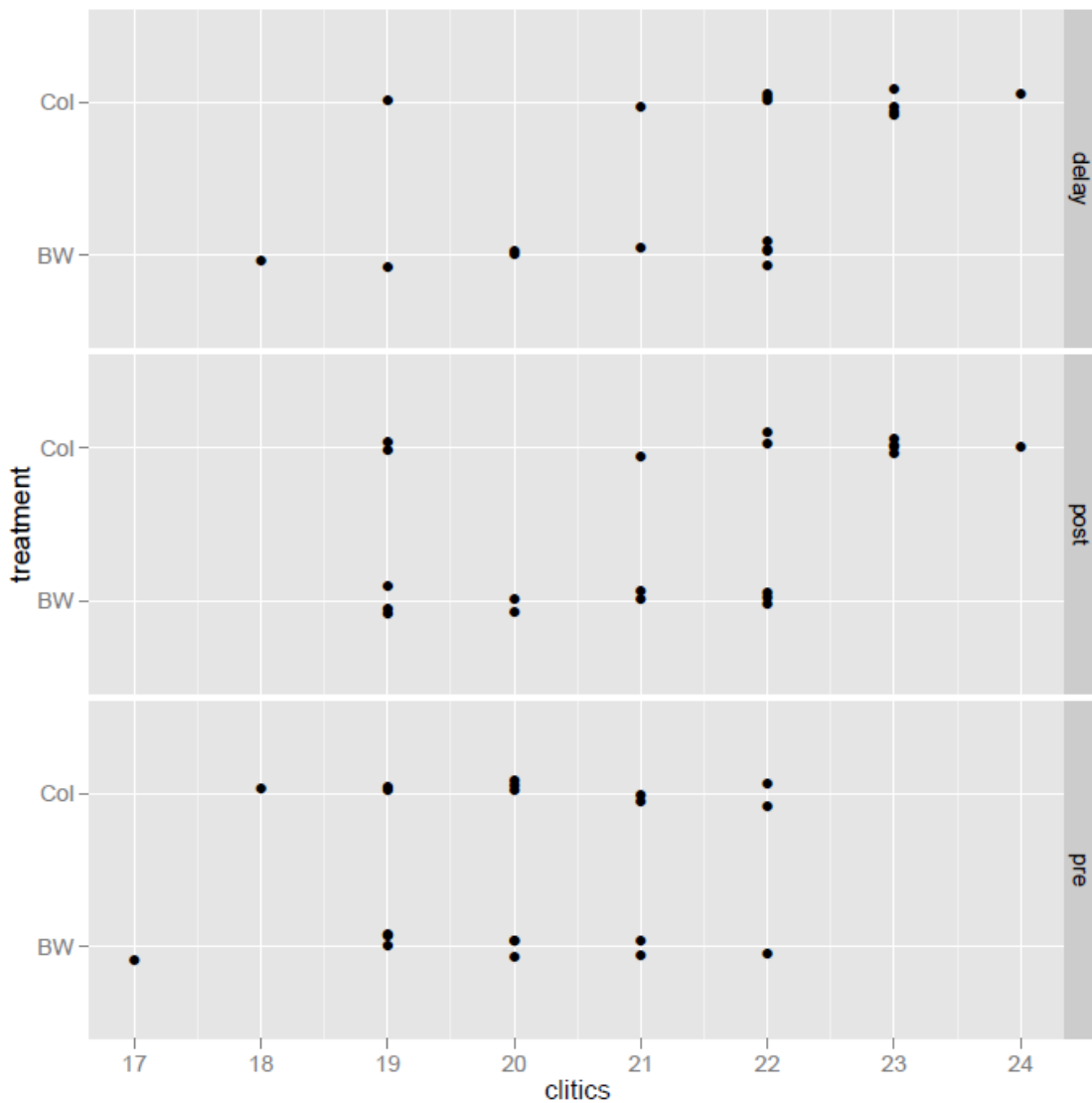
Figure 6 Plot graph CGAL (BW) and TGAL (Col) pre, post, delayed posttests

Figure 6, is similar to figure 1 in that it has two rows, one for CGAL and one for TGAL. This graph displays that the random assignment of participants to treatment did its job. In addition, it suggests some differences between the control and test group treatments. The CGAL and TGAL are spread evenly out over similar ranges in the

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pretest, and the TGAL group does show some posttest gains that will be discussed in

section 5.8.
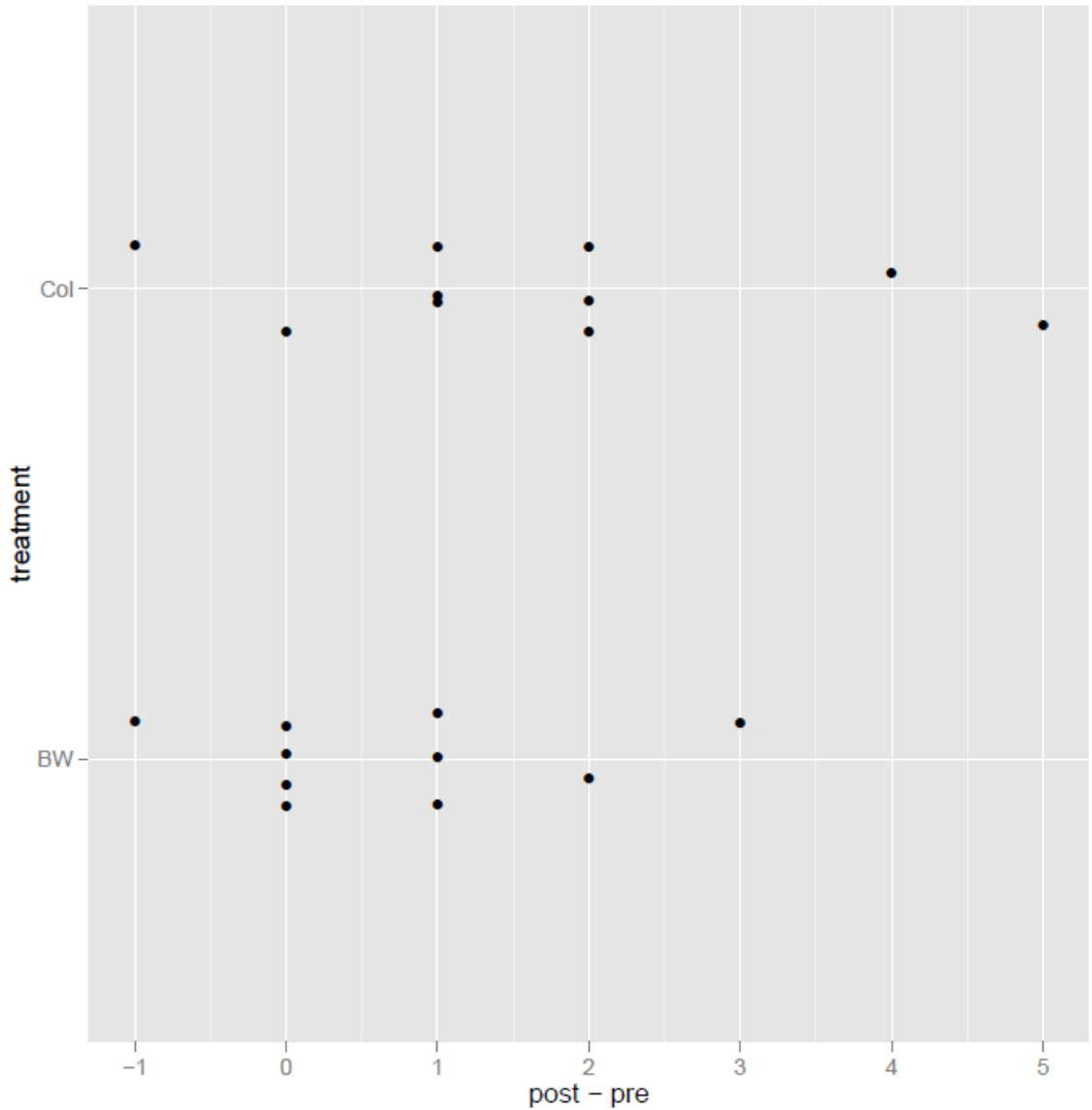
Figure 7 Pretest to posttest CGAL (BW) and TGAL (Col)

The next graph, figure 7, shows pretest to posttest results of the treatment for the

CGAL and TGAL groups. These findings suggest higher scores in the posttest than in

the pretest for the TGAL group.
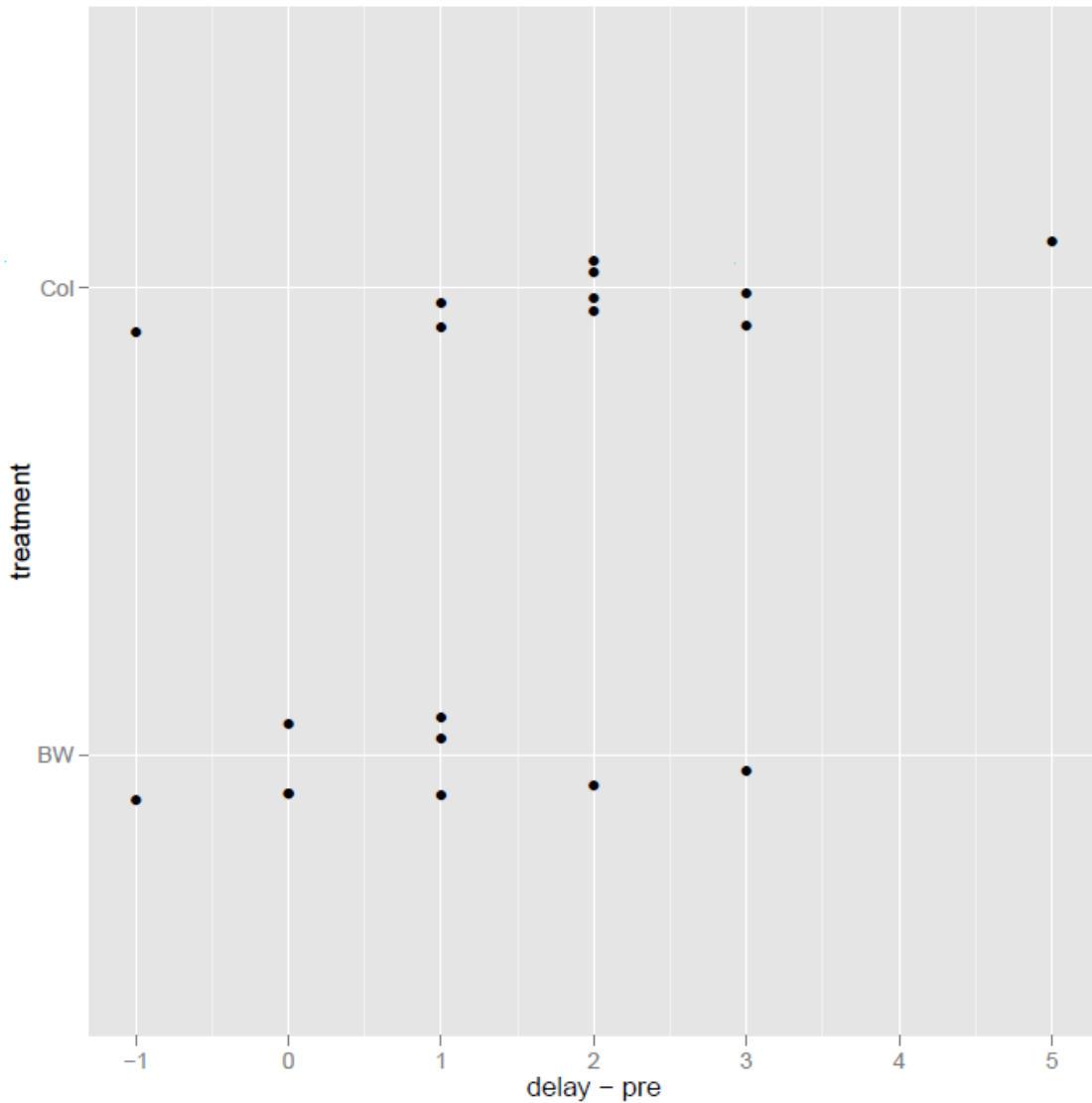
Figure 8 Pretest to delayed posttest CGAL (BW) and TGAL (Col)

In figure 8 we see the plotted pretest to delayed posttest results. This graph suggests higher scores in the delayed posttest TGAL group than in the pretest. And higher scores for the TGAL group's posttest versus the CGAL group.
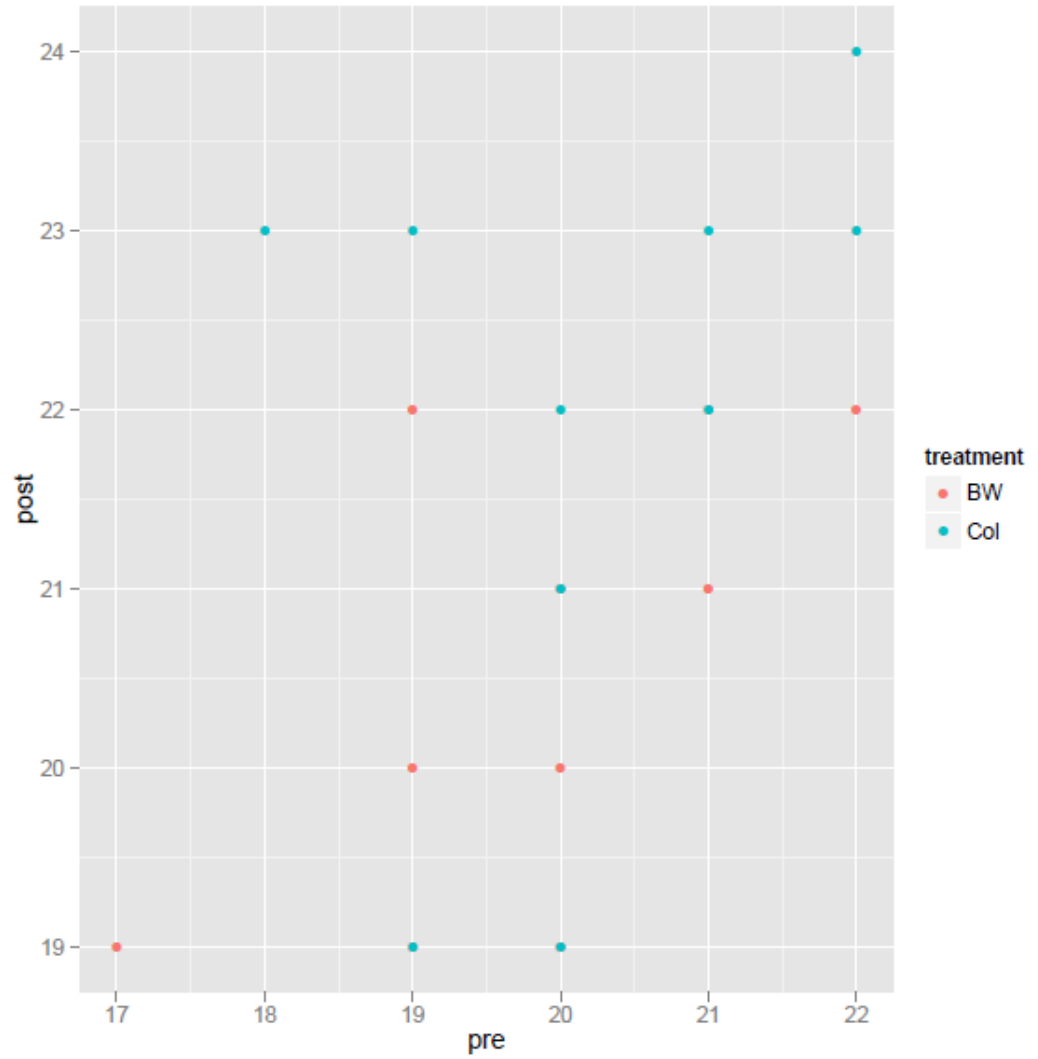
Figure 9 TGAL (Col), CGAL (BW) Pretest, posttest analysis

This graph shows advances in the TGAL group posttest results. We can observe higher scores in the posttest than in the pretest for the TGAL group as indicated by the blue plots.
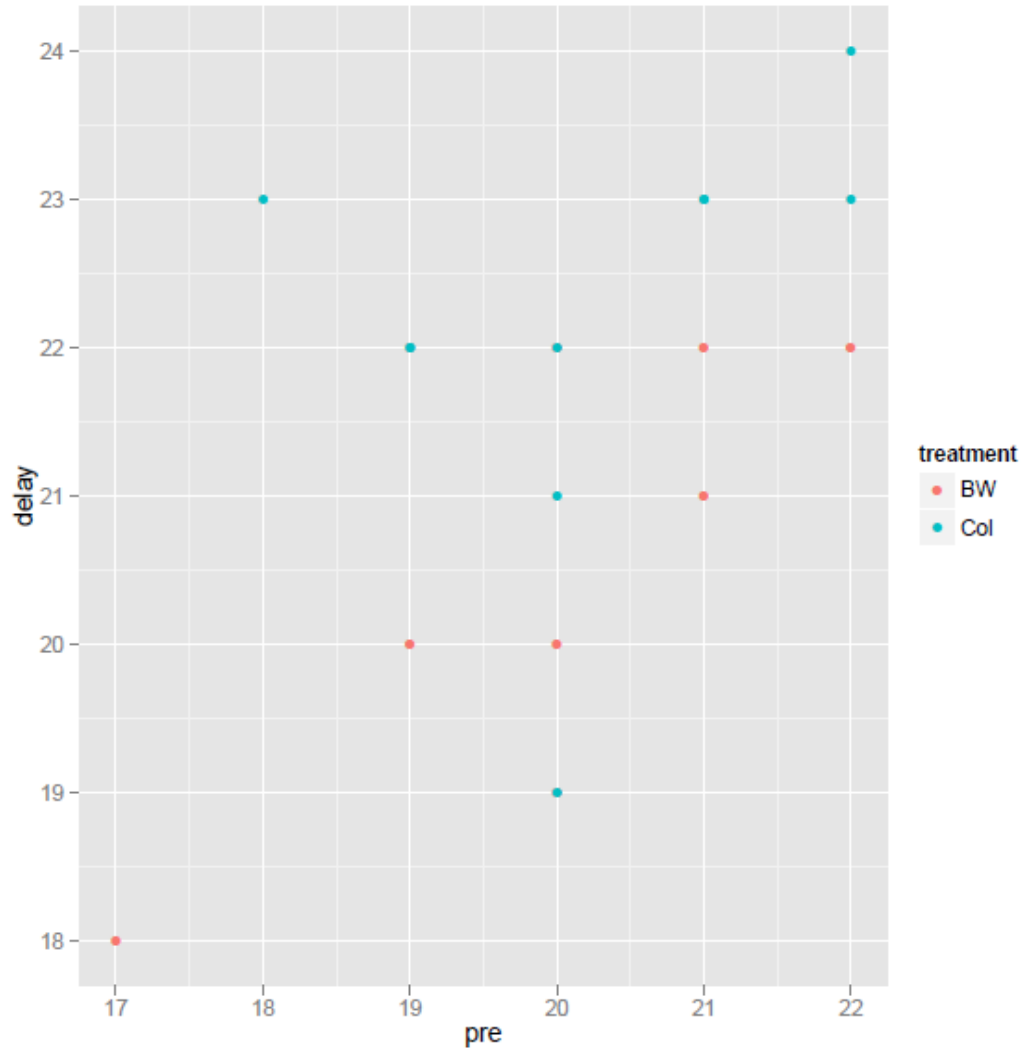
Figure 10 TGAL (Col), CGAL (BW) Pretest, delayed posttest analysis

Here we can observe higher scores in the delayed posttest than in the pretest for the TGAL group. The CGAL group on the other hand, does not display any significant gains.

In conclusion, the results of the figure 5 plot graph are similar to the elementary level figure 1 plot graph. However, the figure 7, 8, 9, and 10 TGAL plots demonstrate more significant gains in participants' ability to assign the referents to the anaphoric clitic pronouns than the elementary level graphs. While sections 5.3 and 5.4 gave an overview

of results for the study, sections 5.5 through 5.8 will provide more detailed results

separated by each group participating in the study (CGEL, TGEL, CGAL and TGAL

respectively) via each group's t-test scores.

5.5 Results of the Elementary Level Unenhanced Treatment (CGEL)

The results, depicted in both figure 11 and table 2 below, compare the CGEL

pretest with the CGEL posttests for the control group. This group was treated with the

unenhanced versions of the paragraphs. Statistical significance for the t-score is

measured at $p < 0.05$ for the p-value.
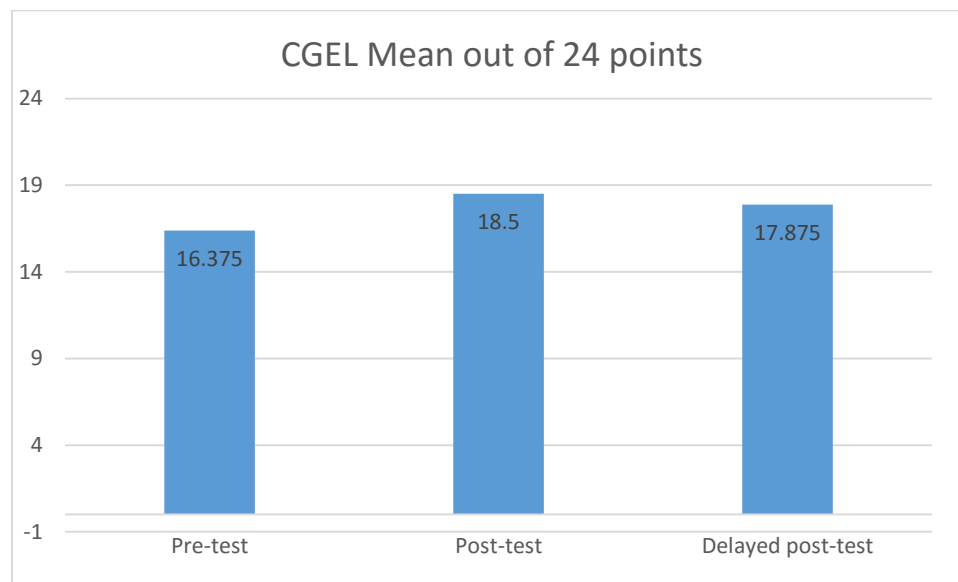
Figure 11. Control group elementary level means

Figure 11 above presents the CGEL means out of a possible twenty-four points.

By looking at the mean value percentage alone, we can see an increase in value from the

pre to the posttests. In order to determine if these results are in fact statistically

significant we now consider the results of the paired t-test, as presented in table 2 below.

Control Group Elementary Level Pretest/Posttest/Delayed Posttest				
Pretest	**Posttest**	**Delayed Posttest**	**Statistical Significance:** *Pretest to Posttest*	**Statistical Significance:** *Pretest to Delayed Posttest*
68% *(16.375/24)*	**77%** *(18.5/24)*	**75%** *(17.875/24)*	**NO** **Two-sided p-value: 0.367** *t= -0.9405, df= 11.108*; **p>0.05**	**NO** **Two-sided p-value: 0.5547** *t= -0.6063 df= 13.116* **p>0.05**

Table 2 CGEL Pretest/Posttest/Delayed Posttest

The percentages shown in table 2 were calculated out of a possible one hundred percent. When the mean percentages for each test were analyzed more closely via the t-tests, these results were not found to be statistically significant. The pretest compared to the posttest reveals that the unenhanced version of the treatment did not help the participants correctly retrieve the referent of the anaphoric clitic pronouns (t=.-0.9495, df =11.108, p>.05). Therefore, the two-sided p-value of 0.367 reveals that no statistical significance can be demonstrated for the elementary level control group from the pretest to the initial posttest.

In terms of the analysis of the CGEL pretest to the delayed posttest, the results were also not found to be statistically significant (t= -0.6063, df= 13.116). The two-sided p-value of 0.5547 validates these insignificant results.

5.6 Results of the Elementary Level Input Enhanced Treatment (TGEL)
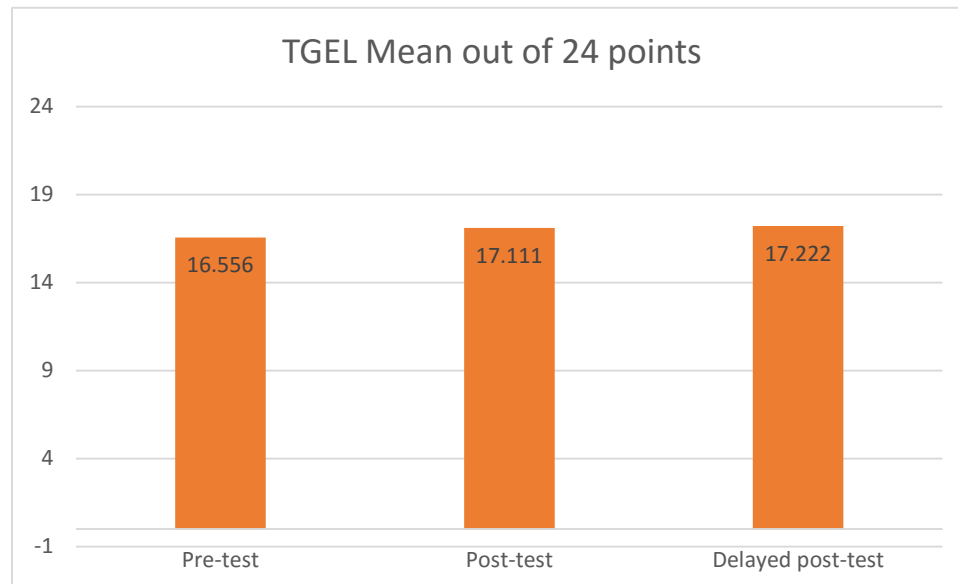
Figure 12. Test group elementary level means

Figure 12 is a depiction of the TGEL means. In this graphic display we can see a slight increase in the mean percentage from the pretest to the posttest, and an even slighter increase in percentage from the pretest to the delayed posttest. Further analysis via the paired t-tests help to interpret the significance of these percentages. The results of the t-tests are depicted in table 2 below.

Test Group Elementary Level Pretest/Posttest/Delayed Posttest				
Pretest	Posttest	Delayed Posttest	Statistical Significance: *Pretest to Posttest*	Statistical Significance: *Pretest to Delayed Posttest*
69% *(16.55555556/24)*	71% *(17.11111111/24)*	72% *(17.22222222/24)*	NO Two-sided p-value: 0.7793 *t= -0.2852, df= 15.34*; p>0.05	NO Two-sided p-value: 0.7091 *t= -0.3799, df= 15.991*; p>0.05

Table 3 TGEL Pretest/Posttest/Delayed Posttest

The pretest compared to the posttest reveals that the input enhanced version of the treatment did not help the TGEL participants advance their knowledge of the referent of the third person dative and accusative clitic pronouns, as the results were not found to be statistically significant (t=-0.2852, df=15.34, p>.05). Moreover, the results of the t-test for the pretest to delayed posttest were also not found to be statistically significant (t=-0.3799, df=15.991, p>0.05).

These findings are in line with the hypothesis presented for these participants. The research question asked if input enhancement used to facilitate the identification of referents of anaphoric pronouns has a positive effect on the acquisition of Spanish clitics, including anaphora resolution, by beginner level learners who have not been exposed to these forms in a typical classroom setting prior to the treatment. The hypothesis then maintained that meaningful effects of IE for targeted structures that are new or relatively new to students are not expected. The hypothesis was based on the previous studies of Leow (1997, 2001) Leow et al., (2003) and Wong (2003) which did not witness any

meaningful effects of IE for target language structures that were new or relatively new to the L2 learners.

One reason for these results could be because the learners were not developmentally ready, following Pienemann's (1987, 1989, 1998) Processability/Teachability theory, which maintains that learners must be developmentally ready to learn formal features of a language. In this way, premature instruction could have a detrimental effect on learning and acquisition. Although the saliency of the input was increased in the IE treatments, the learners still did not present sufficient knowledge of the clitic pronouns after the testing.

Furthermore, VanPatten's First Noun Principle states that "the order in which learners encounter sentence elements is a powerful factor in assigning grammatical relations amongst sentence elements" (Lee & Benati 2009:4). In other words, VanPatten is asserting that learners will process the first pronoun or noun that they read in a sentence as the subject (VanPatten 2007 in Lee & Benati 2009). Additionally, VanPatten has proposed the Primacy of Meaning Principle, which maintains that learners' process input for meaning before form (VanPatten 2004 in Lee & Benati 2009). One subdivision of this second principle is the Sentence-Location-Principle. According to it, learners will process items in the initial position of the sentence before items in the middle or final position. Keeping in mind that word order differs in both Spanish and English, this could help to explain why the elementary level students could not process the third person dative and accusative clitic pronouns even with the input enhancement. It is possible that they could not understand the relationship of the highlighted items in the sentences

because they could not process that the noun in the final position of the sentence corresponds with the clitic in the initial position of the sentence, for example.

Finally, Schmidt's (1990) theoretical framework concerning consciousness maintains that there are three aspects of consciousness: consciousness as awareness, consciousness as intention and consciousness as knowledge. During consciousness as awareness, Schmidt maintains there are three stages: perception, noticing and understanding. During the stage of perception, he states that there is a mental representation and organization of external facts. This happens before the noticing stage. Given that these participants had not yet been introduced to the dative and accusative clitics, it could be that they had simply not yet completed the perception stage of consciousness and therefore could not move on to the noticing stage, which would allow them to turn the input into intake and then understand and become aware of the targeted linguistic feature.

To review, the beginning level participants demonstrated that they did not improve their ability to assign the referents to the anaphoric clitic pronouns. Therefore, the input enhancement was not successful in helping these students to comprehend the relationship of the third person dative and accusative clitic pronouns and their host nouns, consequently resulting in no demonstration of a positive effect on the acquisition of Spanish clitics. Although arbitrary, it is interesting to note that the control group did better than the test group at this level.

5.7 Results of the Advanced Level Unenhanced Treatment (CGAL)

Two-paired t-tests were also administered to determine the results of the
treatments and testing of the advanced level groups. The test results showing in both
figure 13 and table 4 below compare the advanced level pretest with the advanced level
posttest and delayed posttest for the CGAL group.
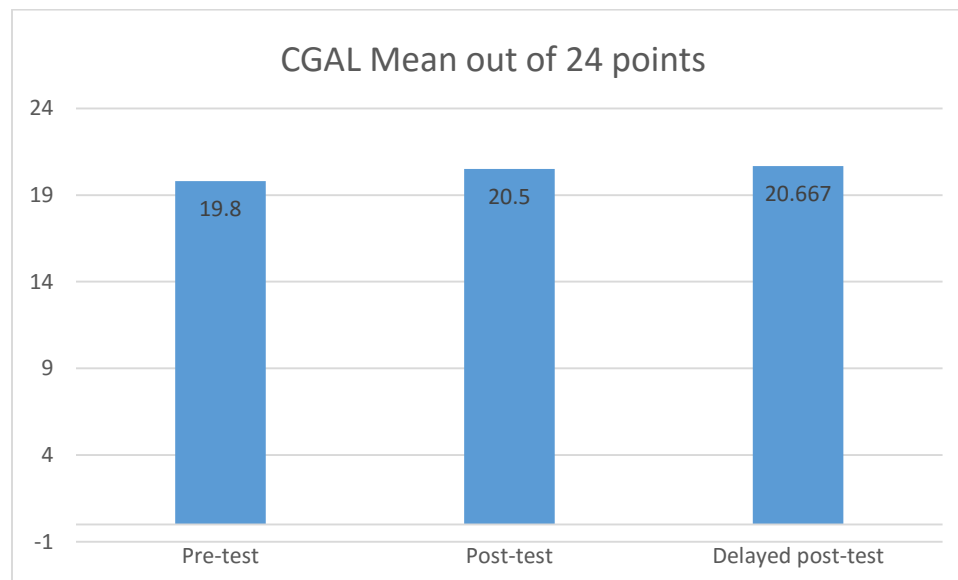
Figure 13. Control group advanced level means

One on hand, figure 13 shows very minimal advances in gains from the pretest to
the posttest and the delayed posttest respectively for the unenhanced group, and the t-test
values in table 4 below help to evaluate these results further.

Control Group Advanced Level Pretest/Posttest/Delayed Posttest				
Pretest	Posttest	Delayed Posttest	Statistical Significance: *Pretest to Posttest*	Statistical Significance: *Pretest to Delayed Posttest*
82.5% *(19.8/24)*	**85%** *(20.5/24)*	**86%** *(20.6666666 /24*	NO **Two-sided p-value: 0.2566** *t= -1.1721, df= 17.834*; **p>0.05**	NO **Two-sided p-value: 0.2121** *t= -1.2984, df= 16.459*; **p>0.05**

Table 4 CGAL Pretest/Posttest/Delayed Posttest

Comparisons of the pretest to the posttest of this CGAL group reveal findings of

statistical insignificance as the two-sided p-value is 0.2566. Additionally, the pretest to

delayed posttest p-value of 0.2121 is also determined to be inconsequential. Therefore,

the tests have revealed that the participants in the advanced level group who read

unenhanced versions of the paragraphs did not demonstrate sufficient enough

comprehension of the third person clitic pronouns in order to correctly identify the

referents of such clitics.

5.8 Results of the Advanced Level Enhanced Treatment (TGAL)
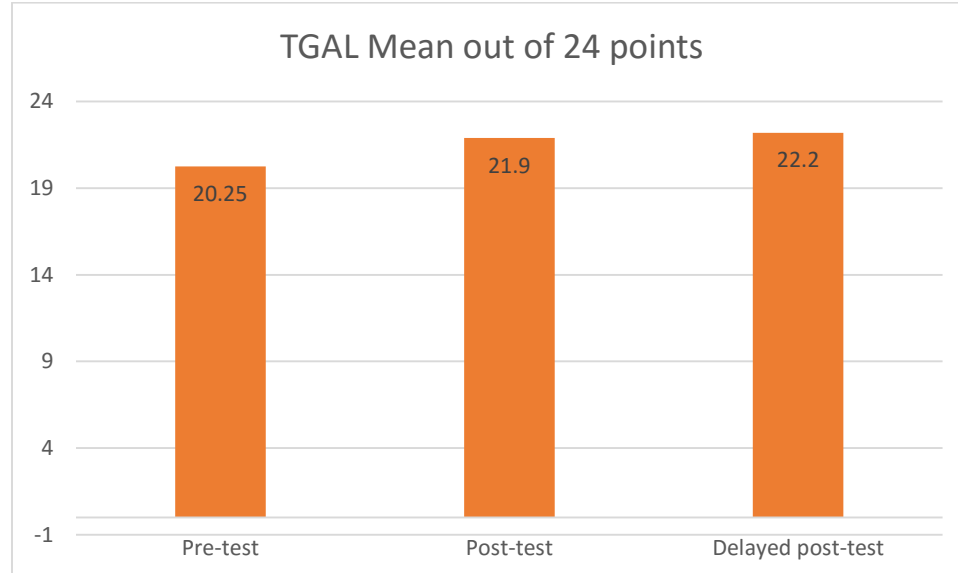
Figure 14. Test group advanced level means

The advanced level test group, on the other hand, shows some promising results. First, a comparison of the means of this group demonstrates a steadily increased incline from the pretest to the posttest, advancing 9% from the pretest (84%) to the delayed posttest (91%) (See table 5). They also indicate a slight advance from the posttest to the delayed posttest.

The statistical findings from the t-test for this TGAL group show to be quite relevant. This group did in fact have gains that were statistically significant. The two-sided p-value from the pretest to the post test is 0.02434, while it is 0.004059 from the pretest to the delayed posttest. Therefore, both p-values are at $p<0.05$, as indicated in table 5 below:

Test Group Advanced Level Pretest/Posttest/Delayed Posttest				
Pretest	Posttest	Delayed Posttest	Statistical Significance: *Pretest to Posttest*	Statistical Significance: *Pretest to Delayed Posttest*
84% (20.25/24)	91% (21.9/24)	93% (22.2/24)	YES Two-sided p-value: 0.02434 *t= -2.4739, df= 16.812*; p<0.05	YES Two-sided p-value: 0.004059 *t= -3.2929, df= 17.935*; p<0.05

Table 5. TGAL Pretest/Posttest/Delayed Posttest

The results from the TGAL group support the first hypothesis, which states that input enhancement used to facilitate the identification of referents of anaphoric pronouns will have a positive effect on the acquisition of Spanish clitics by advanced learners who have been previously and repeatedly exposed to these forms in a typical classroom setting, yet they have not produced the forms prior to the treatment. This hypothesis was based on Lee's (2007) investigation where Lee found that IE combined with prior knowledge may incite noticing and understanding for L2 learners. Consequently, these advanced level participants were able to convert the input into intake following Schmidt's (1990) Noticing Hypothesis. This allowed the participants to become aware of the clitics as they consciously paid attention to them. Furthermore, they were able to perceive, notice and understand the concept of clitics. For Schmidt (1990), L2 forms must be noticed in order to be learned. Awareness at the level of noticing is necessary in order to convert input into intake (Schmidt 1990). These advanced level participants most likely already had a representation of the concept of dative and accusative clitics in their

grammars, either consciously or subliminally, given that they had been introduced to these forms previously, but could not yet show comprehension of them on their pretests. Input enhancement (Sharwood Smith 1991) allowed for noticing as the clitic pronouns were made to be more salient, thus allowing the advanced level learners to notice the clitics. After the IE treatments, they became aware of the clitics, which allowed for the conversion of input into intake, thus creating the necessary conditions for learning to take place.

Considering some of the conditions put forth in Long's (1991) focus on form, the pedagogical intervention should remain unobtrusive so that it does not interrupt language use; focus on form must arrive incidentally and the primary focus should be on meaning. All of these considerations were utilized in the treatment design, which also may had helped lead to comprehension of the clitic pronouns.

There is also a possibility that these students were more developmentally ready than the elementary level Spanish students in their abilities to learn the clitic pronouns, following Pienemann's (1987, 1989, 1998) *Processability/Teachability theory*. Consequently, due to learner readiness, they were able to process both the clitics and their anaphoric antecedents in the sentences. Park (2004) in his IE investigation found that learners may be driven by developmental readiness. He went on to maintain that noticing can be dependent upon learner readiness. Williams and Evans (1998) also found learner readiness to be an essential factor for focus on form interventions to be successful. One could assume that the advanced level participants were more ready in terms of cognitive and developmental levels than the elementary level participants, which resulted in the IE giving them further gains in comprehension of the third person clitic pronouns.

Form-meaning connections may also account for the positive effects of the IE treatment for the advanced level participants. In order to establish such a connection, learners must be able to understand the relationship between the forms, their meanings, and how connections between the form and the meaning are established (VanPatten, Williams & Rott 2004:4). In this investigation the advanced level learners were able to establish the connection between the dative and accusative clitic pronouns and their meanings, as well as referents. They demonstrated that they could relate the clitic pronouns with their referents, and comprehend the meaning of the two, which enabled them to establish a form-meaning connection.

In sum, the enhanced input helped the TGAL group to notice and therefore comprehend the relationship between the third person dative and accusative clitics and their referents, thus having a positive effect on the acquisition of the clitics. The enhancement also may have provided opportunities for participants to become aware of where they are in their language development, and what they need to do in order to correct any mistakes that they may have acquired previously. The unobtrusive focus on form in the enhanced paragraphs allowed the advanced level participants to engage in both meaning and form. This implicit revision of the problematic grammatical forms of clitics proved to be helpful for the advanced level participants, who had previously been exposed to the clitics, but were not able produce such forms prior to the treatments.

The input enhancement allowed the participants at each level to notice the difference between what he or she is capable of doing now and what he or she should be aiming towards doing in the next stage of his or her development. However, it was the advanced level test group participants who were able to make the connections between

the highlighted clitics and their referents and to correlate the meaning of such a connection.

5.9 Summary

Chapter five provided the data analysis procedures and results for the present research. Mean percentages for the pre, post and delayed posttests for each group, CGEL, TGEL, CGAL and TGAL were presented. Also the results of Welch's paired t-tests were put forth. The results revealed that the input enhancement did help the advanced level participants following the hypothesis put forth in chapter four. Also keeping in line with the hypotheses, the enhanced input was not found to be statistically significant for the elementary level participants. Some reasons for this difference may be due to factors such as developmental readiness, trying to or actually processing form before meaning, or processing the first noun in the sentence as the subject of the sentence. Chapter six will provide the concluding remarks, any limitations to the study and the implications for future research.

CHAPTER 6

CONCLUSION

6.1 Introduction

This chapter concludes and summarizes the research presented in this dissertation, which investigated the role of input enhancement in a CALL setting among participants of differing Spanish L2 abilities. Given that the data from this investigation has already been presented in previous chapters, this chapter will provide a very brief overview of the research and findings. Subsequently, in section 6.3 limitations specific to the study will be provided, while section 6.4 will propose some suggestions for future research. Lastly, section 6.5 will conclude this investigation.

6.2 Summary of the Investigation

The motivation for this research came out after a series of L2 Spanish classroom observations made by the researcher who noticed that the association between the third person dative and accusative clitic pronouns and their referents were repeatedly posing comprehension difficulties for L2 learners who were L1 English speakers. After reading various input enhancement studies, it was thought that perhaps this type of pedagogical intervention could help assist L2 learners in comprehension of these particular clitic pronouns. Furthermore, due to the rapid increase in the use of technology in the L2 classroom, it was considered that a CALL setting could also be beneficial in such an investigation.

The purpose of this study was to verify if input enhancement allows for the acquisition of dative and accusative clitic forms including anaphora resolution. Also, it

examined whether or not input enhancement combined with local interpretation activities allows L2 learners of differing levels to make form-meaning connections, therefore increasing the learners' knowledge of third person accusative and dative Spanish clitics.

The Language Teaching and Research Lab of the University was the site for the data collection process. A pretest/posttest/delayed posttest design was utilized to measure participants' abilities and screen out any participants who had advanced knowledge and comprehension of third person dative and accusative clitics. Two treatment sessions occurred. Each group read twelve short texts, about one paragraph in length per text. The participants' read six paragraph per treatment session. Each text contained accompanying comprehension questions based on the readings. If these questions were answered correctly, it would demonstrate that the participant understood the relationship between the clitic pronouns and their corresponding referents in the paragraph.

6.3 Findings

Chapter 5 presented specific graphs and observations regarding the results of the investigation. In terms of the first research question, the results support the hypothesis. The first hypothesis states that input enhancement used to facilitate the identification of referents of anaphoric pronouns will have a positive effect on the acquisition of Spanish clitics, including anaphora resolution, by advanced learners who have repeatedly been exposed to grammatical explanations and practice of the forms, but have not yet shown a consistent pattern of pronominal disambiguation in comprehension tasks. Rationale for

such results include Lee's (2007) investigation which found that IE combined with prior knowledge may incite noticing and understanding for L2 learners.

Additionally, following Schmidt's (1990) Noticing Hypothesis, the advanced level participants were able to convert input into intake, which allowed the participants to become aware of the clitics as they consciously paid attention to them. For Schmidt (1990), L2 forms must be noticed in order to be learned and awareness at the level of noticing is necessary in order to convert input into intake. It was considered that due to their course level, the advanced level participants most likely already had a mental organization of the concept of dative and accusative clitics in their consciousness, whether it be consciously or subliminally, but they could not yet show comprehension of them when completing their pretests. It was stated that input enhancement (Sharwood Smith 1991) allowed for noticing to take place since the clitic pronouns were now more salient. Therefore the IE treatments allowed them to become aware of the clitics, this allowing for the conversion of input into intake.

Long's (1991) focus on form was also a consideration in these results because during the treatments the pedagogical intervention was unobtrusive and did not interrupt language use; the focus on form arrived incidentally, and the primary focus was on meaning. There is also a possibility that these students were more developmentally ready than the elementary level Spanish students in their abilities to learn the clitic pronouns, following Pienemann's (1987, 1989, 1998) *Processability/Teachability theory*. Consequently, due to learner readiness, they were able to process both the clitics and their referents in the paragraph.

Finally, form-meaning connections was also considered to play a role in the positive outcome of the IE treatments for the advanced level participants. In order to establish such a connection, learners need to be able to understand the relationship between forms, their meanings, and how connections between the form and the meaning are established (VanPatten, Williams & Rott 2004:4). In this particular investigation, the advanced level learners were able to establish the connection between the clitics and their meanings, as well as referents. They demonstrated that they could relate the clitic pronouns with their referents, which enabled them to establish this connection.

In response to the second research question, the findings are coherent with the hypothesis presented. The research question asked if input enhancement used to facilitate the identification of referents of anaphoric pronouns has a positive effect on the acquisition of Spanish clitics, including anaphora resolution, by beginner level learners who have not been exposed to these forms in a typical classroom setting prior to the treatment. The hypothesis maintained that meaningful effects of IE for targeted structures that are new or relatively new to students were not expected. The hypothesis was based on the previous studies of Leow (1997, 2001) Leow et al., (2003) and Wong (2003) which did not witness any meaningful effects of IE for target language structures that were new or relatively new to the L2 learners.

It was maintained that these results possibly occurred because the learners were not developmentally ready to comprehend the construction of the target language features, following Pienemann's (1987, 1989, 1998) *Processability/Teachability theory* which maintains that learners must be developmentally ready to learn formal features of a language. In this way, premature instruction could have a detrimental effect on learning

and acquisition. Other possible reasons for such results included VanPatten's First Noun Principle and Sentence-Location Principle, a subdivision of the Primacy of Meaning Principle, both of which maintain that the order in which elements in a sentence appear are key factors in how a sentence is understood. In this case, the order in which the pronouns appear in a sentence could have an effect on the interpretation of the sentence. Moreover, differing word order in both Spanish and English could help to explain why the elementary level students could not process the third person dative and accusative clitic pronouns.

Furthermore, Schmidt's (1990) theoretical framework concerning consciousness was also considered while examining these results. The elementary level participants had not yet been introduced to the dative and accusative clitics. Therefore, the possibility arises that they had not yet completed the perception stage of consciousness and as such were not able to turn the input into intake.

6.4 Limitations

The first limitation would be the small sample size. The amount of participants was lowered from the original participant pool as some participants scored well on the pretest. However, even before this reduction occurred, a larger participant pool of both the elementary level and advanced level participants would have been more fruitful for the data collection, analysis and results.

Secondly, the current research project only had two treatment sessions. Although this study is longer in duration than past input enhancement studies, it would have been beneficial to have more treatment sessions, over a longer time duration. Also, depending

on the number of chapters studied in the book per semester, one treatment session per chapter could prove to be more profitable.

And finally, the advanced level participants were enrolled in an advanced level Spanish grammar course. This course may have them more geared towards carefully paying attention to grammatical forms and accuracy. On the other hand, the elementary level course is more communicative in nature and content, and has less of an emphasis on grammatical accuracy, but places more emphasis on fluency in the target language. It is possible that these differences in course style and content may have helped the advanced level students to benefit more from the IE treatments than the elementary level students.

6.5 Suggestions for Future Research

Future research could try to determine whether or not a different, but possibly equally difficult targeted linguistic form for L2 Spanish language learners, such as the subjunctive, produces similar results. Also, it could be beneficial to give a brief grammar explanation before the input enhancement treatments to see if this explanation combined with the enhancement helps students to obtain further gains in understanding the dative and accusative clitics.

Future research should definitely have a larger participant pool. Also the incorporation of more treatment sessions, if possible, could prove to be beneficial. Furthermore, a longitudinal study in which the participants are followed from one semester to the next, where the delayed posttest doesn't occur until the second semester could assist in looking at the longer term results of enhancing learner input.

Furthermore, perhaps a different type of enhancement could be more beneficial for learners at this beginning level of language learning. The highlighted textual

modifications may not be explicit enough to trigger the attention and awareness necessary for acquisition. In this case, a supplemental, more explicit type of enhancement may be necessary such as providing an example and explicitly discussing the properties of the targeted L2 grammatical form. Also, the input enhancement used in the treatments highlighted non-local anaphora, which can possibly be quite hard for beginner level students. Maybe they need a treatment that presents pronouns in a more local context, for example, directly next to their referents.

6.6 Concluding Remarks

The dissertation project presented here aimed to capture students' attention through the use of technology and input enhancement, while also attempting to pinpoint how to address comprehension, an area of foreign language learning which is necessary for students to eventually become native-like speakers of a second language. Future implications of this study should address new techniques for the teaching foreign languages. If we understand how learners react to certain types of input enhancements in computer based settings, then we can design new web tools that help L2 learners to acquire certain target linguistic forms. Therefore, the dissertation project presented here may possibly help to develop new technological materials for L2 instruction that have been scientifically proven to assist learners acquire a second language.

To review, the overall conclusions of this investigation are as follows:

1) Input enhancement when utilized with third person dative and accusative clitic pronouns by beginner level L2 students, who have never been exposed to such pronouns in a typical classroom setting does not facilitate the acquisition of these clitic pronouns. 2) Input enhancement used to facilitate the identification of referents of anaphoric pronouns has a positive effect on the acquisition of third person dative and accusative Spanish clitics by advanced learners who have previously been exposed to grammatical explanations and practice of the forms, but have not yet shown a consistent pattern of pronominal disambiguation in comprehension tasks.

In conclusion, future research should work with a larger body of evidence, try different pre and posttest means and include more treatment sessions. This investigation did meet the goals and purposes it set out to achieve. A contribution to the fields of Applied Linguistics, CALL and Second Language Acquisition has been made through of the findings of the study in support of IE treatments for advanced level learners, which is supported by the empirical evidence given in this investigation.

APPENDICES

APPENDIX A

TREATMENT 1

TEST VERSION TGEL & TGAL

Ejercicio 1:

Elena es una artista. **Le** encanta el arte y colecciona **los dibujos de flores y las pinturas de paisajes**. **Los** colecciona porque la naturaleza es muy importante para ella. Ella quiere comprar **una obra de arte** muy rica en colores que presenta elementos de la naturaleza para poner en su sala (*living room*). Por eso, ella va a una tienda de arte (*art store*) para comprar**la**. En la tienda ella ve **una pintura** con unas montañas y **un dibujo** de unas flores muy bonitas. Quiere comprar**los**, pero Elena no tiene el dinero (*money*) para comprar los dos. **La pintura** cuesta (*costs*) cien dólares, pero es muy bonita. **La** quiere comprar porque presenta muchos elementos de la naturaleza. **El dibujo de las flores** sólo cuesta cincuenta dólares. **Lo** puede comprar hoy. **El dibujo** tiene los elementos que a ella **le** gusta y cuesta menos que **la pintura**. Pero, **la pintura** es muy atractiva. **La** puede imaginar en la pared de su sala. **El dibujo** es más grande que **la pintura**. No hay suficiente espacio para poner**lo** en la pared (*wall*) de su sala. Al final, aunque **la pintura** cuesta más que **el dibujo**, Elena decide comprar**la**.

Preguntas:
1. ¿Qué compra Elena al final, el dibujo, la pintura o nada?
2. ¿Qué quiere comprar en la tienda de arte?
3. ¿Cuál puede comprar hoy Elena, el dibujo o la pintura?
4. ¿Cuáles cosas coleccionan Elena?
5. ¿Qué puede imaginar ella en la pared de su sala?

Ejercicio 2:
María tiene **un apartamento** en la ciudad, pero necesita alquilar**lo** porque ella quiere vivir en el campo. La ciudad **le** molesta porque el aire está muy contaminado. **Jorge** quiere hablar con **su amiga** sobre **el apartamento**. **La** invita a tomar un café para discutir sobre el asunto. En el café **Jorge le** explica que ahora vive en **una casa** y usa **un coche** para llegar (arrive) a su trabajo. No **le** gustan, **la casa y el coche** tienen problemas. Quiere vender**los** tan pronto como pueda. **La casa** está muy lejos de su trabajo y **el coche** sólo **lo** usa de vez en cuando. Es muy caro (*expensive*), por eso **lo** quiere vender (*to sell*). También, **la casa** tiene muchos problemas y es muy vieja. **Jorge** necesita vender**la** pronto para obtener dinero para vivir en la ciudad. A **Jorge, le** gusta **el apartamento** de **María** porque está en un barrio seguro y está cerca del **metro**. **Lo** puede usar en vez de manejar (*drive*) un coche a su trabajo. Sin embargo, **su** otra amiga

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Diana quiere vivir en la ciudad y está interesada en **el apartamento** también. Ahora **María** necesita decidir entre **Jorge** y **Diana**. **Diana** es una amiga buena y necesita vivir en la ciudad para su trabajo. Pero hace poco tiempo que **María la** conoce. **María** ha conocido (*has known*) a **Jorge** por diez años. Por eso, **María** decide que **se lo** quiere alquilar porque **lo** conoce mejor.

*Preguntas***:**

1. ¿Qué quiere alquilar María?
2. ¿A quién va a alquilar el apartamento, Diana o Jorge?
3. ¿Qué necesita vender Jorge?
4. ¿Qué puede usar Jorge para llegar (*arrive*) a su trabajo en la ciudad?
5. ¿Con quién habla Jorge en el café?

Ejercicio 3:

Salma Hayek asiste a la presentación de los premios Óscar

La actriz **Salma Hayek** va a asistir a la presentación de **los Óscar** en Hollywood. **El programa de los Óscar** es muy popular y millones de personas **lo** miran cada año. **Salma** necesita llevar un vestido y unos zapatos elegantes. Ella interpreta a **la pintora mexicana Frida Kahlo** en una película y **la** admira mucho, por eso quiere un vestido que represente su estilo. **El vestido** el diseñador mexicano Eduardo Lucero **lo** va a diseñar, pero a **Salma le** gustan **los zapatos** del diseñador español Manolo Blahnik. Ella puede encontrar**los** en una tienda de Rodeo Drive. También necesita **joyas**. Salma **las** prefiere comprar en la tienda de Harry Winston. Los joyeros (jewlers) de Harry Winston **le** recomiendan a **Salma un collar y unos aretes (earrings) de diamantes**. **Salma los** compró. Antes de la ceremonia, Salma va a caminar por la alfombra roja (red carpet) y su coprotagonista, Alfred Molina, desea acompañar**la**. Muchos reporteros van a estar allí. Ellos **les** quieren hacer muchas preguntas **a Salma y a Alfred**. Si **Salma** gana el Óscar, muchas personas van a decir**le** a ella "Felicidades".

Preguntas:
1. ¿Qué compró Salma en Harry Winston?
2. ¿Dónde prefiere comprar las joyas?
3. ¿Qué miran millones de personas cada año?
4. ¿Qué va a diseñar Eduardo Lucero para Salma?
5. ¿Qué quiere hacer Alfred Molina?

Ejercicio 4:

Una chica explica cómo se prepara la sopa.

Corta **las zanahorias** antes de poner**las** en la olla (pot). Pelo **las papas** antes de cocinar**las**. **Las** pongo en una olla para hervir**las**. Veo que están listas (ready) cuando **las** puedo cortar fácilmente con un tenedor (fork). Luego, **las** saco de la olla y **las** pongo en la sopa. Además de **las papas**, añado (I add) **otros vegetales** a la sopa. **Los** añado lentamente, y cuando no hay más que añadir a **la sopa** y está lista, **la** pongo en el refrigerador hasta que sea la hora de llevar**la** a la casa de **mis primos**. Quiero mucho a **mis primos** y **los** veo con frecuencia. Para mi es importante ver**los** con frecuencia.

Preguntas:
1. ¿Qué añade lentamente en la preparación?
2. ¿Las papas o las zanahorias están listas cuando ella puede cortarlas fácilmente con un tenedor?
3. ¿Qué pone en el refrigerador?
4. ¿Qué lleva la chica a la casa de sus primos?
5. ¿Para la chica, a quienes es importante ver con frecuencia?

Ejercicio 5:

Camarero: Hola, bienvenidos a nuestro restaurante. Tenemos algunas especialidades del día. **Les** recomiendo el pollo y el pescado. ¿Necesitan **el menú**?

Sr. Martes: No, gracias, no **lo** necesitamos. Pedimos el pollo y el pescado para mi esposa.

Camarero: ¿Quieren ustedes unas copas de **vino blanco**?

Sr. Martes: ¿**El vino blanco**? No **lo** sirva con el pollo. Sírva**lo** con el pescado.

Camarero: Sí señor, **lo** voy a servir con el pescado. Y, ¿a usted le gustaría **un vino tinto**?

Sr. Martes: **Lo** quiero tomar, pero necesito conducir (to drive). ¿Me puede dar **una botella de agua mineral**?

Camarero: Sí, **la** voy a traer inmediatamente.

Unos minutos después el camarero sirve los refrescos y la comida.

Sra. Martes: ¿Dónde está nuestro **camarero**? No **lo** veo.

Sr. Martes: Mira, aquí viene.

Sra. Martes: Tráigame **la cuenta**, por favor.

Camarero: Aquí **la** tiene.

Sr. Martes: ¿Cuánto **le** debo?

Camarero: Ciento pesos por favor.

Preguntas:
1. ¿Quién va a tomar el vino blanco?
2. ¿Quieren mirar el menú Sr. y Sra. Martes?
3. ¿A quién debe dinero el Sr. Martes?
4. ¿Qué quiere tomar Sr. Martes?
5. ¿Qué va a traer el camarero al Sr. Martes?

Ejercicio 6

En el salón de clase típico:

La profesora Martínez les explica la lección **a los estudiantes**. **Los estudiantes le** hacen muchas preguntas **a la profesora**. **La profesora** pregunta, ¿Nora, **le** explica la respuesta número cinco **a la clase** por favor? Después de la explicación de Nora, Amanda **les** lee una lectura **a los estudiantes**. **Carmen le** escribe **un mensaje de texto a su amigo**. **La profesora le** pregunta a **Carmen**, ¿**A quién le** escribes **el mensaje de texto**? **Carmen le** responde que **lo** escribe **a su amigo**. Esteban **les** explica la tarea a **Ana** y a **Ramón**. Al final de la clase **los estudiantes le** dicen "adiós" **a la profesora** y **ella les** responde "hasta luego".

Preguntas:
1. ¿A quién pregunta la profesora sobre el mensaje de texto?
2. ¿A quién Carmen escribe un mensaje de texto?
3. ¿Esteban les explica la tarea a sus amigos o sus amigos le explican la tarea a él?
4. ¿Quién dice "hasta luego" a quién?
5. ¿A quién(es) Nora le explica la respuesta número cinco?

Ejercicio 1:

Juan y su esposa Gabriela quieren ir de viaje a Puerto Rico. Juan busca en la red los lugares para alojamientos y los servicios de unos hoteles en Puerto Rico.

Juan le pregunta a su esposa: "Hay un hotel que tiene algunos servicios buenos. ¿Está bien alojarnos allí?"

Gabriela le pregunta a él: "¿Cuáles son los servicios? ¿Hay **aire acondicionado**?"

Juan le responde a ella: "Es una lástima que el hotel no **lo** tenga."

Gabriela le pregunta a Juan: "Pues, yo **lo** veo como muy importante. ¿Hay **una piscina**? Es bueno usar**la** para nadar y tomar el sol."

Juan le responde a Gabriela: "Sí, y además, hay **una pista de tenis y una peluquería**. **Las** puedes usar para relajarte."

Gabriela le dice a Juan: Sí, a mí me gusta **el tenis**, pero no **lo** práctico mucho. Pero a mí me parece que **al hotel le** falta el **aire acondicionado**. Es muy importante tener**lo**.

Juan le dice a Gabriela: Sí, es verdad, **lo** necesitamos.

Gabriela le pregunta: Quiero visitar **la playa** también. Una de las playas en San Juan es muy hermosa. ¿Podemos visitar**la**?

Juan le responde: ¡Por supuesto podemos visitar**la**!

Gabriela le dice: Está bien.

Juan le dice a ella: ¡Ajá! Aquí hay **un hotel** cerca de la playa que tiene una piscina y aire acondicionado. Voy a llamar**lo** para hacer una reservación.

Gabriela le dice a él: Bueno, se puede ver que **los dos hoteles** están bien. Supongo que los clientes que escogen cualquiera de los dos van a estar felices.

Juan le dice: ¡Sí, **los hoteles** son buenos y ambos están cerca de las playas, por eso **los** quiero mucho!   Pero prefiero el segundo porque tiene aire acondicionado.

Gabriela le pregunta: Estoy de acuerdo. ¿Confirmaste (did you confirm) **las reservaciones**?

Juan le responde: Sí, **las** confirmé, sólo me falta el número de confirmación. El agente de viaje **le** va a escribir un mensaje electrónico **al recepcionista del hotel** para confirmar el número.

Gabriela le dice: Pues, entonces, reservemos este hotel.

Preguntas:

1. ¿Tiene aire acondicionado el primer hotel?
2. ¿Hay algo en el primer hotel que le ayudará a Gabriela a relajarse? En caso afirmativo, ¿qué?
3. ¿Qué es lo que necesitan en un hotel para alojarse allí?
4. ¿Juan y Gabriela van a visitar cualquier lugar en Puerto Rico? En caso afirmativo, ¿adónde?
5. ¿Quién va a escribir un correo electrónico a quién a fin de confirmar las reservas?

Ejercicio 2:

Exchange between Gustavo and his tour guide in Honduras

<u>**Guía:**</u> ¿Estudia usted la **arquitectura colonial**? Es muy bonita.

<u>**Gustavo:**</u> Sí, **la** estudio y también estudio **el inglés**. Quiero enseñar**lo** a mi madre para cuando ella visite los Estados Unidos.

<u>**Guía:**</u> ¿Quiere ver **los bailes folklóricos**?

<u>**Gustavo:**</u> Sí, quiero ver**los**. ¿Quizás **los** podemos ver el viernes? También quiero visitar **el museo de antropología** en San Pedro Sula. ¿**Lo** podemos visitar el martes?

<u>**Guía:**</u> Sí, **los bailes folklóricos**, **los** podemos ver el viernes, pero no sé cuándo podemos ir a San Pedro Sula. ¿Tiene usted su **cámara**?

<u>**Gustavo:**</u> No, no **la** tengo. Quiero comprar **la cámara digital** que vi en **la tienda** en el centro. Tengo suficiente dinero para comprar**la**. ¿Cuándo vamos a ir a **la tienda**?

<u>**Guía:**</u> Podemos ir a visitar**la** ahora. ¿Ve usted **el daño** (*damage*) del huracán?

<u>**Gustavo:**</u> Sí, **lo** veo.

Guía: ¿Desea visitar **las ruinas arqueológicas**?

Gustavo: Sí, deseo visitar**las**.

Guía: Y, ¿cuándo quiere visitar **las montañas y la Esperanza**?

Gustavo: Las quiero visitar mañana.

Preguntas:
1. ¿Cuándo van a ver los bailes folklóricos?
2. ¿Qué quiere enseñar Gustavo a su madre?
3. ¿Qué va a comprar Gustavo con su dinero?
4. ¿Cuándo van a ir a la tienda en el centro?
5. ¿Qué van a visitar mañana?

Ejercicio 3:

Una carta de Eduardo a Isabel:

Querida **Isabel**:

Te escribo para contar**te** sobre mi viaje a Patagonia. Es una región bellísima de Chile que incluye montañas y costas y una gran variedad de animales. Nuestro guía Antonio es muy simpático y nos explica sobre la región. **A mis amigos les** parece que él conoce bien la flora y la fauna de la región. A **Juan le** fascinan las plantas y los animales, pero a **Carlos** y a **Ana les** interesan especialmente **los lobos marinos** (*sea lions*) que llegan todos los años para criar a sus hijos. Están protegidos en toda la costa de Chile, y a **muchas personas les** encanta observar**los** durante este tiempo. A mi amigo **Franco**, no **le** gusta mucho la playa porque hace mucho viento para nadar, pero **le** gusta observar la vida marina. Bueno Isabel, si a ti **te** interesa la naturaleza, **te** va a fascinar la Patagonia.

Un abrazo,

Eduardo

Preguntas:
1. ¿A quién(es) le(s) encanta observar los lobos marinos?
2. ¿A quién le gusta observar la vida marina?
3. ¿A quién(es) le(s) parece que Antonio sabe mucho sobre la flora y la fauna?
4. ¿Hay alguien quién está interesado en los lobos marinos? ¿Quién(es)?
5. ¿A Juan le fascinan las plantas y los animales?

Ejercicio 4:

En una tienda

Dependiente: Buenas tardes **señorita**. ¿En qué puedo servir**le**?

Cliente: Buenas tardes. Es el cumpleaños de mi **novio** y busco algo para él. Quiero regalar**le** (give) algo muy bonito.

Dependiente: Muy bien. Tenemos **unas corbatas** muy elegantes. Con mucho gusto **le** muestro (show) algunas de ellas.

Cliente: No gracias no **las** quiero. Quiero regalar**le** algo más original.

Dependiente: Pues…tenemos **unos suéteres de cachemir** muy finos.

Cliente: Oh, sí. ¡Buena idea! ¿Puede mostrárme**los**?

Dependiente: Cómo no. Aquí hay varios.

Cliente: Prefiero **el suéter rojo**. Me **lo** llevo.

Dependiente: Muy bien. Ese suéter cuesta 150 euros. ¿Cómo **lo** va a pagar?

Cliente: Con tarjeta de crédito. Aquí tiene.

Dependiente: Muchas gracias.

Cliente: **Le** agradezco mucho sus recomendaciones.

Dependiente: No hay de qué (no problem). Para servir**le**.

Preguntas:
1. ¿Qué regalo no quiere comprar para su novio?
2. ¿Qué va a mostrar el dependiente al cliente?
3. ¿Cómo va a pagar el cliente?
4. ¿El cliente quiere agradecer las recomendaciones de su novio o del dependiente?
5. ¿Para quién es el regalo?

Ejercicio 5:

En el restaurante

El camarero trae **una botella de vino tinto**. **La** pone en la mesa. También trae **las copas de vino**. **Las** pone delante de Lola y Manolo. Lola quiere **la especialidad de la casa**. Va a pedir**la**. Manolo prefiere **el pescado fresco**. **Lo** pide. Lola quiere **una ensalada** también. Por eso **la** pide. El camarero trae **la comida** y **la** sirve. Manolo necesita otra **servilleta** (napkin). El camarero se **la** trae otra a él. Al final de la cena, Manolo quiere

pagar **la cuenta** (bill) con **tarjeta (card) de crédito**. Pero se **la** olvidó. Tampoco tiene suficiente dinero para pagar**la**. Entonces, Lola **la** toma y **la** paga.

Preguntas:
1. ¿Qué pone el camarero delante de Lola y Manolo?
2. ¿Qué va a pedir Manolo?
3. ¿Qué va a pedir Lola?
4. ¿Qué olvide Manolo?
5. ¿Quién paga la cuenta?

Ejercicio 6:

<u>Ana</u>: **Enrique** está en la escuela ¿Tú **lo** puedes llevar (*to take*) a casa hoy? Porque

necesito llevar a Amanda a su partido de fútbol (*soccer game*).

<u>Raúl</u>: Sí, puedo llevar**lo** a las tres. ¡Ojalá que Amanda gane su partido de fútbol!

<u>Ana</u>: ¡Ah! Necesitas **el mapa**. ¿Tú **lo** tienes?

<u>Raúl</u>: No, no **lo** tengo. ¿Por qué **lo** necesito?

<u>Ana</u>: Porque **Enrique** está en su **escuela** nueva y es difícil localizar**la** sin mapa. También

necesitas comprar **la leche y el pan.**

<u>Raúl</u>: Podemos comprar**los** esta tarde. Y unas **galletas** (*cookies*) también. ¡A **los niños,**

les encantan las galletas!

<u>Ana</u>: Sí, **las** quiero también.

<u>Raúl</u>: **Rosa y Manuel** tienen que estar en el aeropuerto a las ocho de la noche. ¿**Los**

puedes llevar?

<u>Ana</u>: No puedo llevar**los** a las ocho. Pero puedo llevar**los** a las siete y media.

<u>Raúl</u>: Y, **las sobrinas de Rosa** quieren ir al aeropuerto con ellos. ¿**Las** puedes traer a mi

casa a las siete?

<u>Ana</u>: ¡No! ¡No tengo un servicio de taxi!

1. ¿Las sobrinas de Rosa van a ir al aeropuerto también?
2. ¿A Amanda le gustan las galletas?
3. ¿Tiene el mapa Raúl?
4. ¿Ana puede llevar a Rosa y Manuel al aeropuerto?
5. ¿Qué va a hacer Raúl a las tres?

APPENDIX C

TREATMENT 1

CONTROL VERSION CGEL & CGAL

Ejercicio 1:

Elena es una artista. Le encanta el arte y colecciona los dibujos de flores y las pinturas de paisajes. Los colecciona porque la naturaleza es muy importante para ella. Ella quiere comprar una obra de arte muy rica en colores que presenta elementos de la naturaleza para poner en su sala (*living room*). Por eso, ella va a una tienda de arte (*art store*) para comprarla. En la tienda ella ve una pintura con unas montañas y un dibujo de unas flores muy bonitas. Quiere comprarlos, pero Elena no tiene el dinero (*money*) para comprar los dos. La pintura cuesta (*costs*) cien dólares, pero es muy bonita. La quiere comprar porque presenta muchos elementos de la naturaleza. El dibujo de las flores sólo cuesta cincuenta dólares. Lo puede comprar hoy. El dibujo tiene los elementos que a ella le gusta y cuesta menos que la pintura. Pero, la pintura es muy atractiva. La puede imaginar en la pared de su sala. El dibujo es más grande que la pintura. No hay suficiente espacio para ponerlo en la pared (*wall*) de su sala. Al final, aunque la pintura cuesta más que el dibujo, Elena decide comprarla.

Preguntas:
1. ¿Qué compra Elena al final, el dibujo, la pintura o nada?
2. ¿Qué quiere comprar en la tienda de arte?
3. ¿Cuál puede comprar hoy Elena, el dibujo o la pintura?
4. ¿Cuáles cosas coleccionan Elena?
5. ¿Qué puede imaginar ella en la pared de su sala?

Ejercicio 2:

María tiene un apartamento en la ciudad, pero necesita alquilarlo porque ella quiere vivir en el campo. La ciudad le molesta porque el aire está muy contaminado. Jorge quiere hablar con su amiga sobre el apartamento. La invita a tomar un café para discutir sobre el asunto. En el café Jorge le explica que ahora vive en una casa y usa un coche para llegar (*arrive*) a su trabajo. No le gustan, la casa y el coche tienen problemas. Quiere venderlos tan pronto como pueda. La casa está muy lejos de su trabajo y el coche sólo lo usa de vez en cuando. Es muy caro (*expensive*), por eso lo quiere vender (*to sell*). También, la casa tiene muchos problemas y es muy vieja. Jorge necesita venderla pronto para obtener dinero para vivir en la ciudad. A Jorge, le gusta el apartamento de María porque está en un barrio seguro y está cerca del metro. Lo puede usar en vez de manejar (*drive*) un coche a su trabajo. Sin embargo, su otra amiga Diana quiere vivir en la ciudad y está

interesada en el apartamento también. Ahora María necesita decidir entre Jorge y Diana. Diana es una amiga buena y necesita vivir en la ciudad para su trabajo. Pero hace poco tiempo que María la conoce. María ha conocido (*has known*) a Jorge por diez años. Por eso, María decide que se lo quiere alquilar porque lo conoce mejor.

*Preguntas***:**

1. ¿Qué quiere alquilar María?
2. ¿A quién va a alquilar el apartamento, Diana o Jorge?
3. ¿Qué necesita vender Jorge?
4. ¿Qué puede usar Jorge para llegar (*arrive*) a su trabajo en la ciudad?
5. ¿Con quién habla Jorge en el café?

Ejercicio 3:

Salma Hayek asiste a la presentación de los premios Óscar

La actriz Salma Hayek va a asistir a la presentación de los Óscar en Hollywood. El programa de los Óscar es muy popular y millones de personas lo miran cada año. Salma necesita llevar un vestido y unos zapatos elegantes. Ella interpreta a la pintora mexicana Frida Kahlo en una película y la admira mucho, por eso quiere un vestido que represente su estilo. El vestido el diseñador mexicano Eduardo Lucero lo va a diseñar, pero a Salma le gustan los zapatos del diseñador español Manolo Blahnik. Ella puede encontrarlos en una tienda de Rodeo Drive. También necesita joyas. Salma las prefiere comprar en la tienda de Harry Winston. Los joyeros (jewlers) de Harry Winston le recomiendan a Salma un collar y unos aretes (earrings) de diamantes. Salma los compró. Antes de la ceremonia, Salma va a caminar por la alfombra roja (red carpet) y su coprotagonista, Alfred Molina, desea acompañarla. Muchos reporteros van a estar allí. Ellos les quieren hacer muchas preguntas a Salma y a Alfred. Si Salma gana el Óscar, muchas personas van a decirle a ella "Felicidades".

Preguntas:
1. ¿Qué compró Salma en Harry Winston?
2. ¿Dónde prefiere comprar las joyas?
3. ¿Qué miran millones de personas cada año?
4. ¿Qué va a diseñar Eduardo Lucero para Salma?
5. ¿Qué quiere hacer Alfred Molina?

Ejercicio 4:

Una chica explica cómo se prepara la sopa.

Corta las zanahorias antes de ponerlas en la olla (pot). Pelo las papas antes de cocinarlas. Las pongo en una olla para hervirlas. Veo que están listas (ready) cuando las puedo cortar fácilmente con un tenedor (fork). Luego, las saco de la olla y las pongo en la sopa. Además de las papas, añado (I add) otros vegetales a la sopa. Los añado lentamente, y cuando no hay más que añadir a la sopa y está lista, la pongo en el refrigerador hasta que sea la hora de llevarla a la casa de mis primos. Quiero mucho a mis primos y los veo con frecuencia. Para mi es importante verlos con frecuencia.

Preguntas:
1. ¿Qué añade lentamente en la preparación?
2. ¿Las papas o las zanahorias están listas cuando ella puede cortarlas fácilmente con un tenedor?
3. ¿Qué pone en el refrigerador?
4. ¿Qué lleva la chica a la casa de sus primos?
5. ¿Para la chica, a quienes es importante ver con frecuencia?

Ejercicio 5:

Camarero: Hola, bienvenidos a nuestro restaurante. Tenemos algunas especialidades del día. Les recomiendo el pollo y el pescado. ¿Necesitan el menú?

Sr. Martes: No, gracias, no lo necesitamos. Pedimos el pollo y el pescado para mi esposa.

Camarero: ¿Quieren ustedes unas copas de vino blanco?

Sr. Martes: ¿El vino blanco? No lo sirva con el pollo. Sírvalo con el pescado.

Camarero: Sí señor, lo voy a servir con el pescado. Y, ¿a usted le gustaría un vino tinto?

Sr. Martes: Lo quiero tomar, pero necesito conducir (to drive). ¿Me puede dar una botella de agua mineral?

Camarero: Sí, la voy a traer inmediatamente.

Unos minutos después el camarero sirve los refrescos y la comida.

Sra. Martes: ¿Dónde está nuestro camarero? No lo veo.

Sr. Martes: Mira, aquí viene.

Sra. Martes: Tráigame la cuenta, por favor.

Camarero: Aquí la tiene.

Sr. Martes: ¿Cuánto le debo?

Camarero: Ciento pesos por favor.

Preguntas:
1. ¿Quién va a tomar el vino blanco?
2. ¿Quieren mirar el menú Sr. y Sra. Martes?
3. ¿A quién debe dinero el Sr. Martes?
4. ¿Qué quiere tomar Sr. Martes?
5. ¿Qué va a traer el camarero al Sr. Martes?

Ejercicio 6

En el salón de clase típico:

La profesora Martínez les explica la lección a los estudiantes. Los estudiantes le hacen muchas preguntas a la profesora. La profesora pregunta, ¿Nora, le explica la respuesta número cinco a la clase por favor? Después de la explicación de Nora, Amanda les lee una lectura a los estudiantes. Carmen le escribe un mensaje de texto a su amigo. La profesora le pregunta a Carmen, ¿A quién le escribes el mensaje de texto? Carmen le responde que lo escribe a su amigo. Esteban les explica la tarea a Ana y a Ramón. Al final de la clase los estudiantes le dicen "adiós" a la profesora y ella les responde "hasta luego".

Preguntas:
1. ¿A quién pregunta la profesora sobre el mensaje de texto?
2. ¿A quién Carmen escribe un mensaje de texto?
3. ¿Esteban les explica la tarea a sus amigos o sus amigos le explican la tarea a él?
4. ¿Quién dice "hasta luego" a quién?
5. ¿A quién(es) Nora le explica la respuesta número cinco?

TREATMENT 2

CONTROL VERSION CGEL & CGAL

Ejercicio 1:

Juan y su esposa Gabriela quieren ir de viaje a Puerto Rico. Juan busca en la red los lugares para alojamientos y los servicios de unos hoteles en Puerto Rico.

Juan le pregunta a su esposa: "Hay un hotel que tiene algunos servicios buenos. ¿Está bien alojarnos allí?"

Gabriela le pregunta a él: "¿Cuáles son los servicios? ¿Hay aire acondicionado?"

Juan le responde a ella: "Es una lástima que el hotel no lo tenga."

Gabriela le pregunta a Juan: "Pues, yo lo veo como muy importante. ¿Hay una piscina? Es bueno usarla para nadar y tomar el sol."

Juan le responde a Gabriela: "Sí, y, además, hay una pista de tenis y una peluquería. Las puedes usar para relajarte."

Gabriela le dice a Juan: Sí, a mí me gusta el tenis, pero no lo práctico mucho. Pero a mí me parece que al hotel le falta el aire acondicionado. Es muy importante tenerlo.

Juan le dice a Gabriela: Sí, es verdad, lo necesitamos.

Gabriela le pregunta: Quiero visitar la playa también. Una de las playas en San Juan es muy hermosa. ¿Podemos visitarla?

Juan le responde: ¡Por supuesto podemos visitarla!

Gabriela le dice: Está bien.

Juan le dice a ella: ¡Ajá! Aquí hay un hotel cerca de la playa que tiene una piscina y aire acondicionado. Voy a llamarlo para hacer una reservación.

Gabriela le dice a él: Bueno, se puede ver que los dos hoteles están bien. Supongo que los clientes que escogen cualquiera de los dos van a estar felices.

*Juan le dice***:** ¡Sí, los hoteles son buenos y ambos están cerca de las playas, por eso los quiero mucho! Pero prefiero el segundo porque tiene aire acondicionado.

*Gabriela le pregunta***:** Estoy de acuerdo. ¿Confirmaste (did you confirm) las reservaciones?

*Juan le responde***:** Sí, las confirmé, sólo me falta el número de confirmación. El agente de viaje le va a escribir un mensaje electrónico al recepcionista del hotel para confirmar el número.

*Gabriela le dice***:** Pues, entonces, reservemos este hotel.

Preguntas:

1. ¿Tiene aire acondicionado el primer hotel?
2. ¿Hay algo en el primer hotel que le ayudará a Gabriela a relajarse? En caso afirmativo, ¿qué?
3. ¿Qué es lo que necesitan en un hotel para alojarse allí?
4. ¿Juan y Gabriela van a visitar cualquier lugar en Puerto Rico? En caso afirmativo, ¿adónde?
5. ¿Quién va a escribir un correo electrónico a quién a fin de confirmar las reservas?

Ejercicio 2:

Exchange between Gustavo and his tour guide in Honduras

Guía: ¿Estudia usted la arquitectura colonial? Es muy bonita.

Gustavo: Sí, la estudio y también estudio el inglés. Quiero enseñarlo a mi madre para cuando ella visite los Estados Unidos.

Guía: ¿Quiere ver los bailes folklóricos?

Gustavo: Sí, quiero verlos. ¿Quizás los podemos ver el viernes? También quiero visitar el museo de antropología en San Pedro Sula. ¿Lo podemos visitar el martes?

Guía: Sí, los bailes folklóricos, los podemos ver el viernes, pero no sé cuándo podemos ir a San Pedro Sula. ¿Tiene usted su cámara?

Gustavo: No, no la tengo. Quiero comprar la cámara digital que vi en la tienda en el centro. Tengo suficiente dinero para comprarla. ¿Cuándo vamos a ir a la tienda?

Guía: Podemos ir a visitarla ahora. ¿Ve usted el daño (*damage*) del huracán?

Gustavo: Sí, lo veo.

Guía: ¿Desea visitar las ruinas arqueológicas?

Gustavo: Sí, deseo visitarlas.

Guía: Y, ¿cuándo quiere visitar las montañas y la Esperanza?

Gustavo: Las quiero visitar mañana.

Preguntas:
1. ¿Cuándo van a ver los bailes folklóricos?
2. ¿Qué quiere enseñar Gustavo a su madre?
3. ¿Qué va a comprar Gustavo con su dinero?
4. ¿Cuándo van a ir a la tienda en el centro?
5. ¿Qué van a visitar mañana?

Ejercicio 3:

Una carta de Eduardo a Isabel:

Querida Isabel:

Te escribo para contarte sobre mi viaje a Patagonia. Es una región bellísima de Chile que incluye montañas y costas y una gran variedad de animales. Nuestro guía Antonio es muy simpático y nos explica sobre la región. A mis amigos les parece que él conoce bien la flora y la fauna de la región. A Juan le fascinan las plantas y los animales, pero a Carlos y a Ana les interesan especialmente los lobos marinos (*sea lions*) que llegan todos los años para criar a sus hijos. Están protegidos en toda la costa de Chile, y a muchas personas les encanta observarlos durante este tiempo. A mi amigo Franco, no le gusta mucho la playa porque hace mucho viento para nadar, pero le gusta observar la vida marina. Bueno Isabel, si a ti te interesa la naturaleza, te va a fascinar la Patagonia.

Un abrazo,

Eduardo

Preguntas:
1. ¿A quién(es) le(s) encanta observar los lobos marinos?
2. ¿A quién le gusta observar la vida marina?
3. ¿A quién(es) le(s) parece que Antonio sabe mucho sobre la flora y la fauna?

4. ¿Hay alguien quién está interesado en los lobos marinos? ¿Quién(es)?
5. ¿A Juan le fascinan las plantas y los animales?

Ejercicio 4:

En una tienda

Dependiente: Buenas tardes señorita. ¿En qué puedo servirle?

Cliente: Buenas tardes. Es el cumpleaños de mi novio y busco algo para él. Quiero regalarle (give) algo muy bonito.

Dependiente: Muy bien. Tenemos unas corbatas muy elegantes. Con mucho gusto le muestro (show) algunas de ellas.

Cliente: No gracias no las quiero. Quiero regalarle algo más original.

Dependiente: Pues…tenemos unos suéteres de cachemir muy finos.

Cliente: Oh, sí. ¡Buena idea! ¿Puede mostrármelos?

Dependiente: Cómo no. Aquí hay varios.

Cliente: Prefiero el suéter rojo. Me lo llevo.

Dependiente: Muy bien. Ese suéter cuesta 150 euros. ¿Cómo lo va a pagar?

Cliente: Con tarjeta de crédito. Aquí tiene.

Dependiente: Muchas gracias.

Cliente: Le agradezco mucho sus recomendaciones.

Dependiente: No hay de qué (no problem). Para servirle.

Preguntas:
1. ¿Qué regalo no quiere comprar para su novio?
2. ¿Qué va a mostrar el dependiente al cliente?
3. ¿Cómo va a pagar el cliente?
4. ¿El cliente quiere agradecer las recomendaciones de su novio o del dependiente?
5. ¿Para quién es el regalo?

Ejercicio 5:

En el restaurante

El camarero trae una botella de vino tinto. La pone en la mesa. También trae las copas de vino. Las pone delante de Lola y Manolo. Lola quiere la especialidad de la casa. Va a pedirla. Manolo prefiere el pescado fresco. Lo pide. Lola quiere una ensalada también. Por eso la pide. El camarero trae la comida y la sirve. Manolo necesita otra servilleta (napkin). El camarero se la trae otra a él. Al final de la cena, Manolo quiere pagar la cuenta (bill) con tarjeta (card) de crédito. Pero se la olvidó. Tampoco tiene suficiente dinero para pagarla. Entonces, Lola la toma y la paga.

Preguntas:
1. ¿Qué pone el camarero delante de Lola y Manolo?
2. ¿Qué va a pedir Manolo?
3. ¿Qué va a pedir Lola?
4. ¿Qué olvide Manolo?
5. ¿Quién paga la cuenta?

Ejercicio 6:

<u>**Ana**</u>: Enrique está en la escuela ¿Tú lo puedes llevar (*to take*) a casa hoy? Porque necesito llevar a Amanda a su partido de fútbol (*soccer game*).

<u>**Raúl**</u>: Sí, puedo llevarlo a las tres. ¡Ojalá que Amanda gane su partido de fútbol!

<u>**Ana**</u>: ¡Ah! Necesitas el mapa. ¿Tú lo tienes?

<u>**Raúl**</u>: No, no lo tengo. ¿Por qué lo necesito?

<u>**Ana**</u>: Porque Enrique está en su escuela nueva y es difícil localizarla sin mapa. También necesitas comprar la leche y el pan.

<u>**Raúl**</u>: Podemos comprarlos esta tarde. Y unas galletas (*cookies*) también. ¡A los niños, les encantan las galletas!

<u>**Ana**</u>: Sí, las quiero también.

<u>**Raúl**</u>: Rosa y Manuel tienen que estar en el aeropuerto a las ocho de la noche. ¿Los puedes llevar?

<u>**Ana**</u>: No puedo llevarlos a las ocho. Pero puedo llevarlos a las siete y media.

<u>**Raúl**</u>: Y, las sobrinas de Rosa quieren ir al aeropuerto con ellos. ¿Las puedes traer a mi casa a las siete?

<u>**Ana**</u>: ¡No! ¡No tengo un servicio de taxi!

1. ¿Las sobrinas de Rosa van a ir al aeropuerto también?
2. ¿A Amanda le gustan las galletas?
3. ¿Tiene el mapa Raúl?
4. ¿Ana puede llevar a Rosa y Manuel al aeropuerto?
5. ¿Qué va a hacer Raúl a las tres?

PRETEST

NOTE: there were 36 filler sentences with pictures in addition to the 18 test sentences, the fillers are not included below.
Example of a filler sentence and corresponding picture selection:
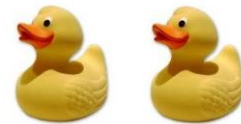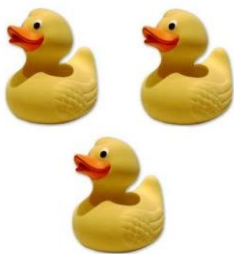
El campo es muy tranquilo.

Also please note that the following testing pictures and sentences were randomized on the computer screen. The order of the sentences below and the position of the pictures do not reflect what may have been on each individual's computer screen at the time of testing.

Practice Test Directions:

Welcome! On the following screens you will see two pictures and a written phrase. Using the red or green keys, please practice indicating which picture best fits the sentence you have read.
Press any key to begin.

Juan tiene dos patitos.

Test Directions:
In the following screens you will see a sentence followed by two pictures. Using the green key or the red key, select which picture best corresponds to the sentence you read.
Press any key to begin.

Les escribe una carta.

La mesera le sirve el almuerzo.

Amanda las mira.

🔴

🟢
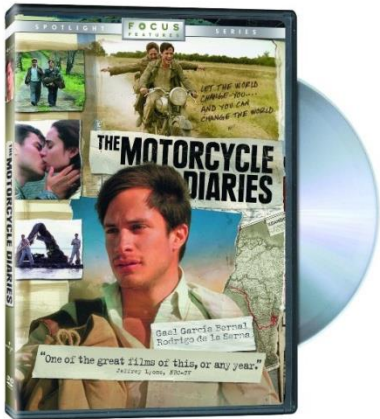
La usamos cuando comemos la cena.

🔴

🟢

Iván los tiene.

🔴

🟢

Felipe le da un regalo.
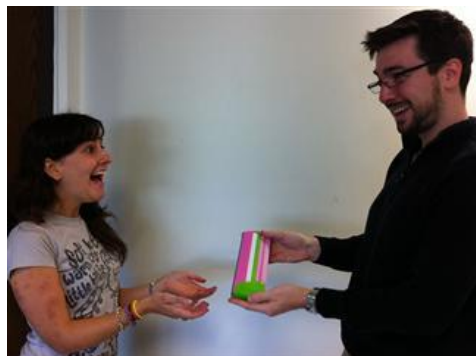
Mis padres lo leen.

José le lee el libro.

●

●

El doctor las prescribe.

●

●

Lo usa cada día para llegar al trabajo.

🔴

🟢

La usa para sentarse.

🔴

🟢

Les canto una canción.

🔴

🟢

Alejandro los estudia.

🔴

🟢

Está mirándolo.

Les doy la tarea.

Marta los tiene.

🔴

🟢

Yo las compro.

🔴

🟢

La usa cada día.

🔴

🟢

Practice Test Directions:
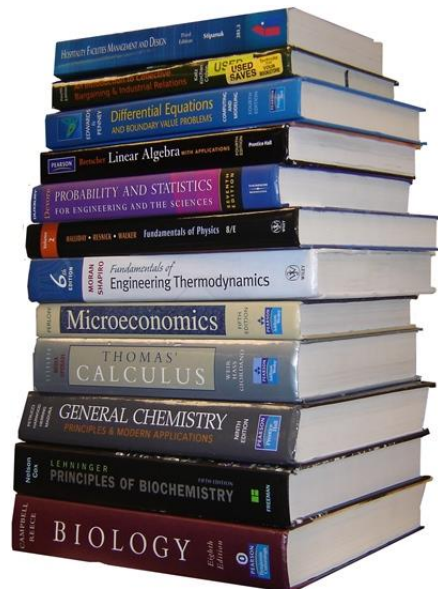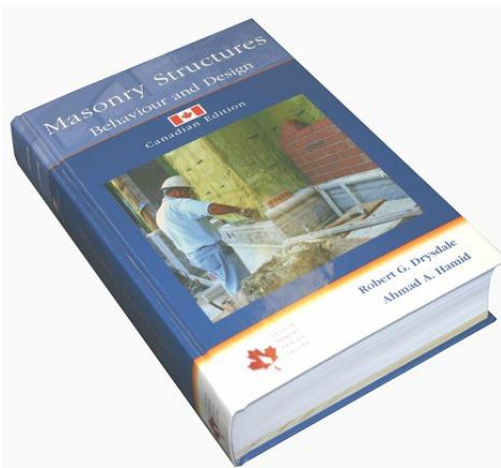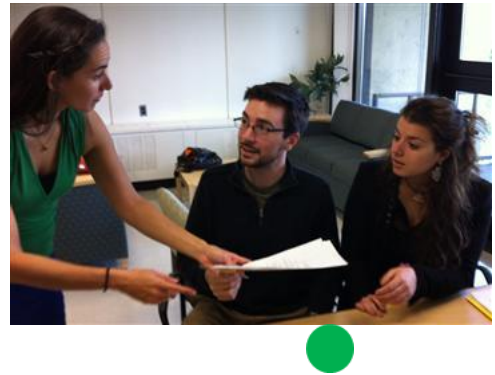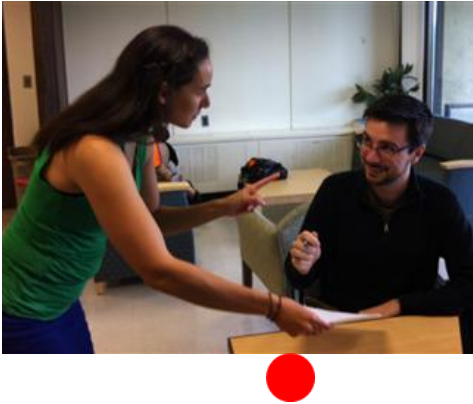*On the following screen you will read a short passage, followed by a question. Practice typing the answer to the question. When you are finished entering your answer, press "Enter".*

Press any key to continue.

Bernardo prefiere leer aventuras, pero su amiga Ágata prefiere los libros de historia. Un día Bernardo recomiendo un libro de aventura a Ágata, y ella decide leerlo. El día siguiente, Ágata da un libro de historia a Bernardo. Cuando Bernardo pregunta si le gusta el libro, ella dice que no.

What kind of book did Bernardo give to Ágata?

Test Directions:
In the following screens you will read a short passage, followed by a question. Type the answer to the question. When you are finished entering your answer, press "Enter".

Press any key to continue.

Por un lado, Mario es una persona muy extrovertida, por otro lado su hermana Amanda es muy introvertida. A Amanda no le gusta salir con los amigos, mientras que a Mario le encanta salir con sus amigos. Hablando de (speaking about) uno de los dos hermanos, un amigo mío me dijo (a friend said) esta tarde que: "La vimos en el cine con unos amigos."

Who did the friend see at the movie theater?

Mi amigo José y yo vamos a la tienda para comprar un regalo de cumpleaños para su novia, María. José encuentra un libro bueno. Él quiere regalar el libro a María. También quiere regalarle un bolígrafo y quiere comprar una revista. Él no tiene dinero suficiente para comprar todas las cosas, por eso yo le doy el dinero.

Who is the pen for? José, myself or María?

Mi hermano y yo vamos a ir a la playa hoy. Pero, necesito algo para leer en la playa. Vamos a la tienda para comprar algo. Encontré una revista y un libro de misterio muy interesante. Cuando salimos de la tienda, mi hermano me preguntó (asked me), "¿Compraste (did you buy) algo para leer?" Y yo le respondí (I responded), "Sí, lo tengo aquí en mi bolsa."

What am I going to read at the beach?

Hoy mis padres van a venir a la Universidad para visitarme. Pero, también, mis amigas y yo tenemos planes para ir de compras. Quiero pasar tiempo con mis padres e ir de compras con mis amigas, pero no hay suficiente tiempo para hacer las dos cosas. Por fin, decido: Las voy a ver mañana.

Who am I going to see tomorrow?

En mi oficina hay unas cajas de chocolate y unos paquetes sin nombre. Me encantan los chocolates. No sé a quién pertenecen los paquetes, por eso decido dejarlos.

What did I decide to leave?

Voy a tener una fiesta el próximo mes. Quiero invitar tanto a mis amigas como a mis parientes. Mis parientes están muy entusiasmados con la fiesta, pero a mis amigas, no les importa la fiesta o no pueden asistir. Entonces, decido que voy a tener una fiesta pequeña en lugar de una gran fiesta. Después de la fiesta, una de mis amigas me pregunta: ¿Por qué sólo les enviaste (send) las invitaciones a ellos? ¿Por qué no recibimos las invitaciones para tu fiesta?

Who did I send the party invitations to?

APPENDIX F

POSTTEST

NOTE: there were 36 filler sentences with pictures in addition to the 18 test sentences, the fillers are not included below.
Example of a filler sentence and corresponding picture selection:

El campo es muy tranquilo.

Also please note that the following testing pictures and sentences were randomized on the computer screen. The order of the sentences below and the position of the pictures do not reflect what may have been on each individual's computer screen at the time of testing.

Practice Test Directions:

Welcome! On the following screens you will see two pictures and a written phrase. Using the red or green keys, please practice indicating which picture best fits the sentence you have read.

Press any key to begin.

Juan tiene dos patitos.

Test Directions:

In the following screens you will see a sentence followed by two pictures. Using the green key or the red key, select which picture best corresponds to the sentence you read.

Press any key to begin.

Juanita la conoce.

Juan los tiene.
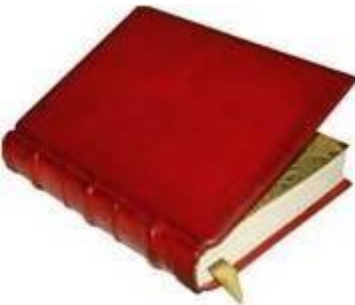
La madre le lee el libro.

🔴

🟢

María lo besa.

🔴

🟢

Juana va a plantarlo.

🔴

🟢

Rafael la escucha.

🔴

🟢

Están mirándolo.

🔴

🟢

Les cuenta la historia.

🔴

🟢

Las usan con frecuencia.

🔴

🟢

Los usan en su clase de arte.

🔴

🟢

Las saca en el parque.

🔴

🟢

Pepe los usa en su clase de inglés.

🔴

🟢

Julia las come.

🔴

🟢

Les habla a sus compañeros.

🔴

🟢

A María podemos comprarle una casa.

🔴

🟢

Enrique le ha escrito una canción a Jennifer.

🔴

🟢

Santa les da regalos a los niños.

●

●

La beben.

●

●

Practice Test Directions:

On the following screen you will read a short passage, followed by a question. Practice typing the answer to the question. When you are finished entering your answer, press "Enter".

Press any key to continue.

Bernardo prefiere leer aventuras, pero su amiga Ágata prefiere los libros de historia. Un día Bernardo recomiendo un libro de aventura a Ágata, y ella decide leerlo. El día siguiente, Ágata da un libro de historia a Bernardo. Cuando Bernardo pregunta si le gusta el libro, ella dice que no.

What kind of book did Bernardo give to Ágata?

Test Directions:

In the following screens you will read a short passage, followed by a question. Type the answer to the question. When you are finished entering your answer, press "Enter".

Press any key to continue.

La navidad va a venir pronto y mis amigos quieren ir de compras. Mi amigo Franco necesita comprar un regalo para su hermana y mi amigo Juan quiere comprar un regalo para su novia. Por eso, Juan y Franco van a ir de compras. En la tienda Franco encuentra un libro bueno. Él quiere regalar el libro a su hermana. También quiere regalarle unos vasos verdes que encontró en la tienda. Juan piensa que los vasos son muy bonitos también.

Who are the green glasses for?

Hoy a las dos mis hijas van a venir a mi oficina para visitarme. Pero, también, mis amigos y yo hemos hecho (we had made) planes para almorzar. Quiero pasar tiempo con mis hijos y asistir al almuerzo con mis amigos, pero no hay suficiente tiempo para hacer las dos cosas. Mis hijas viven cerca, pero mis amigos viven a unas horas de mi ciudad. Mis hijas son muy simpáticas, por eso, decidí: las puedo encontrar (to meet) mañana.

Who am I going to meet with tomorrow?

Hoy en mi salón de clase había (there was) unos cafés con leche y unas galletas. Me encantan las galletas. No sabía a quién pertenecían los cafés con leche, por eso: decidí dejarlos.

What did I decide to leave?

Mi hermano y yo vamos a ir a la playa hoy. Pero, necesito algo para leer en la playa. Vamos a la tienda para comprar algo. Encontré (I found) una revista y un libro de misterio muy interesante. Cuando salimos de la tienda, mi hermano me preguntó (asked me), "¿Compraste (did you buy) algo para leer?" Y yo le respondí (I responded), "Sí, lo tengo aquí en mi bolsa."

What am I going to read at the beach?

Los estudiantes en la clase de matemáticas necesitan ayuda. Ellos no saben cómo multiplicar ni hacer división. Su maestro, Señor Stephens no enseña bien y no les quiere ayudar. Las estudiantes en la clase de inglés tienen problemas también. Ellos no pueden escribir sus composiciones bien. La maestra no les puede explicar bien las lecciones y solo aprenden un poco.

Which class learns more than the other?

En el restaurante, Silvia está decidiendo entre (is deciding between) una hamburguesa o un sándwich de jamón. La hamburguesa es muy grande y ella no sabe si la puede comer en total. Pero, el sándwich es muy pequeño y Silvia tiene mucha hambre (is very hungry). Finalmente, ella decide que la hamburguesa es muy grande, se la va a comer.

What is Silvia going to have to eat?

NOTE: there were 36 filler sentences with pictures in addition to the 18 test sentences, the fillers are not included below.

Example of a filler sentence and corresponding picture selection:

<center>Ana está embarazada.</center>

Also please note that the following testing pictures and sentences were randomized on the computer screen. The order of the sentences below and the position of the pictures do not reflect what may have been on each individual's computer screen at the time of testing.

Practice Test Directions:

Welcome! On the following screens you will see two pictures and a written phrase. Using the red or green keys, please practice indicating which picture best fits the sentence you have read.

Press any key to begin.

<center>Les sirvo la comida.</center>

Test Directions:

In the following screens you will see a sentence followed by two pictures. Using the green key or the red key, select which picture best corresponds to the sentence you read.

Press any key to begin.

John le da un anillo.

Le sirve unos papeles de divorcio.

Juan los lee.

La usamos cuando comemos la cena.

🔴

🟢

Les escribo una carta.

🔴

🟢

Les compra un regalo.

🔴

🟢

Juan los tiene.

Juanita las conoce.

La madre le lee el libro.

Las usan con frecuencia.

⬤ (red)

⬤ (green)

Ella las usa.

⬤ (red)

⬤ (green)

María la conoce.

⬤ (red)

⬤ (green)

Julia lo besa.

🔴

🟢

Les cuenta la historia.

🔴

🟢

Les alquila el apartamento.

🔴

🟢

Están mirándolo.

🔴

🟢

Mi amiga la usa cada día para recibir sus mensajes.

🔴

🟢

Juana va a plantarlo.

🔴

🟢

Practice Test Directions:
On the following screen you will read a short passage, followed by a question. Practice typing the answer to the question. When you are finished entering your answer, press "Enter".

Press any key to continue.

Bernardo prefiere leer aventuras, pero su amiga Ágata prefiere los libros de historia. Un día Bernardo recomiendo un libro de aventura a Ágata, y ella decide leerlo. El día siguiente, Ágata da un libro de historia a Bernardo. Cuando Bernardo pregunta si le gusta el libro, ella dice que no.

What kind of book did Bernardo give to Ágata?

Test Directions:
In the following screens you will read a short passage, followed by a question. Type the answer to the question. When you are finished entering your answer, press "Enter".

Press any key to continue.

Por un lado, Mario es una persona muy extrovertida, por otro lado su hermana Amanda es muy introvertida. A Amanda no le gusta salir con los amigos, mientras que a Mario le encanta salir con sus amigos. Hablando de (speaking about) uno de los dos hermanos, un amigo mío me dijo (a friend said) esta tarde que: "La vimos en el cine con unos amigos."

Who did the friend see at the movie theater?

Mi hermano y yo vamos a ir a la playa hoy. Pero, necesito algo para leer en la playa. Vamos a la tienda para comprar algo. Encontré una revista y un libro de misterio muy interesante. Cuando salimos de la tienda, mi hermano me preguntó (asked me), "¿Compraste (did you buy) algo para leer?" Y yo le respondí (I responded), "Sí, lo tengo aquí en mi bolsa."

What am I going to read at the beach?

En mi oficina hay unas cajas de chocolate y unos paquetes sin nombre. Me encantan los chocolates. No sé a quién pertenecen los paquetes, por eso decido dejarlos.

What did I decide to leave?

Voy a tener una fiesta el próximo mes. Quiero invitar tanto a mis amigas como a mis parientes. Mis parientes están muy entusiasmados con la fiesta, pero a mis amigas, no les importa la fiesta o no pueden asistir. Entonces, decido que voy a tener una fiesta pequeña en lugar de una gran fiesta. Después de la fiesta, una de mis amigas me pregunta: ¿Por qué sólo les enviaste (send) las invitaciones a ellos? ¿Por qué no recibimos las invitaciones para tu fiesta?

Who did I send the party invitations to?

Ana y yo vamos al centro comercial para comprar un regalo de navidad para su novio, Felipe. Ana encuentra una corbata buena. Ella quiere regalar la corbata a Felipe. También quiere regalarle un libro y quiere comprar unos zapatos. Ella no tiene dinero suficiente para comprar todas las cosas, por eso yo le doy el dinero.

Who is the book for? Ana, myself or Felipe?

Hoy a las dos mis hijas van a venir a mi oficina para visitarme. Pero, también, mis amigos y yo hemos hecho (we had made) planes para almorzar. Quiero pasar tiempo con mis hijos y asistir al almuerzo con mis amigos, pero no hay suficiente tiempo para hacer las dos cosas. Mis hijas viven cerca, pero mis amigos viven a unas horas de mi ciudad. Mis hijas son muy simpáticas, por eso, decidí: las puedo encontrar (to meet) mañana.

Who am I going to meet with tomorrow?

APPENDIX H

INFORMED CONSENT

Consent Form for Participation in a Research Study
University of Massachusetts Amherst

Researcher(s):	Bridget Pinsonneault, Luiz Amaral (Chair)
Study Title:	*On the Acquisition of Clitics by Spanish Language Learners:*

The Effect of Enhancing Learner Input via Computer Assisted Language Learning Tools

1. WHAT IS THIS FORM?

This form is called a Consent Form. It will give you information about the study so you can make an informed decision about participation in this research. If you decide to participate, you will be asked to sign this form and you will be given a copy for your records.

2. WHO IS ELIGIBLE TO PARTICIPATE?

Students who are enrolled in Spanish 110 and Spanish 311 courses at the University of Massachusetts, Amherst are eligible to participate in this study.
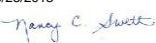
3. WHAT IS THE PURPOSE OF THIS STUDY?

This research is being conducted on the teaching and learning of the object pronouns in Spanish as a Second Language at the University of Massachusetts. The purpose of this study is to determine if input enhancement, or highlighting, proves to have an impact on the acquisition of direct and indirect object pronouns for Spanish second language learners.

4. WHERE WILL THE STUDY TAKE PLACE AND HOW LONG WILL IT LAST?

You will be asked to participate in five sessions in a computer laboratory, outside of your regularly scheduled class time. Each session may require up to forty-five minutes of your time, should you be willing. Overall time commitment will total no more than 3.75 hours. More or less time commitment is possible given individual circumstances and your consent. However, you will not be contacted in the future for other sessions beyond the five sessions in the computer laboratory.

5. WHAT WILL I BE ASKED TO DO?

If you agree to take part in this study, you will be asked to attend five forty-five minute sessions in a computer laboratory. These sessions may take less time depending on the speed in which you complete the work you are given to do, however they will not exceed forty-five minutes. In the computer laboratory you will be asked to read short paragraphs in Spanish and complete comprehension questions based on the paragraphs. The pre, post and delayed post-test phases of

University of Massachusetts Amherst-IRB
(413) 545-3428
Approval Date: 10/26/2012   Protocol #: 2011-1047
Valid Through: 10/25/2013
IRB Signature: *Nancy C. Smith*

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the research will also be conducted in the computer laboratory. Each test should take about twenty minutes, however individual times may be a few minutes more or less than twenty minutes. For these tests, you will be asked to read a sentence in Spanish and then choose which picture, from a set of two pictures, best identifies the sentence. You will also read some short paragraphs and respond to a comprehension question about each paragraph. *You will not be graded on your responses.* The responses are for the purposes of research only.

6. WHAT ARE MY BENEFITS OF BEING IN THIS STUDY?

We hope that your participation in the study may help you to gain insight into the learning and acquisition of the uses of direct and indirect object pronouns in Spanish as a second language and benefit from the pedagogical approach that is proposed here. An additional benefit is that through your participation in this study you will contribute to building knowledge about implementing pedagogical methods that could have a positive impact on the learning and acquisition of Spanish pronouns by second language learners.

7. WHAT ARE MY RISKS OF BEING IN THIS STUDY?

We believe there are no known risks associated with this research study; however, a possible inconvenience may be the time it takes to complete the study.
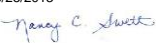
8. HOW WILL MY PERSONAL INFORMATION BE PROTECTED?

The following procedures will be used to protect the confidentiality of your study records. The researchers will keep all study records, including any codes to your data, in a secure location. Participants in the study will not be identified by name, but rather by a code. All data will be locked in a file cabinet. Research records will also be labeled with a code. A master key to the file cabinet will be maintained in a separate and secure location. The master key and data files will be destroyed three years after the close of the study. All electronic files such as spreadsheets containing identifiable information and word documents containing responses to the pre and post-tests will be password protected. Any computer hosting such files will also have password protection to prevent access by unauthorized users. Only the members of the research staff will have access to the passwords. At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and you will not be identified in any publications or presentations.

9. WHAT IF I HAVE QUESTIONS?

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact the researcher(s), (*Bridget Pinsonneault, bpinsonn@spanport.umass.edu and Luiz Amaral, Amaral@spanport.umass.edu*). If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

10. CAN I STOP BEING IN THE STUDY?

You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate. Your participation or non-participation in this study will in no way impact your standing in this class.

11. WHAT IF I AM INJURED?

The University of Massachusetts does not have a program for compensating subjects for injury or complications related to human subjects research, but the study personnel will assist you in getting treatment.

12. SUBJECT STATEMENT OF VOLUNTARY CONSENT

When signing this form I am agreeing to voluntarily enter this study. I have had a chance to read this consent form, and it was explained to me in a language which I use and understand. I have had the opportunity to ask questions and have received satisfactory answers. I understand that I
can withdraw at any time. A copy of this signed Informed Consent Form has been given to me.

Participant Signature:	Print Name:	Date:

By signing below I indicate that the participant has read and, to the best of my knowledge, understands the details contained in this document and has been given a copy.

Signature of Person Obtaining Consent	Print Name:	Date:

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